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# ENERGY AND WATER DEVELOPMENT APPROPRIATIONS FOR 1981

GOVERNMENT

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## HEARINGS

BEFORE A

### SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS HOUSE OF REPRESENTATIVES

NINETY-SIXTH CONGRESS

SECOND SESSION

SUBCOMMITTEE ON ENERGY AND WATER DEVELOPMENT

**TOM BEVILL, Alabama, Chairman**

EDWARD P. BOLAND, Massachusetts

JOHN T. MYERS, Indiana

JOHN M. SLACK,\* West Virginia

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HUNTER L. SPILLAN, GEORGE A. URIAN, M. C. GREER, and DAVID R. OLSON, *Staff Assistants*

\*Deceased.

### PART 12

### FY 1981 BUDGET REVISIONS

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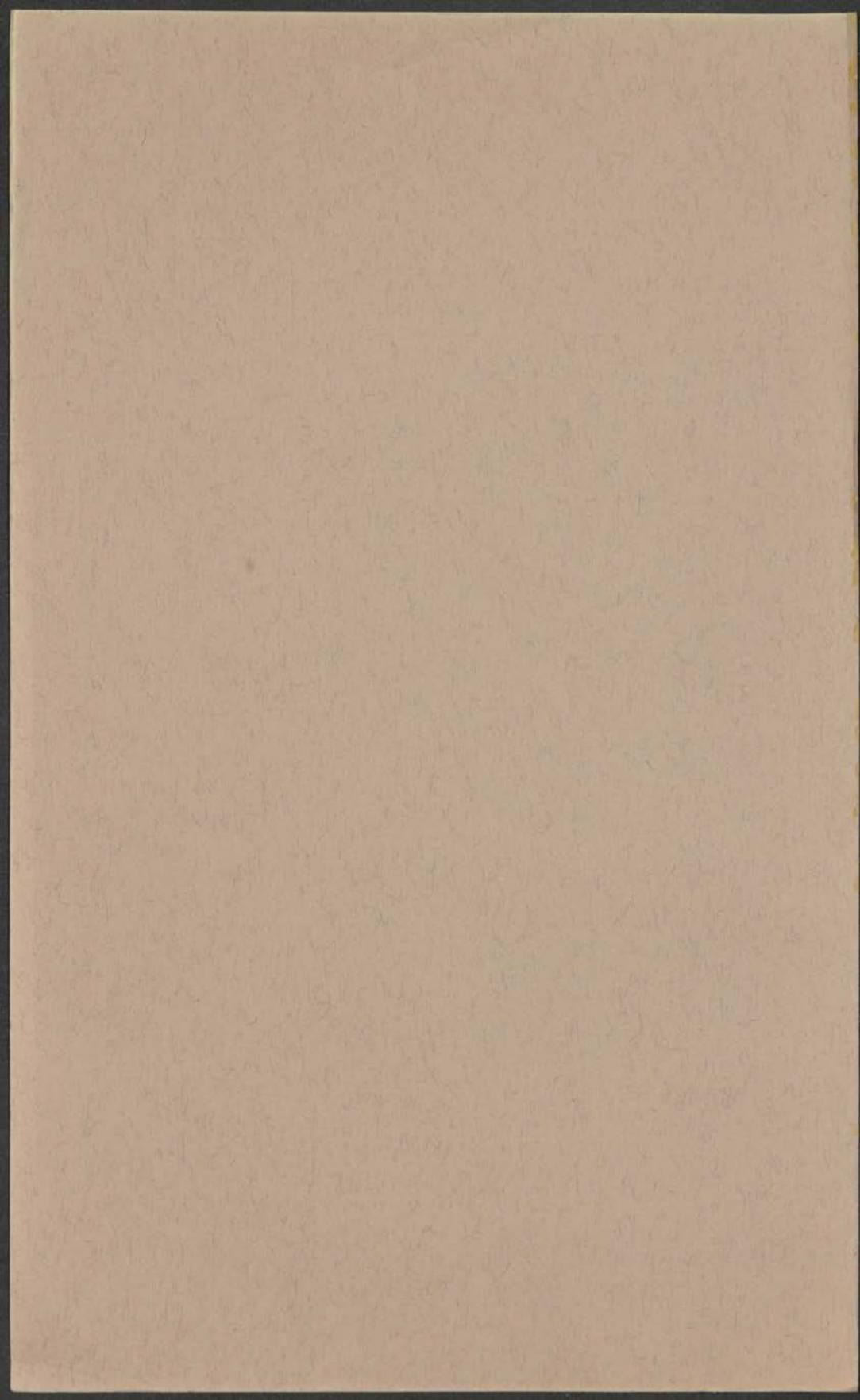


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# ENERGY AND WATER DEVELOPMENT APPROPRIATIONS FOR 1981

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## HEARINGS BEFORE A SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS HOUSE OF REPRESENTATIVES NINETY-SIXTH CONGRESS SECOND SESSION

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### SUBCOMMITTEE ON ENERGY AND WATER DEVELOPMENT

**TOM BEVILL**, Alabama, *Chairman*

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### PART 12

### FY 1981 BUDGET REVISIONS

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Printed for the use of the Committee on Appropriations



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WASHINGTON : 1980

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**ENERGY AND WATER DEVELOPMENT  
APPROPRIATIONS FOR 1981**

FISCAL YEAR 1981 BUDGET REVISIONS

THURSDAY, APRIL 17, 1980.

**DEPARTMENT OF ENERGY**

WITNESSES

JOHN C. SAWHILL, DEPUTY SECRETARY

JOHN A. HEWITT, JR., CHIEF FINANCIAL OFFICER

C. WORTHINGTON BATEMAN, ACTING UNDER SECRETARY

Mr. BEVILL. The committee welcomes you for your appearance here. I believe you have not appeared before this subcommittee before.

Mr. SAWHILL. No, I have not.

Mr. BEVILL. Also we welcome Mr. Bateman.

Do you have biographies to present to the committee which is customary when the witnesses appear for the first time.

Mr. SAWHILL. I don't have one with me but I will provide that for you.

Mr. BEVILL. All right if you would provide those, we would appreciate it. We will insert your complete statement and the justifications at this point.

[The information follows:]

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(1)

U.S. DEPARTMENT OF ENERGY  
OFFICE OF PUBLIC AFFAIRS  
WASHINGTON, DC 20585

# DOEFACTS:

## JOHN CRITTENDEN SAWHILL

John Crittenden Sawhill was sworn in as Deputy Secretary of Energy on October 4, 1979, following his confirmation by the United States Senate on October 1.

Prior to joining the Department of Energy, Dr. Sawhill was President of New York University (NYU) since 1975; Administrator of the Federal Energy Administration (FEA), from June 1974 to January 1975; Deputy Administrator of the Federal Energy Office (the predecessor of the FEA), from December 1973 to June 1974; and, Associate Director for Natural Resources, Energy and Science in the Office of Management and Budget during 1973.

He served as Senior Vice President and member of the executive committee of Commercial Credit Corporation in Baltimore from 1968 to 1973 and Senior Associate in the management consulting firm of McKinsey and Company from 1966 to 1968. From 1964 to 1966, he was the Director of Credit and Research Planning for the Commercial Credit Corporation.

While working on his Ph.D. at NYU from 1960 to 1963, he was assistant dean and assistant professor, Department of Economics. Prior to that, from 1958-1960, he was associated with the brokerage firm of Merrill, Lynch, Pierce, Fenner and Smith.

Dr. Sawhill graduated cum laude from Princeton University's Woodrow Wilson School of Public and International Affairs in 1958 and received his Ph.D. in economics from New York University in 1963.

While serving as President of the Nation's largest private urban university, Dr. Sawhill was also a professor of economics and the first incumbent of the David B. Kiser Professorship in the Humanities.

Dr. Sawhill is a leading proponent of the maintenance of a diversified independent and public system of higher education, and is nationally known for his commitment to the principles of sound fiscal management as the key to survival for independent colleges and universities. During his term as President (he is currently on leave from NYU), NYU made one of the most dramatic fiscal and academic advances in higher education.

In the academic sector, he has been widely published and interviewed as a leading advocate for the reinvigoration and broadening of the humanistic perspective in higher education.

Before his appointment as Deputy Secretary, Dr. Sawhill was an outspoken advocate of energy conservation, working closely with government leaders on energy issues and writing and lecturing extensively on the need for long-range energy planning and conservation. He is a co-author of a report, "Nuclear Power Issues and Choices," written after participating in a year-long Ford Foundation-sponsored study on the development and use of civilian nuclear energy and published in 1977. He is also the principal author of "Energy--Managing the Transition," a study prepared for the Trilateral Commission and published in June 1978 and of "Improving the Energy Efficiency of the American Economy," a collection of papers on energy conservation published in 1979.

While at NYU, Dr. Sawhill's civic activities included serving as a public member of the New York State Emergency Financial Control Board, and on the board of directors of the Association for a Better New York, among others. He was also co-chairman of the Aspen Institute for Humanistic Studies Energy Panel.

Dr. Sawhill had also served on the boards of directors of a number of major firms, including RCA, Philip Morris, Crane Corporation and ICI.

He currently serves as director of the American Association for the Advancement of Science; has served on the governing board of Common Cause, and has acted as a trustee for the World Peace Foundation, the Committee for Economic Development, and the Urban Institute. Dr. Sawhill is a noted writer, having published numerous books, articles and reports on our educational system and a variety of energy subjects.

Born in Cleveland, Ohio, on June 12, 1936, Dr. Sawhill was raised in Baltimore, Maryland, the eldest of four children. He is married to the former Isabel Van Devanter. They have one child, James Winslow Sawhill, 19.

December 1979

## DR. WORTH BATEMAN

Dr. Worth Bateman has been named Acting Under Secretary of the Department of Energy, effective April 2, 1980. Dr. Bateman succeeds Dr. John Deutch, who resigned to return to the Massachusetts Institute of Technology.

Since June 1, 1979, Dr. Bateman has served as Deputy Under Secretary. The Under Secretary is primarily responsible for managing the outlay programs of the Department, supervising research and development policy, and formulating budget options.

Prior to being named Deputy Under Secretary, Dr. Bateman served as Acting Deputy Assistant Secretary for Energy Technology since January 1979, and as Deputy Director of Energy Research since the creation of the Department in October 1977.

Between 1973 and 1977, Dr. Bateman was the director of the Washington based Land Use Center. Prior to that, he was senior vice president of the Urban Institute from 1969 to 1973. He was Deputy Assistant Secretary of the Department of Health, Education and Welfare and also served in the Department of Defense from 1963 to 1966.

Dr. Bateman is a native of Maryland and received his bachelor's degree in economics from Western Maryland College in 1960. He was awarded a Woodrow Wilson Fellowship to Harvard University in 1960 and earned his Ph.D in economics from Harvard in 1963.

Dr. Bateman is married to the former Grace Dawson and has four children; John, Robert, Sarah, and Elizabeth.

Mr. MYERS. You may proceed.

STATEMENT OF JOHN C. SAWHILL

Mr. SAWHILL. It is a pleasure to appear before you today and to discuss the 1981 budget revisions and their attendant programmatic implications. At the outset of my testimony I would like to introduce to you C. Worthington Bateman, Acting Under Secretary for the Department of Energy; and Jack Hewitt, the Chief Financial Officer.

Mr. MYERS. I know Mr. Hewitt, good afternoon, gentlemen.

FISCAL YEAR 1981 PROPOSED REDUCTIONS

Mr. SAWHILL. By way of overview, the total proposal amounts to a total reduction in fiscal 1981 of \$429.8 million in budget authority of which \$307.3 million falls under the jurisdiction of the Energy and Water Development Subcommittee and \$460.6 million in related outlays plus \$784.0 million in the strategic petroleum reserve of which \$304.7 million is associated with programs under the jurisdiction of this Subcommittee.

FISCAL YEAR 1981 PROPOSED RESCISSIONS AND DEFERRALS

In addition, our proposed budget rescission and deferral package including withdrawal of the pending pay rise supplemental, envisions reductions to our ongoing fiscal 1980 programs totaling \$62.2 million in budget authority and \$40.9 million in related outlays, plus a \$230 million reestimate in strategic petroleum reserve outlays. Of these proposed reductions for fiscal 1980, \$31.2 million in budget authority and \$28.2 million in outlays fall under the jurisdiction of the Energy and Water Development Subcommittee.

Rather than going into detail on the individual reductions which are outlined in my statement, they are in the areas of Atomic Energy Defense Activities, where the principal reductions come in some long term waste management programs and waste storage programs, as well as certain smaller reductions in some of the nuclear material security and safeguards development programs.

Secondly, in the general science and research programs, the principal items are a stretching out of some of our High Energy Physics projects, including the Isabelle project and deferral of initiation of construction for the ATLAS project at the Argonne Laboratory.

The third category is energy supply research and development, where the principal reductions center around some of our solar programs including deferral for one year of construction of the SERI facility as well as some reductions in the photovoltaics program, and some other programs involving advanced nuclear systems. The cancellation of the Gas Cooled Breeder Reactor program and some changes in the Magnetic Fusion program are also included, although I hasten to add that we remain very committed to that program and I don't think these changes will slow down its momentum.

The fourth category is uranium enrichment, where the principal change is the deferral in construction activities, some construction

activity at the Portsmouth, Ohio Gas Centrifuge Enrichment Plant. Finally, there are changes in Departmental Administration.

We would be delighted to answer any questions that you may have about our proposal.

[Text of Mr. Sawhill's statement follows:]

STATEMENT OF  
JOHN C. SAWHILL, DEPUTY SECRETARY  
DEPARTMENT OF ENERGY

BEFORE THE  
COMMITTEE ON APPROPRIATIONS  
SUBCOMMITTEE ON ENERGY AND WATER DEVELOPMENT  
U.S. HOUSE OF REPRESENTATIVES

April 17, 1980

Mr. Chairman and Members of the Subcommittee:

I appreciate this opportunity to appear before you today to discuss the Department's FY 1981 budget revisions and their attendant programmatic impacts.

This proposal amounts to a total reduction in budget authority for FY 1981 of \$429.8 million, of which \$307.3 million falls under the jurisdiction of the Energy and Water Development Subcommittees. Related budget outlay reductions in FY 1981 total \$460.6 million plus \$784.0 million outlay reestimate for the Strategic Petroleum Reserve, of which \$304.7 million is associated with programs under the jurisdiction of this Subcommittee.

In addition, the Department's proposed budget rescission and deferral package, including withdrawal of the pending Pay Raise Supplemental, envisions reductions to our ongoing FY 1980 programs totaling \$62.2 million in budget authority and \$40.9 million in related outlays, plus a \$230.0 million reestimate in Strategic Petroleum Reserve outlays. Of these proposed reductions for FY 1980, \$31.2 million in budget authority and \$28.2 million in outlays fall under the jurisdiction of the Energy and Water Development Subcommittees.

Finally, as a result of proposed reductions in the Uranium Enrichment area, excess revenues of \$1.0 million in FY 1980 and \$61.5 million in FY 1981 are expected to exist, and will be returned to the Treasury.

#### The Need for Budget Revisions and Their Formulation

Before I describe the major components of the Department's budget revisions in detail, I would like to comment briefly on the prevailing economic climate which made these proposed spending reductions necessary, and the manner in which these cuts were developed and allocated throughout the Federal Government.

As you will recall, during the first two months of this year, inflation took another sharp jump upward both in the United States and abroad. The consensus toward moderation that had formerly characterized the OPEC Cartel pricing discussions finally broke down in Caracas during OPEC'S December meeting, and world oil price increases advanced far beyond expectations. In addition, inflation outside the energy sector rose at rates greater than anticipated. At the same time, the U.S. economy continued to be unexpectedly strong with consumer demand and business investment remaining at higher levels than predicted, despite the fact that the Federal Reserve continued to restrict the growth of the money supply. One outcome has been a sharp upward spiral in interest rates without any corresponding decline in either inflationary expectations or the various economic indicators, such as the consumer or wholesale price indexes.

Price increases of the magnitude we are presently experiencing will do grave harm to American society and the longer-term prospects of the U.S. economy if they are permitted to continue unabated. Therefore, to reverse these dangerous trends and to break the current inflationary spiral, on March 14, 1980, the President announced a five-point anti-inflationary program. At the center of this program is a revised FY 1981 budget request to Congress calling for Federal spending reductions of \$15 billion. Successful consideration of this proposal by the Congress would result in the first balanced budget our Nation has had in 12 years. In addition, the President is proposing Federal spending cuts in FY 1980 totaling \$2.4 billion. While a balanced budget by itself may not be a cure-all, by making these spending cuts, the Federal Government is

taking the lead in stopping the recent surge in inflationary expectations.

With respect to the manner in which these revisions were formulated and assigned, I would like to assure you that the spending cuts proposed by the President were carefully weighed and spread across all Federal agencies, including some portions of the Defense Department's budget. Every agency's operating and administrative funds have been reduced to ensure that the Federal Government takes the lead in belt-tightening. Moreover, the cuts have been allocated fairly. No single interest group or set of recipients will bear a disproportionate share of the austerity. To live up to this commitment, the Administration went through the complex process of re-examining every agency's programs to identify areas to cut, rather than simply imposing a flat, across-the-board percentage reduction from each agency's total budget. This latter approach would have been unfair given the significant variation in controllable funds from agency to agency across the Federal Government. Finally, the President's budget reductions were developed in an unprecedented way -- jointly with the leadership of the Congress.

#### Overview of Proposed FY 1980 Rescissions and Deferrals

In conjunction with the proposed amendments to the Department's FY 1981 budget request which support a balanced budget for the coming fiscal year, the Administration will also forward to the Congress proposed rescissions and deferrals for selected FY 1980 programs. A summary of these proposed actions for Departmental appropriations before the Energy and Water Development Subcommittees include reductions to:

- (1) Atomic Energy Defense Activities operating expenses

totaling \$3.4 million in budget authority and \$4.4 million in outlays;

- (2) Energy Supply R&D efforts amounting to \$11.5 million in budget authority including \$5.4 million for operating expenses, and \$6.0 million in outlays including \$2.5 million for operating expenses;
- (3) Uranium Enrichment operating expenses totaling \$1.0 million in outlays;
- (4) Departmental Administration expenses amounting to \$3.0 million in budget authority and \$4.0 million in outlays; and,
- (5) Pay Raise Supplemental salary expenses totaling \$13.3 million.

#### Overview of Proposed FY 1981 Budget Amendments

However, the major thrust of the President's program to re-affirm our commitment to fiscal restraint is aimed at balancing the budget in FY 1981. Toward this end, the President has proposed amending the Department's FY 1981 budget request in several areas of interest to the Energy and Water Development Subcommittees. A summary of these proposed amendments by major appropriations categories include reductions to:

- (1) Atomic Energy Defense Activities operating expenses totaling \$18.7 million in both budget authority and outlays;
- (2) General Science and Research plant and capital equipment items amounting to \$8.0 million in budget authority and \$4.0 million in outlays;

- (3) Energy Supply R&D efforts totaling \$90.1 million in budget authority including \$76.0 million for operating expenses, and \$96.6 million in outlays including \$79.9 million for operating expenses;
- (4) Uranium Enrichment efforts amounting to \$181.5 million in budget authority, excluding the \$61.5 million in excess revenues previously mentioned, and \$165.9 million in outlays; and,
- (5) Departmental Administration expenses totaling \$9.0 million in budget authority and \$19.0 million in outlays.

#### Atomic Energy Defense Activities

The proposed budget revisions for the Department's Defense-related activities contain reductions in both FY 1980 and FY 1981. Major revisions to ongoing FY 1980 programs in this area are concentrated among Defense Nuclear Waste Management operating expense programs and include:

- Rescission of \$2.0 million in both budget authority and outlays for Long-Term Waste Management Technology;
- Rescission of \$1.4 million in both budget authority and outlays for Interim Waste Operations; and,
- Deferral of \$1.0 million in estimated outlays for Interim Waste Operations.

The revised budget request for Defense-related activities in FY 1981 includes the following programmatic reductions in operating expenses:

- \$13.0 million in both budget authority and outlays from Defense Nuclear Waste Management, including \$10.0 million from Interim Waste Operations and \$3.0 million from Long-Term Waste Management;
- \$3.7 million in both budget authority and outlays from Nuclear Materials Security and Safeguards Development, including funds for the design and implementation of Safeguards Systems at Departmental facilities, Incident Management activities, the International Nuclear Materials Tracking System, and threat/risk characterization and assessment activities; and,
- \$2.0 million in both budget authority and outlays from Verification and Control Technology.

The reductions for Interim Waste Operations will stretch the schedules for transfer of high-level waste from old waste tanks to new tanks at Savannah River and for isolation and stabilization of old single-shell tanks at Hanford. In addition, the proposed reduction in FY 1981 will also stretch out the upgrading of the Hanford Reservation site. This program was initiated by DOE as a result of a the Congressionally-mandated Facilities Upgrading Study. However, even with these program reductions, we believe that efforts will continue which provide for the safe handling and storage of Departmental radioactive waste. Similarly, reductions in FY 1980 and FY 1981 to Long-Term Waste Management Technology will necessarily delay some reference technology efforts for long-term management of Defense high-level wastes, and will decrease efforts to improve reliability and operability

of waste treatment equipment components. However, here again, we feel that the thrust of the High-Level Waste Technology Program can continue safely with emphasis on alternative waste form development.

The likely programmatic impact of reductions in FY 1981 to the Nuclear Materials Security and Safeguards Development Program is a delay in safeguards, R&D program upgrading, and incident management. In addition, a reduction in the number of assessments undertaken in FY 1981 can be expected. However, the proposed revised funding level will be about the same as the present FY 1980 level, and no major programmatic disruptions are anticipated.

Finally, the proposed reductions in FY 1981 for the Verification and Control Technology Program were selected based on current activities which can absorb delays without serious programmatic interruptions. More specifically, the program as restructured in the FY 1981 revision will still preserve all National Foreign Intelligence Program-related activities consistent with the most commonly held assessment of current requirements. However, it is true that the pace and magnitude of technical support to seismic-related verification technology initiatives will be delayed.

#### General Science and Research

The Department's revised budget request for General Science and Research plant and capital equipment items in FY 1981 includes the following proposed reductions:

- \$4.0 million in budget authority and \$3.0 million in associated outlays from a slight stretching out of the

Isabelle Project (78-10-B) at Brookhaven National Laboratory under the High Energy Physics Program; and,

- \$4.0 million in budget authority and \$1.0 million in associated outlays from a one-year deferral of initiation of construction in the Atlas Project (81-E-223) at Argonne National Laboratory under the Nuclear Physics Program.

Regarding the stretching out of Isabelle, such a deferral is likely to delay completion of this project by a few months and increase the total estimated cost of construction. However, the proposed amendment would have less detrimental impact on the High Energy Physics Program than any other funding reduction of a comparable amount.

Similarly, the one-year delay in the availability of Atlas to the scientific community will result in a probable increase in the total construction costs for this facility. However, as in the case of Isabelle, the delay in this new project would be less disruptive to the Nuclear Physics Program than any other comparable funding reduction.

#### Energy Supply R&D

Major revisions to ongoing FY 1980 Energy Supply R&D programs with appropriations before the Energy and Water Development Subcommittees include:

- Rescission of \$3.5 million in both budget authority and outlays for the SERI facility (Project 79-1-Q) under Solar Technology;
- Deferral of \$2.0 million in outlays for Remedial Action operating expenses at Manhattan Engineering Development, Atomic Energy Commission (MED/AEC) sites under the Commercial Nuclear Waste Management Program;

- Deferral of \$0.5 million in outlays for Space and Terrestrial Applications operating expenses under the Advanced Nuclear Systems Program; and,
- Rescission of \$8.0 million in budget authority for the Gas Cooled Breeder Reactor under Breeder Reactor Systems including \$5.4 million in operating expenses and \$2.6 million in capital equipment.

The revised budget request for Energy Supply R&D efforts in FY 1981 includes the following programmatic reductions:

- \$20.0 million in budget authority under Solar Applications operating expenses, of which \$15.0 million is derived from Federal photovoltaic buys in the Market Test and Applications Program and \$5.0 million from Systems Development Prototype Testing activities, and \$19.3 million in associated outlays;
- \$9.0 million in both budget authority and outlays under Solar Technology from a one to one and one half year delay in completion of Title II design work and a corresponding stretch out in the present project completion date for the SERI facility (Project 79-1-Q);
- \$2.0 million in budget authority under Advanced Reactor Systems including \$1.8 million in operating expenses and \$0.2 million in capital equipment intended to develop and demonstrate advanced fuel technology to allow high power density test reactors to convert to low enrichment uranium fuels, and \$3.5 million in associated outlays;

- \$10.0 million in budget authority under Commercial Nuclear Waste Management including \$9.0 million in operating expenses from MED/AEC sites and surplus Departmental facilities and \$1.0 million from Remedial Action capital equipment, and \$8.0 million in associated outlays;
- \$2.0 million in budget authority under Advanced Nuclear Systems including \$1.8 million from operating expenses and \$0.2 million from capital equipment in the area of Space and Terrestrial Applications intended primarily to support delivery of flight space nuclear hardware for the NASA International Solar Polar Spacecraft launch, and \$2.0 million in associated outlays;
- \$0.8 million in budget authority under Breeder Reactor Systems operating expenses from the Advanced Water Breeder Applications Program, and \$8.8 million in outlays including \$8.0 million from the Gas Cooled Breeder Reactor Program and \$0.8 million from a slowdown in general development work on the Advanced Water Breeder;
- \$7.5 million in budget authority under Magnetic Fusion including \$4.8 million in operating expenses from the Confinement Systems and Development and Technology subprograms and \$2.7 million in plant and capital equipment from the Elmo Bumpy Torus Proof-of-Principle Project (80-MF-3), and \$7.5 million in associated outlays;
- \$22.3 million in budget authority under Environmental R&D operating expenses of which \$14.0 million is from Biological and Environmental Research efforts (such as human health

studies, health effects research in biological systems, environmental studies on the distribution of energy-related pollutants, physical and technological studies, climate research, and health and environmental effects assessment), and \$8.3 million is from Overview and Assessment activities (such as overview management, technology impacts, operational and environmental safety, and environmental safety engineering), along with a total of \$22.0 million in associated outlays;

- \$8.0 million in budget authority under Basic Energy Sciences including \$7.0 million in operating expenses from basic research efforts and \$1.0 million in capital equipment from related subprograms, and \$8.0 million in associated outlays;
- \$5.5 million in both budget authority and outlays under Technical Assessment Projects operating expenses resulting from elimination of work on the Satellite Power System; and,
- \$3.0 million in both budget authority and outlays under University Research Support operating expenses as a result of a decision to defer the initiation of a new program effort in the University Institutional Agreements Program.

While the President remains committed to the goal of supplying 20 percent of our energy needs from solar energy by the turn of the century, careful review of the Department's solar energy programs revealed a modest number of activities where budget reductions would have a minimal, if any, adverse impact on either the overall effectiveness of ongoing R&D efforts or programmatic execution.

In the case of combined proposals to reduce construction funding for the SERI facility in both FY 1980 and FY 1981, for instance, the resulting one to one-and-one-half year delay in both completion of Title II definitive design and estimated project completion date is expected to have limited impact on the Department's solar-related programmatic objectives. Similarly, while the \$15.0 million reduction in Federal photovoltaic purchases will result in decreases equivalent to 1 MW in electric generating capacity, the remaining level of support for the photovoltaics industry is still sufficient to permit most market development goals to be met. Lastly, the \$5.0 million reduction to Systems Development activities will result in cutbacks to proposed prototype testing of active and passive cooling systems and a moderate slowdown in the development of point-focusing collectors. However, these actions are expected to shift programmatic emphasis more towards development of advanced cooling systems and line-focusing systems which possess greater potential for cost savings and improved performance in the longer run.

With respect to likely programmatic impacts on Nuclear Fission programs, the proposed reduction to Advanced Reactor Systems in FY 1981 merely defers funding for longer-term objectives in the Reduced-Enrichment Research and Test Reactor subprogram which was intended primarily to develop advanced technologies for reducing uranium enrichment in research and test reactor fuels in an attempt to reduce proliferation risks. In addition, overall programmatic emphasis will be altered in FY 1980 to developing fuel types in a sequential rather than parallel manner. In the area of Commercial Nuclear Waste Management, proposed reductions in level of funding

for Remedial Action activities in both FY 1980 and FY 1981 can be absorbed without impacting ongoing efforts at (MED/AEC) sites for which the Department has clear authority to proceed. However, there might be some delay in beginning remedial action at lower priority sites which were contingent upon passage of pending enabling legislation. Similarly, the proposed FY 1981 reductions for Decontamination and Decommissioning activities at surplus Departmental facilities are aimed at lower priority sites only where stretched out schedules will not jeopardize human health or safety. Regarding the proposed deferral in FY 1980 and reduction in FY 1981 for Advanced Nuclear Systems, these actions are in concert with an Administration proposal to slip NASA's International Solar Polar mission from a 1983 to a 1985 launch date and are expected to have only a minor impact on plutonium-238 production operation at the Savannah River plant. Lastly, the combined reductions to Breeder Reactor Systems are intended primarily to accelerate activities proposed earlier in the FY 1981 budget submittal. Specifically, the Gas Cooled Breeder Reactor Program was selected for reduction because plans had already been made to withdraw Federal support for all gas cooled fast reactor activities beginning in FY 1981. The overall effect of the proposed revisions to the Gas Cooled Breeder Reactor Program will be to accelerate and complete most closeout activities in FY 1980, instead of FY 1981.

Despite a proposed reduction totaling \$7.5 million to the Magnetic Fusion Program in FY 1981, the Department remains committed to developing the highest potential from fusion energy.

While the intended reductions in the area of Magnetic Fusion do not jeopardize the program's technical or engineering base, the obvious impact generally is to slow the momentum of the program's progress. However, we consider these reductions to be acceptable since the Department's policy objectives for the program remain intact. These objectives include the demonstration of scientific feasibility, establishment of a sound engineering base supporting an Engineering Test Facility decision, maintenance of a strong scientific base, and encouragement of research in Alternative Concepts. With respect to specific actions within the proposed total, construction funding for the Elmo Bumpy Torus Proof-of-Principle project will be reduced by \$2.5 million in budget authority and \$3.0 million in outlays. The impact of this reduction is to delay the completion date of this facility by five months from September 1984 to February 1985. Largely as a result of this decision, additional reductions of \$0.2 million in related capital equipment and \$1.0 million in Development and Technology operating expenses will be made possible. Finally, a \$3.8 million reduction in the level of effort for the Confinement Systems subprogram is proposed. The likely impact of this reduction will be to restrict the utilization of both tokamak and mirror experimental facilities as well as reduced component development and physics support for the Elmo Bumpy Torus project.

Four additional Departmental Energy Supply R&D programs including Environment, Basic Energy Sciences, Technical Assessment Projects, and University Research Support have been incorporated into the Department's budget reduction package for FY 1981. With the exception of Technical Assessment Projects, these

proposed revisions represent either moderate reductions in program level of effort including related capital equipment where appropriate, or deferrals in new program initiatives. None of these reductions are expected to have major programmatic impacts. However, in the case of the \$5.5 million reduction in FY 1981 to the Technical Assessment Projects program, the Department is proposing to terminate all work on the Satellite Power System (SPS). Funding from FY 1980 is sufficient to complete the Concept Development and Evaluation Program (CDEP) by July 1980. This three-year study, undertaken in conjunction with NASA, was intended to provide an initial assessment of the SPS concept and to establish a basis for making more informed decisions. The original FY 1981 budget request for SPS provided funds for developing additional information on emerging technologies and environmental issues, and for covering transitional activities and implementation planning in the event a new SPS initiative was proposed. At a time when extraordinary actions are required to balance the Federal budget and to combat inflationary trends, we do not feel that it is prudent to continue the SPS effort until the CDEP report has been fully analyzed and a definitive understanding of further research needs has been developed.

#### Uranium Enrichment

Budget revisions have been proposed for elements in the Uranium Enrichment program for both FY 1980 and FY 1981. For FY 1980, the sole reduction which has been proposed is:

- Rescission of \$1.0 million in both budget authority and outlays for operating expenses in the Advanced Isotope Separation Technology (AIST) Program.

For FY 1981, however, major revisions are proposed for five areas, concentrated in the Uranium Enrichment activities programs.

The proposed reductions include:

- \$43.0 million in both budget authority and outlays from Cascade Power operating expenses;
- \$20.0 million in budget authority and \$12.4 million in budget outlays from process equipment modifications for gaseous diffusion plants (Construction Project 71-1-F);
- \$170.0 million in budget authority and \$99.0 million in budget outlays from the Portsmouth, Ohio, Gas Centrifuge Enrichment Plant (Project 76-8-G);
- \$7.0 million in budget authority and \$8.5 million in budget outlays from Uranium Resource Assessment operating expenses; and,
- \$3.0 million in both budget authority and outlays from Advanced Isotope Separation Technology operating expenses.

The proposed \$43.0 million revision in Cascade Power operating expenses will be taken from funds originally requested in the FY 1981 budget submittal to pay demand charges associated with planned reductions in firm contract power purchases. The reductions in power purchases were a result of the need to decrease production and better balance the supply of enriched uranium with demand. The amendment assumes partial or total relief from the demand charges, based on negotiations now underway with the three power suppliers to obtain the power reductions without incurring demand charges. Should the negotiations be unsuccessful, the Department may have to reduce power further to operate within the revised power budget. This could necessitate operating the gaseous diffusion plants

below the safe minimum operating level during the winter months, which could seriously impact the program because the reduced operating level has a high potential risk of massive equipment failures and process freeze-ups.

The proposed reductions of \$20.0 million in budget authority and \$12.4 million in budget outlays for the process equipment modifications at our Gaseous Diffusion Plants (Project 71-1-F) is a result of a revision in the total estimated cost to \$970 million from \$990 million following a recent detailed program review. The revised funding level will allow completion of the Oak Ridge, Tennessee, and Paducah, Kentucky, plants as scheduled by the end of FY 1981, and the Portsmouth, Ohio, plant by mid-1983. As you know, the stretch out in the Portsmouth plant is due to the recently settled strike at that location.

The revised budget request for the Portsmouth, Ohio, Gas Centrifuge Enrichment Plant (Project 76-8-G) will reduce budget authority by \$170.0 million and budget outlays by \$99.0 million for FY 1981. This reduction will defer new procurement and construction contracts until FY 1982, and work by the system support contractor and construction manager will also be reduced. These deferrals will delay completion of the first 2.2 million separative work units (SWU's) of gas centrifuge plant capacity by one year to FY 1989. Completion of the full 8.8 million SWU's for this project will also slip by one year to FY 1994. However, this delay is not expected to prevent the Department from meeting its uranium enrichment commitments.

The proposed reduction of \$7.0 million in budget authority and \$8.5 million in budget outlays will effect a change in strategy for near-term uranium resource assessment. Rather than expand the comprehensive systematic quadrangle assessment of the continental United States, the geologic approach to assessing World Class and Intermediate Grade sites will be emphasized. Quadrangle assessments begun in FY 1980 will be completed, but if the comprehensive assessment project is continued, completion will be delayed until at least 1990.

Finally, in the Advanced Isotope Separation Technology Program, the combined FY 1980 rescission and FY 1981 reductions will reduce the level of effort in two areas. For FY 1980, the rescission will not affect the core R&D activities, but will reduce basic research efforts related to applications of AIST to the solution of other energy-related problems. The proposed reduction of \$3.0 million in budget authority and outlays for FY 1981 will curtail work associated with the French chemical exchange process. However, these reductions are not expected to seriously impede progress towards the Department's three highest priority development efforts.

#### Departmental Administration

Revisions to the Departmental Administration request include a wide range of proposed amendments to the FY 1981 request and reductions to the enacted FY 1980 funding levels. The FY 1980 changes affect two program areas and include:

- Rescission of \$3.0 million in budget authority and outlays for Management and Support operating expenses; and,
- A deferral of \$1.0 million in budget outlays for plant and capital equipment under the In-House Energy Management.

Proposed budget amendments to the FY 1981 request impact five program elements within Departmental Administration. .

These reductions include:

- \$1.0 million in budget authority and outlays from Policy Analysis and Systems Studies operating expenses;
- \$1.0 million in budget authority and outlays under International Affairs, including \$0.1 million from International Cooperation in Non-Nuclear Technologies and \$0.9 million from International Policy Studies;
- \$5.0 million in budget authority and \$5.0 million in budget outlays from the Contractual Services and Support area;
- \$2.0 million in budget authority and outlays from Security Investigations; and,
- \$10.0 million in plant and capital equipment budget outlays from the In-House Energy Management Program.

The kinds of proposed budget reductions in Departmental Administration elements vary widely, reflecting the diverse responsibilities consolidated in these Departmental units. The impact of the Policy Analysis and Systems Studies and International Affairs reductions will be to narrow the scope of our energy modeling and assessment capabilities, and slightly delay other studies which provide valuable data on a wide range of national and international issues. The effects of the proposed rescission of \$3.0 million in both budget authority and outlays in the Management and Support Program for FY 1980 should be offset by the Federal hiring freeze which is currently in place. For FY 1981, the proposed reduction of \$5.0 million in budget authority and \$5.0 million in outlays will

reduce the Department's flexibility to purchase services for ADP, communications, printing and graphics, copiers, and word processing at Headquarters and in the field.

The effect of a \$2.0 million reduction in Security Investigations should be offset by corresponding reductions in Departmental needs for security clearances during FY 1981 at the now delayed Portsmouth Gas Centrifuge Plant. The amended request will still fully support security investigations needed for Atomic Energy Defense-related programs.

Lastly, for the In-House Energy Management Program, deferral of \$1.0 million in outlays for FY 1980 and a reduction of \$10.0 million in outlays in FY 1981 will delay, but not cancel, some of the many retrofit improvements planned to increase energy efficiency in Departmental laboratories and other facilities. A potentially more serious impact on the program would result if the FY 1980 Supplemental request for \$4.9 million in budget authority and \$1.1 million in outlays for modifications to the Pantex and Pinellas plants is not approved.

#### Withdrawal of Pending Pay Cost Supplemental

The final budget revision that I would like to discuss with you today is a decision to withdraw the Department's Pay Raise Supplemental appropriations request for FY 1980. As you know, salaries for Federal employees affected by Executive Order 12165 were increased by 7 percent for those below the Senior Executive Service (SES) and 5.5 percent for SES employees beginning on October 1, 1979. That portion of the Federal pay raise associated

with programs under the jurisdiction of the Energy and Water Development Subcommittees amounted to \$13.3 million in additional budget authority for FY 1980. In anticipation of the projected cost savings from the current Federal hiring freeze, the Department is withdrawing this \$13.3 million supplemental request.

Mr. Chairman, this concludes my formal statement. I would be pleased to respond to any questions that either you or the other members of the Subcommittee may have regarding the Department's FY 1981 budget revisions and their attendant programmatic impacts.

Department of Energy  
FY 1981 Budget Revision

SUMMARY OF ESTIMATES BY APPROPRIATION  
(In thousands of dollars)

	FY 1980 Presently Available		FY 1980 Revised Appropriation		FY 1980 Proposed Rescission/Deferral	
	BA	BO	BA	BO	BA	BO
Appropriations Before the Energy and Water Development Subcommittees:						
Atomic energy defense activities - operating expenses ..	2,373,247	2,330,474	2,369,847	2,326,074	-3,400	-4,400
Atomic energy defense activities - plant and capital equipment .....	588,249	613,041	588,249	613,041	---	---
General science and research - operating expenses .....	341,900	336,300	341,900	336,300	---	---
General science and research - plant and capital equipment .....	130,000	125,710	130,000	125,710	---	---
Energy supply research and development - operating expenses ..	2,234,656	2,284,588	2,229,306	2,282,088	-5,350	-2,500
Energy supply research and development - plant and capital equipment .....	437,378	453,977	431,228	450,477	-6,150	-3,500
Uranium enrichment - operating expenses ..	59,141	-543	59,141	-1,543	---	-1,000
Uranium enrichment - plant and capital equipment .....	4,000	56,981	4,000	56,981	---	---
Federal energy regulatory commission .....	67,767	65,463	67,767	65,463	---	---
Geothermal resources development fund ....	181	1,390	181	1,390	---	---

	FY 1980 Presently Available		FY 1980 Revised Appropriation		FY 1980 Proposed Rescission/Deferral	
	RA	BO	RA	BO	RA	BO
Alaska power administration - operations and maintenance .....	2,660	2,660	2,660	2,660	---	---
Bonneville power administration .....	---	-128,140	---	-128,140	---	---
Southeastern power administration - operations and maintenance .....	1,400	1,475	1,400	1,475	---	---
Southwestern power administration - operations and maintenance .....	32,180	32,190	32,180	32,190	---	---
Western area power administration - construction, rehabilitation, operations, and maintenance .....	122,800	122,800	122,800	122,800	---	---
Emergency fund Western area power administration .....	200	200	200	200	---	---
Colorado River Basin power marketing fund .....	5,152	5,152	5,152	5,152	---	---
Departmental administration .....	260,220	271,892	257,220	267,892	-3,000	-4,000
Special foreign currency .....	---	69	---	69	---	---
Subtotal, Appropriations Before the Energy and Water Development Subcommittees: .....	6,661,131	6,575,679	6,643,231	6,560,279	-17,900	-15,400
Supplementals .....	396,083	371,681	382,789	358,839	-13,294	-12,842
Total, Appropriations Before the Energy and Water Development Subcommittee .....	7,057,214	6,947,360	7,026,020	6,919,118	-31,194	-28,242

Department of Energy  
FY 1981 Budget Revisions

SUMMARY OF ESTIMATES BY APPROPRIATION  
(In thousands of dollars)

	FY 1981		FY 1981		FY 1981	
	Pending Request		Budget Revisions		Revised Request	
	BA	BO	BA	BO	BA	BO
Appropriations Before the Energy and Water Development Subcommittees:						
Atomic energy defense activities - operating expenses ..	2,794,723	2,741,594	-18,700	-18,700	2,776,023	2,722,894
Atomic energy defense activities - plant and capital equipment .....	648,505	644,154	---	---	648,505	644,154
General science and research - operating expenses .....	376,695	371,050	---	---	376,695	371,050
General science and research - plant and capital equipment .....	146,200	136,922	-8,000	-4,000	138,200	132,922
Energy supply research and development - operating expenses ..	2,349,904	2,253,332	-76,000	-79,900	2,273,904	2,173,432
Energy supply research and development - plant and capital equipment .....	401,147	435,279	-14,100	-16,700	387,047	418,579
Uranium enrichment - operating expenses ..	208,940	213,340	-181,485	-54,500	27,455	158,840
Uranium enrichment - plant and capital equipment .....	1,300	23,443	---	-111,400	1,300	-87,957
Federal energy regulatory commission .....	76,374	75,538	---	---	76,374	75,538
Geothermal resources development fund ....	43,266	1,247	---	---	43,266	1,247

	FY 1981		FY 1981		FY 1981	
	Pending Request		Budget Revisions		Revised Request	
	BA	BO	BA	BO	BA	BO
Alaska power administration - operations and maintenance .....	3,069	3,069	---	---	3,069	3,069
Bonneville power administration .....	---	-84,500	---	---	---	-84,500
Southeastern power administration - operations and maintenance .....	1,552	1,544	---	---	1,552	1,544
Southwestern power administration - operations and maintenance .....	28,208	37,198	---	---	28,208	37,198
Western area power administration - construction, rehabilitation, operations, and maintenance .....	138,502	138,502	---	---	138,502	138,502
Emergency fund Western area power administration .....	200	200	---	---	200	200
Colorado River Basin power marketing fund .....	3,548	3,548	---	---	3,548	3,548
Departmental administration .....	361,721	342,048	-9,000	-19,000	352,721	323,048
Special foreign currency .....	---	75	---	---	---	75
Total, Appropriations Before the Energy and Water Development Subcommittees: .....	7,583,854	7,337,583	-307,285	-304,200	7,276,569	7,033,383

Department of Energy



FISCAL YEAR

**1981**

**Budget  
Revisions**

**March 1980**

Department of Energy  
 FY 1981 Budget Amendment  
 Atomic Energy Defense Activities  
 (Dollars in thousands)

	Pending Request		Proposed Amendment		Revised Request	
	BA	BO	BA	BO	BA	BO
Verification & Control Technology						
Operating Expenses						
Verification & Control Technology	\$38,826	\$37,690	\$-2,000	\$-2,000	\$36,826	\$35,690
	<u>1,765</u>	<u>1,765</u>	<u>---</u>	<u>---</u>	<u>1,765</u>	<u>1,765</u>
Total Operating Expenses	\$40,591	\$39,455	\$-2,000	\$-2,000	\$38,591	\$37,455
Plant & Capital Equipment						
Capital Equipment	<u>800</u>	<u>800</u>	<u>---</u>	<u>---</u>	<u>800</u>	<u>800</u>
Total Plant & Capital Equipment	<u>800</u>	<u>800</u>	<u>---</u>	<u>---</u>	<u>800</u>	<u>800</u>
Total	<u>\$41,391</u>	<u>\$40,255</u>	<u>\$-2,000</u>	<u>\$-2,000</u>	<u>\$39,391</u>	<u>\$38,255</u>

This program, which contains all DOE resources related to the National Foreign Intelligence Program (NFIP) as well as Departmental support to the research and development of nuclear weapons treaty verification systems, was selected for reduction based on the inherent nature of the technology development program which permits schedule delays with only moderate programmatic implications. Specifically, the program, as restructured, will preserve all NFIP-related activities consistent with requirements and will delay the pace and magnitude of technical support to seismic-related verification technology initiatives. Further, the delay of currently planned non-seismic technology activities will permit an active and productive ionospheric monitoring research program but will defer system demonstration.

Department of Energy  
 FY 1980 Request for Rescission  
 Atomic Energy Defense Activities  
 (Amounts in Thousands)

	Presently Available		Revised Appropriation		Proposed Rescission	
	BA	BO	BA	BO	BA	BO
Defense Nuclear Waste Management						
Operating Expenses						
Interim Waste						
Operations .....	\$120,000	\$110,024	\$118,600	\$108,624	\$ -1,400 <sup>b/</sup>	\$ -1,400 <sup>b/</sup>
Long-Term Waste Management						
Technology .....	74,449	70,702	72,449	68,702	-2,000	-2,000
Other Defense Nuclear Waste Management .....	<u>14,522</u>	<u>14,822</u>	<u>14,522</u>	<u>14,822</u>	---	---
Total Operating Expenses .....	208,971	195,548	205,571	192,148	-3,400 <sup>b/</sup>	-3,400 <sup>b/</sup>
Plant and Capital						
Equipment .....	<u>52,425<sup>a/</sup></u>	<u>108,057<sup>a/</sup></u>	<u>52,425</u>	<u>108,057</u>	---	---
Total Defense Nuclear Waste Management ...	<u>\$261,396<sup>a/</sup></u>	<u>\$303,605<sup>a/</sup></u>	<u>\$257,996</u>	<u>\$300,205</u>	<u>\$ -3,400</u>	<u>\$ -3,400</u>

<sup>a/</sup> \$17,000,000 of WIPP rescission not included.

<sup>b/</sup> In addition, \$1,000,000 will also be deferred in the Interim Waste Operations Program.

Department of Energy  
 FY 1981 Budget Amendment  
 Atomic Energy Defense Activities  
 (Dollars in Thousands)

	Pending Request		Proposed Amendment		Revised Request	
	BA	BO	BA	BO	BA	BO
Defense Nuclear Waste Management						
Operating Expenses						
Interim Waste Operations .....	\$149,940	\$146,796	\$-10,000	\$-10,000	\$139,940	\$136,796
Long-Term Waste Management Technology .....	102,000	109,975	-3,000	-3,000	99,000	106,975
Other Defense Nuclear Waste Management .....	12,715	13,585	---	---	12,715	13,585
Total Operating Expenses .....	264,655	270,356	-13,000	-13,000	251,655	257,356
Plant and Capital Equipment .....	85,005	105,386	---	---	85,005	105,386
Total Defense Nuclear Waste Management ...	<u>\$349,660</u>	<u>\$375,742</u>	<u>\$-13,000</u>	<u>\$-13,000</u>	<u>\$336,660</u>	<u>\$362,742</u>

Interim Waste Operations

The reductions in FY 1980 and FY 1981 will have a direct impact on the operations for transferring high-level waste from old waste tanks to new tanks at Savannah River and for the isolation and stabilization of old single-shell tanks at Hanford. It will also be necessary to reduce site operations at the various sites in functions such as reducing engineering studies for process improvements, and conceptual design for future operations. The reduction in FY 1981 will also delay the upgrading of the Hanford Reservation site as called for in the Congressionally mandated Facilities Upgrading Study. However, with the reductions in the Interim Waste Operations program, efforts can continue which provide for safe handling and storage or disposal of DOE radioactive waste pending implementation of the long-term waste management program. In addition, initial funding is provided to begin Hanford Reservation Upgrade program which will require about \$100,000,000 over several years to accomplish.

Long-Term Waste Management Technology

The reductions in FY 1980 and FY 1981 will delay reference technology efforts for long-term management of defense high-level wastes. Process development and large-scale component testing are planned for FY 1981 to support the design of facilities to prepare defense waste for final disposal. The reduction will decrease efforts to improve reliability and operability of waste treatment equipment components included in facility design. However, with the reduction, the thrust of the high-level waste technology program can continue with emphasis on alternative waste form development.

Department of Energy  
 FY 1981 Budget Amendment  
 Nuclear Materials Security and Safeguards Development  
 (Dollars in thousands)

	Funding Request		Proposed Amendment		Revised Request	
	BA	BO	BA	BO	BA	BO
<b>Nuclear Materials Security &amp; Safeguards Development</b>						
<b>Nuclear Materials Security &amp; Safeguards</b>						
Operating Expenses	\$43,209	\$39,609	\$-3,700	\$-3,700	\$39,509	\$35,909
Capital Equipment	<u>3,400</u>	<u>3,400</u>	<u>—</u>	<u>—</u>	<u>3,400</u>	<u>3,400</u>
Subtotal	46,609	43,009	-3,700	-3,700	42,909	39,309
<b>Program Direction</b>						
Operating Expenses	<u>3,795</u>	<u>3,795</u>	<u>—</u>	<u>—</u>	<u>3,795</u>	<u>3,795</u>
Subtotal	3,795	3,795	—	—	3,795	3,795
Operating Expenses	47,004	43,404	-3,700	-3,700	43,304	39,704
Capital Equipment	<u>3,400</u>	<u>3,400</u>	<u>—</u>	<u>—</u>	<u>3,400</u>	<u>3,400</u>
<b>Total Nuclear Materials Security &amp; Safeguards Development</b>						
	<u>\$50,404</u>	<u>\$46,804</u>	<u>\$-3,700</u>	<u>\$-3,700</u>	<u>\$46,704</u>	<u>\$43,104</u>

This budget amendment will reduce the program of design and implementation of safeguards systems at DOE facilities by \$2,200,000. Incident management activities will be reduced \$500,000. The International Nuclear Materials Tracking System will be reduced by \$400,000 and threat/risk characterization and assessment activities will be reduced by \$600,000.

The impact of these reductions is that the funding level in FY 1981 will be at about the FY 1980 level which will result in a stretchout of program schedules; delays in safeguards research and development, upgrades, and incident management programs; and a reduction in the number of assessments.

Department of Energy  
 FY 1981 Budget Amendment  
 General Science and Research  
 (Dollars in thousands)

	Funding Request		Proposed Amendment		Revised Request	
	BA	BO	BA	BO	BA	BO
High Energy Physics						
Operating Expenses	\$242,245	\$240,705	\$ ---	\$ ---	\$242,245	\$240,705
Plant and Capital Equipment						
78-10-B ISABELLE	45,000	40,000	- 4,000	- 3,000	41,000	37,000
Other Plant and Capital Equipment	71,600	69,414	---	---	71,600	69,414
Total Plant and Capital Equipment	\$116,600	\$109,414	\$- 4,000	\$- 3,000	\$112,600	\$106,414
Total High Energy Physics	\$358,845	\$350,119	\$- 4,000	\$- 3,000	\$354,845	\$347,119

The Amendment includes a reduction of \$4,000,000 in budget authority for the High Energy Physics Program. The reduction results in a slight stretching out of the ISABELLE Project (78-10-B) at Brookhaven National Laboratory. The Amendment reduces the FY 1981 request for budget authority for ISABELLE from \$45,000,000 to \$41,000,000. The reduction will be accommodated by a slowdown in the production of ISABELLE dipole magnets.

The deferral of the \$4,000,000 until later is likely to delay completion of this project by a few months and increase the total estimated cost of construction.

The amendment would have less detrimental impact on the overall High Energy Physics Program than any other funding reduction of a comparable amount. The amended FY 1981 request for High Energy Physics would permit a credible program at existing and new facilities coming on line and would allow planned progress on other major high energy physics construction projects.

Department of Energy  
FY 1981 Budget Amendment  
General Science and Research  
(Dollars in thousands)

	Pending Request		Proposed Amendment		Revised Request	
	BA	BO	BA	BO	BA	BO
Nuclear Physics						
Operating Expenses	\$ 88,800	\$ 86,495	\$ ---	\$ ---	\$ 88,800	\$ 86,495
Plant and Capital Equipment						
81-E-223 ATLAS	4,000	1,000	- 4,000	- 1,000	---	---
Other Plant and Capital Equipment	22,700	24,458	---	---	22,700	24,458
Total Plant and Capital Equipment	\$ 26,700	\$ 25,458	\$- 4,000	\$- 1,000	\$ 22,700	\$ 24,458
Total Nuclear Physics	\$115,500	\$111,953	\$- 4,000	\$- 1,000	\$111,500	\$110,953

The Amendment includes a reduction of \$4,000,000 in budget authority in the FY 1981 request for the Nuclear Physics Program. This reduction results from the deferral for one year of initiation of construction of the Argonne Tandem/Linac Accelerator Systems (ATLAS) project (81-E-223). ATLAS has been recommended by the Nuclear Sciences Advisory Committee as the highest priority for facility construction in FY 1981. It will permit high resolution experiments in the important 15 to 20 million electron-volt per nucleon energy range. It is in this range that the velocity of projectile nucleons exceeds the velocity of sound in nuclear matter. Current nuclear theory indicates the onset of new nuclear phenomena above this "sound barrier." The Amendment will result in a one-year delay in the availability of this new research capability to the scientific community and a probable increase in the total construction costs for this facility. However, the delay in this new project would be less disruptive to the Nuclear Physics Program than any other comparable funding reduction.

The amended funding request for the Nuclear Physics Program would permit a productive research program using existing accelerator facilities. During FY 1981, additional development and testing and actual nuclear research using ATLAS prototype modules will be carried out.

Department of Energy  
 FY 1981 Budget Amendment  
 Energy Supply Research and Development  
 (Dollars in Thousands)

	Pending Request		Proposed Amendment		Revised Request	
	BA	BO	BA	BO	BA	BO
Solar Applications						
Operating Expenses						
Systems Development	\$ 54,400	\$ 43,000	\$ -5,000	\$ -4,300	\$ 49,500	\$ 38,700
Market Test & Applications Program	73,000	85,000	-15,000	-15,000	58,000	70,000
Direction	2,786	2,786	---	---	2,786	2,786
Other Solar Applications	43,500	34,800	---	---	43,500	34,800
Total Operating Expense	\$173,786	\$165,586	\$-20,000	\$-19,300	\$153,786	\$146,286
Total Plant & Capital Equipment	\$ 2,500	\$ 2,000	\$ ---	\$ ---	\$ 2,500	\$ 2,000
Total Solar Applications	<u>\$176,286</u>	<u>\$167,586</u>	<u>\$-20,000</u>	<u>\$-19,300</u>	<u>\$156,286</u>	<u>\$148,286</u>

Justification

	BA	BO
Systems Development .....	\$ -5,000	\$ -4,300

A reduction of \$5,000,000 in systems development activities is proposed. Prototype testing of active and passive cooling systems will be reduced by \$3,000,000. This action will shift emphasis towards development of advanced cooling systems with resulting cost and performance improvement over currently available technology.

Development of point-focusing collectors will be reduced by \$2,000,000. This action will reduce support to one industrial process heat collector option but will permit development of the more advanced line-focusing systems to proceed as previously planned.

	BA	BO
Market Test & Applications .....	\$-15,000	\$-15,000

The proposed budget reduction in the Photovoltaic (PV) program include \$5,000,000 from the Federal PV systems purchase effort and \$10,000,000 from the proposed \$30,000,000 multi-year purchase. These budget reductions will result in a reduction of federal purchases in FY 1981 of about 1 MW, resulting in purchases of approximately 1 MW.

At the reduced funding level the following activities will be carried out:

- Completion of nine large applications experiments (~ 1 MW total, 20-300 KW each)
- Initiation of the National Exemplar project
- Completion of Saudi Village
- Initiation of 3 residential experiments stations
- Completion of Italian farm and village projects
- One fixed price buy competition for the three key market sectors in PV, Residential, International, Industrial/Commercial

At the amended budget request level sufficient support will be provided to the PV industry to permit most market development goals to be met.

Department of Energy  
 FY 1980 Request for Rescission  
 Energy Supply Research and Development  
 (Dollars in Thousands)

	Presently Available		Revised Appropriation		Proposed Rescission	
	BA	BO	BA	BO	BA	BO
Solar Technology						
Total Operating Expenses	\$343,653*	\$331,067*	\$343,653*	\$331,067*	\$ ---	\$ ---
Plant & Capital Equip.						
Capital Equipment	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000	\$ ---	\$ ---
79-1-Q	6,900	6,900	3,400	3,400	-3,500	-3,500
SERI Facility						
Other Solar Technology	74,535	89,839	74,535	89,839	---	---
Total Plant & Capital Equipment	\$ 97,435	\$112,739	\$ 93,935	\$109,239	\$ -3,500	\$ -3,500
Total Solar Technology	<u>\$441,088</u>	<u>\$443,806</u>	<u>\$437,588</u>	<u>\$440,306</u>	<u>\$ -3,500</u>	<u>\$ -3,500</u>
					BA	BO
SERI Facility .....					\$ -3,500	\$ -3,500

Justification

This action will constrain FY 1980 activities on the SERI Facility to include only the completion of Title I (Preliminary Design) and initiation of limited Title II (Definitive Design) activities. No funds will be available for site improvements (grading, utilities, roads, etc.) The project completion date (3rd quarter of FY 1984) could be affected with a resultant increase in cost. However, this delay should have limited impact on the Department's programmatic objectives.

\*Does not include \$6,175,000 in budget authority (BA) and \$3,175,000 in outlay authority (BO) associated with a pending supplemental request.

Department of Energy  
FY 1981 Budget Amendment  
Energy Supply Research and Development  
(Dollars in Thousands)

	Pending Request		Proposed Amendment		Revised Request	
	BA	BO	BA	BO	BA	BO
Solar Technology						
Total Operating Expense	\$415,900	\$375,000	\$ —	\$ —	\$415,900	\$375,000
Plant & Capital Equip.						
Capital Equipment	\$ 14,050	\$ 8,000	\$ —	\$ —	\$ 14,050	\$ 8,000
79-1-Q	10,000	10,000	-9,000	-9,000	1,000	1,000
SERI Facility						
Other Solar Technology	25,950	67,000	—	—	25,950	67,000
Total Plant & Capital Equipment	\$ 50,000	\$ 85,000	\$ -9,000	\$ -9,000	\$ 41,000	\$ 76,000
Total Solar Technology	<u>\$465,900</u>	<u>\$460,000</u>	<u>\$ -9,000</u>	<u>\$ -9,000</u>	<u>\$456,900</u>	<u>\$451,000</u>
					BA	BO
SERI Facility .....					\$ -9,000	\$ -9,000

Justification

A \$9,000,000 reduction in the SERI facility construction project is proposed. This will delay completion of Title II (Definitive Design) until FY 1982. No construction activity of any type would be started until FY 1982 and the present project completion date (3rd quarter of FY 1984) would slip by at least one year. This delay should have limited impact on the Department's programmatic objectives.

Department of Energy  
 FY 1981 Budget Amendment  
 Energy Supply Research and Development - Operating Expenses  
 Energy Supply Research and Development - Plant & Capital Equipment  
 Nuclear  
 (Dollars in thousands)

	Pending Request		Proposed Amendment		Revised Request	
	BA	BO	BA	BO	BA	BO
Converter reactor systems (NE)						
Operating expenses						
Advanced reactor systems	\$ 4,800	\$ 4,800	\$ -1,800	\$ -1,800	\$ 3,000	\$ 3,000
Other converter reactor systems	47,965	56,221	0	0	47,965	56,221
Total operating expenses	\$ 52,765	\$ 61,021	\$ -1,800	\$ -1,800	\$ 50,965	\$ 59,221
Plant & capital equipment						
Advanced reactor systems						
Capital equipment	200	2,950	-200	-1,700	0	1,250
Other converter reactor systems	2,000	2,529	0	0	2,000	2,529
Total plant & capital equipment	\$ 2,200	\$ 5,479	\$ -200	\$ -1,700	\$ 2,000	\$ 3,779
Total converter reactor systems	\$ 54,965	\$ 66,500	\$ -2,000	\$ -3,500	\$ 52,965	\$ 63,000

Advanced reactor systems

The purpose of the Reduced-enrichment research and test reactor (RERTR) subprogram is to develop and demonstrate new technology for reducing uranium enrichment in research and test reactor fuels so as to reduce the associated proliferation risks.

Specific activities which will be continued are as follows:

- (a) Performance demonstrations of the low enrichment uranium (LEU) fuels will be conducted. The procurement of LEU fuel for the 2 MW Ford Nuclear Reactor will be implemented in FY 1980 and the fuel will be installed in the reactor in early FY 1981, and
- (b) Irradiation testing of prototype assemblies of medium enrichment uranium (MEU) and LEU fuels appropriate for somewhat higher power reactor categories (about

5 to 20 MW) will be carried out via irradiations in the Oak Ridge Reactor and in the High Flux-Petten reactor.

The RERTR program has two objectives: (1) to demonstrate state-of-the-art fuel technology as applied to research and test reactor fuel which will allow low power density reactors to convert to LEU, and (2) to develop and demonstrate advanced fuel technology to allow high power density reactors to convert to LEU. At the revised funding level, the strategy will be to emphasize objective (1) and defer the longer term objective (2). This will provide for conversions of a large percentage of research and test reactors to LEU in the near-term, and thus reduce substantially the number of locations where high enrichment uranium (HEU) is present. This supports the recent Nuclear Regulatory Commission's rulemaking which will force small users of HEU (i.e., university reactors) to either convert to LEU or provide greatly enhanced safeguards. Although objective (2) provides for a much greater reduction in total HEU inventories, the efficacy of its implementation may be challenged because of the special nature of a few of these high power reactors.

Program emphasis will be altered in FY 1980 to developing fuel types in a sequential manner rather than in parallel. Planned RERTR-related activities at Argonne National Laboratory EC&C-Idaho, Atomic International and Texas Instruments will be revised and stretched over a longer duration. Efforts related to joint studies on reactor conversions to LEU and MEU fuels and on LEU and MEU fuel performance demonstrations, between this program and reactor operators under bilateral agreements, will be reduced and the foreign participants will be so advised.

Department of Energy  
 FY 1980 Request for Deferral  
 Energy Supply Research and Development - Operating Expenses  
 Energy Supply Research and Development - Plant and Capital Equipment  
 (Amounts in Thousands)

	Presently Available		Revised Appropriation		Proposed Deferral	
	BA	BO	BA	BO	BA	BO
Commercial Nuclear						
Waste Management						
Operating Expenses						
MED/AEC Sites ...	\$ 10,155	\$ 7,823	\$ 10,155	\$ 5,823	\$ ---	\$ -2,000
Other Commercial						
Nuclear .....	<u>185,694</u>	<u>188,753</u>	<u>185,694</u>	<u>188,753</u>	---	---
Total Operating Expenses .....	195,849	196,576	195,849	194,576	---	-2,000
Plant and Capital						
Equipment .....	<u>24,300</u>	<u>20,366</u>	<u>24,300</u>	<u>20,366</u>	---	---
Total Commercial						
Nuclear Waste .....	<u>\$220,149</u>	<u>\$216,942</u>	<u>\$220,149</u>	<u>\$214,942</u>	\$ ---	\$ -2,000

Department of Energy  
 FY 1981 Budget Amendment  
 Energy Supply Research and Development - Operating Expenses  
 Energy Supply Research and Development - Plant and Capital Equipment  
 (Dollars in Thousands)

	Pending Request		Proposed Amendment		Revised Request	
	BA	BO	BA	BO	BA	BO
Commercial Nuclear						
Waste Management						
Operating Expenses						
MED/AEC .....	\$ 14,000	\$ 14,000	\$ -3,000	\$ -3,000	\$ 11,000	\$ 11,000
Surplus Facilities .....	17,350	17,300	-6,000	-4,000	11,350	13,300
Other Commercial Nuclear Waste ..	<u>240,301</u>	<u>235,294</u>	<u>---</u>	<u>---</u>	<u>240,301</u>	<u>235,294</u>
Total Operating Expenses .....	271,651	266,594	-9,000	-7,000	262,651	259,594
Plant and Capital Equipment						
Remedial Actions						
Capital Equipment						
Surplus Facilities	1,550	1,550	-1,000	-1,000	550	550
Other Commercial Nuclear Waste ..	<u>25,686</u>	<u>27,473</u>	<u>---</u>	<u>---</u>	<u>25,686</u>	<u>27,473</u>
Total Plant and Capital Equipment	<u>27,236</u>	<u>29,023</u>	<u>-1,000</u>	<u>-1,000</u>	<u>26,236</u>	<u>28,023</u>
Total Commercial Nuclear Waste .....	<u>\$298,887</u>	<u>\$295,617</u>	<u>\$-10,000</u>	<u>\$- 8,000</u>	<u>\$288,887</u>	<u>\$287,617</u>

Commercial Nuclear WasteRemedial Action

## 1. Manhattan Engineering District/Atomic Energy Commission Sites

The reductions in FY 1980 and FY 1981 can be absorbed without impacting the remedial actions on sites for which DOE has clear authority to proceed. Preliminary planning and analyses for other sites will be continued, but until enabling legislation is passed permitting remedial actions at these later sites, there will be no authority to take remedial actions. If the legislation is passed in FY 1980, there might be some slight delay in beginning remedial actions at the lower priority sites.

## 2. Surplus DOE Facilities

The reduction in FY 1981 will stretch schedules for R&D in volume reduction techniques. In addition, the decontamination and decommissioning schedules of the following surplus facilities projects will be postponed: the Water Boiler Reactor at Los Alamos, the Borax IV and PM-2A reactors at Idaho, the Nuclear Rocket Development System at Nevada, and the 233-S and 100-F facilities at Hanford. However, the priority projects will be continued and necessary technology support provided.

Department of Energy  
 FY 1980 Request for Deferral  
 Energy Supply Research and Development  
 (Amounts in thousands)

	Presently Available		Revised Appropriation		Proposed Deferral	
	BA	BO	BA	BO	BA	BO
Advanced Nuclear Systems (NE)						
Space and terrestrial applications						
Operating expenses	\$ 34,300	\$ 38,100	\$ 34,300	\$ 37,600	\$ ---	\$ 500
Capital equipment	<u>2,100</u>	<u>2,900</u>	<u>2,100</u>	<u>2,900</u>	<u>---</u>	<u>---</u>
Subtotal	36,400	41,000	36,400	40,500	---	500
Advanced systems evaluation						
Operating expenses	<u>2,000</u>	<u>4,300</u>	<u>2,000</u>	<u>4,300</u>	<u>---</u>	<u>---</u>
Subtotal	2,000	4,300	2,000	4,300	---	---
Program direction						
Operating expenses	<u>1,206</u>	<u>1,206</u>	<u>1,206</u>	<u>1,206</u>	<u>---</u>	<u>---</u>
Subtotal	1,206	1,206	1,206	1,206	---	---
Total						
Operating expenses	37,506	43,606	37,506	43,106	---	500
Capital equipment	<u>2,100</u>	<u>2,900</u>	<u>2,100</u>	<u>2,900</u>	<u>---</u>	<u>---</u>
Advanced nuclear systems	39,606	46,506	39,606	46,006	---	500

Department of Energy  
 FY 1981 Budget Amendment  
 Energy Supply Research and Development  
 (Dollars in thousands)

	Pending Request		Proposed Amendment		Revised Request	
	BA	BO	BA	BO	BA	BO
Advanced nuclear systems (NE)						
Space and terrestrial applications:						
Operating expenses	\$ 37,200	\$ 37,300	\$ -1,800	\$ -1,200	\$ 35,400	\$ 36,100
Capital equipment	<u>2,800</u>	<u>3,400</u>	<u>-200</u>	<u>-800</u>	<u>2,600</u>	<u>2,600</u>
Subtotal	40,000	40,700	2,000	-2,000	38,000	38,700
Advanced systems evaluation:						
Operating expenses	<u>3,000</u>	<u>3,000</u>	---	---	<u>3,000</u>	<u>3,000</u>
Subtotal	3,000	3,000	---	---	3,000	3,000
Program direction:						
Operating expenses	<u>981</u>	<u>981</u>	---	---	<u>981</u>	<u>981</u>
Subtotal	981	981	---	---	981	981
Total						
Operating expenses	41,181	41,281	-1,800	-1,200	39,381	40,081
Capital equipment	<u>2,800</u>	<u>3,400</u>	<u>-200</u>	<u>-800</u>	<u>2,600</u>	<u>2,600</u>
Advanced nuclear systems	<u>43,981</u>	<u>44,681</u>	<u>-2,000</u>	<u>-2,000</u>	<u>41,981</u>	<u>42,681</u>

Space and terrestrial applications

The deferral in FY 1980 and the amendment in FY 1981 would be in concert with a proposed NASA slip of the International Solar Polar mission from a 1983 to 1985 launch date. The \$500,000 deferral in FY 1980 will impact plutonium-238 production operations at the Savannah River Plant. This deferral will also cause the ISPM final design schedule slip from July 1980 to late FY 1980. All other FY 1980 activity will continue as planned.

The funding decrease identified in FY 1981 would impact the ability of DOE to meet the current planned delivery of flight space nuclear hardware for the NASA International Solar Polar (ISP) spacecraft launch date of February 1983. Specifically, the design, fabrication and testing of engineering and qualification hardware efforts in FY 1981 would be reduced, and production and assembly of the modular heat source components would be implemented commensurate with these schedular changes. Engineering development activities would be continued to support a delayed launch date of 1985 for the ISP Mission and a reprogramming of planned activities would be completed in FY 1980. Continued support of safety related and assembly and testing efforts would be conducted in keeping with the rescheduled dates. DOE's development efforts in the advanced space reactor technology program and the advanced thermoelectric converter materials and improved heat source components would be pursued plus the necessary quality assurance, quality control and independent assessment work. The Terrestrial Applications efforts on the Cesium-137 irradiation of sewage sludge and other beneficial uses of Defense Nuclear Wastes would be continued.

Department of Energy  
 FY 1980 Request for Rescission  
 Energy Supply Research and Development - Operating Expenses  
 Energy Supply Research and Development - Plant & Capital Equipment  
 (Dollars in thousands)

	Presently Available		Revised Appropriation		Proposed Rescission	
	BA	BO	BA	BO	BA	BO
<b>Breeder Reactor Systems</b>						
<b>Operating Expenses</b>						
Gas Cooled Breeder Reactor	\$ 19,988	\$ 20,841	\$ 14,638	\$ 20,841	\$- 5,350	\$ 0
All Other	<u>591,198</u>	<u>621,998</u>	<u>591,198</u>	<u>621,998</u>	-	0
Total Operating Expenses	611,186	642,839	605,836	642,839	- 5,350	0
<b>Plant &amp; Capital Equipment</b>						
Gas Cooled Breeder Reactor	6,012	5,159	3,362	5,159	- 2,650	0
All Other	<u>144,621</u>	<u>141,886</u>	<u>144,621</u>	<u>141,886</u>	-	-
Total PC&E	150,633	147,045	147,983	147,045	- 2,650	0
Total Breeder Systems	<u>\$761,819</u>	<u>\$789,884</u>	<u>\$753,819</u>	<u>\$789,884</u>	<u>\$- 8,000</u>	<u>\$ 0</u>

JustificationGas Cooled Breeder Reactor

An FY 1980 rescission of \$8,000,000 in budget authority is requested for the Gas cooled breeder reactor program. This program was selected for reduction because plans had already been made to withdraw federal support beginning in FY 1981. The overall effect of this rescission will be to accelerate and complete most closeout activities in FY 1980, instead of FY 1981.

The following activities will be closed out in FY 1980 as soon as possible: fast mixed spectrum reactor (FMSR) conceptual design at Brookhaven National Laboratory; engineering evaluations at General Electric Company; gas reactor in-pile safety test loop (GRIST-2) design at Idaho National Engineering Laboratory (INEL); and reliability studies at INEL. The following activities would be greatly reduced in scope in FY 1980 to permit orderly closeout early in FY 1981: conceptual design studies at General Atomic; and P-5 irradiation in the EBR-II reactor at Idaho Falls. Steel melting and relocation tests at Los Alamos National Laboratory (LASL) will not be conducted. Finally, all equipment procurements will be withdrawn.

Department of Energy  
 FY 1981 Budget Amendment  
 Energy Supply Research and Development - Operating Expenses  
 Energy Supply Research and Development - Plant & Capital Equipment  
 (Dollars in thousands)

	Pending Request		Proposed Amendment		Revised Request	
	BA	BO	BA	BO	BA	BO
<b>Breeder Reactor Systems</b>						
<b>Operating Expenses</b>						
Water Cooled Breeder	\$ 59,800	\$ 61,400	\$- 800	\$- 800	\$ 59,000	\$ 60,600
<b>Gas Cooled Breeder</b>						
Reactor	-	9,000	-	- 8,000	-	1,000
All Other	245,450	274,810	-	-	245,450	274,810
Total Operating Expenses	305,250	345,210	- 800	- 8,800	304,450	336,410
<b>Plant &amp; Capital Equipment</b>						
	78,750	141,644	-	-	78,750	141,644
<b>Total Breeder Reactor Systems</b>	<u>\$384,000</u>	<u>\$486,854</u>	<u>\$- 800</u>	<u>\$- 8,800</u>	<u>\$383,200</u>	<u>\$478,054</u>

Water Cooled Breeder

The Advanced Water Breeder Applications (AWBA) program was selected for reduction of \$800,000 in budget authority and budget outlays due to the necessity of maintaining requested levels of effort for operation and testing of the LWBR and the LWBR end of life program. The budget reduction will cause a slight slowdown in AWBA general developmental work. However, this reduction is not expected to hinder major work efforts.

Gas Cooled Breeder Reactor

A reduction of \$8,000,000 in budget outlays is proposed to the FY 1981 budget request for the gas cooled breeder reactor program. The reduction in outlays is consistent with the request to rescind \$8,000,000 in budget authority from the FY 1980 appropriation. Approval of the rescission will accelerate closeout activities to an earlier date than proposed in the FY 1981 budget request and foreshorten FY 1981 requirements for budget outlays.

The remaining funds will be used to complete the following activities: conceptual design of the key nuclear steam supply system (NSSS) systems and components for the gas cooled fast reactor demonstration plant (General Atomic); testing of the control drive mechanism deceleration device (Westinghouse); on-going shielding experiments in the Tower Shielding Facility at ORNL; assembly of CPTL components into the loop at ORNL; helium loop cladding tests on 20 samples at Battelle-Pacific Northwest Laboratories; mechanical properties testing of structural materials at Hanford Engineering Development Laboratory; direct electrical heating safety tests at Argonne National Laboratory; and full length subassembly safety tests at LASL. The Helium Breeder Association (HBA) will continue program management and coordination activities through program closeout.

All gas cooled fast reactor activities will be closed out in early FY 1981. These actions must be initiated by July 1, 1980, or additional FY 1981 funds will be required to complete closeout.

Department of Energy  
 FY 1981 Budget Amendment  
 Energy Supply Research and Development  
 (Dollars in Thousands)

	Pending Request		Proposed Amendment		Revised Request	
	BA	BO	BA	BO	BA	BO
Magnetic Fusion						
Operating Expenses						
Confinement Systems	\$105,100	\$107,630	\$- 3,800	\$- 3,300	\$101,300	\$104,330
Develop. & Tech.	63,700	66,000	- 1,000	- 1,000	62,600	65,000
Other Mag. Fusion	<u>117,417</u>	<u>125,417</u>	0	0	<u>117,417</u>	<u>125,417</u>
Total Operating Expenses	\$286,117	\$299,047	\$- 4,800	\$- 4,300	\$281,317	\$294,747
Plant & Capital						
Equipment						
Confinement Systems						
Capital Equipment	18,300	16,250	- 200	- 200	18,100	16,050
80-MF-3	7,900	5,000	- 2,500	- 3,000	5,400	2,000
Other Mag. Fusion	<u>91,300</u>	<u>133,827</u>	0	0	<u>91,300</u>	<u>133,827</u>
Total Plant & Capital Equipment	<u>\$117,500</u>	<u>\$155,077</u>	<u>\$- 2,700</u>	<u>\$- 3,200</u>	<u>\$114,800</u>	<u>\$151,877</u>
Total Magnetic Fusion	<u>\$403,617</u>	<u>\$454,124</u>	<u>\$- 7,500</u>	<u>\$- 7,500</u>	<u>\$396,117</u>	<u>\$446,624</u>

The DOE's Magnetic Fusion Energy program is currently pursuing the goal to develop the highest potential of fusion energy in an economically acceptable way that preserves and develops both the technical and engineering base. The FY 1981 Budget Amendment provides for a decrease of \$7,500,000 in budget authority for the Magnetic Fusion Energy program from \$403,617,000 to \$396,117,000. The amended request will decrease operating funds by \$4,800,000 to \$281,317,000, capital equipment funds by \$200,000 to \$18,100,000, and construction by \$2,500,000 to \$76,900,000. The obvious impact of these reductions generally is to slow the momentum of the program's progress. However, this action has been determined to be acceptable since the DOE's policy objectives for the program will be maintained. These objectives include the demonstration of scientific feasibility, establishment of a sound engineering base supporting an engineering test facility decision, maintenance of a strong scientific base and encouragement of research in alternative concepts.

The above table indicates that the reductions in the operating program will affect the Confinement Systems and Development and Technology sub-programs. In Confinement Systems, the leading confinement concepts are under study through a series of proof-of-principle experiments designed to better understand and to control the confinement of plasmas. The physics issues currently being addressed in these experiments must be resolved in order to obtain scientific feasibility. This amendment will reduce this subprogram effort by \$3,800,000. The impact of this reduction will be to restrict the utilization of both tokamak and mirror experimental facilities, several of which were to begin expanded operation with new auxiliary heating systems in FY 1981 as well as reduced component development and physics support for the Elmo Bumpy Torus project. This latter item will keep the R&D program compatible with the delayed construction program mentioned below.

The remainder of the operating reduction is applied to the Development and Technology subprogram. This subprogram provides the system engineering and component development support to current plasma devices and future fusion reactors as well as developing a broad technology base necessary for fusion to become a commercial reality. The reduction of \$1,000,000 will be taken from the electron cyclotron heating program. This program was being expanded to provide 60 gigahertz power tubes for Elmo Bumpy Torus Proof-of-Principle (EBT-P), Mirror Fusion Test Facility-B (MFTF-B), and intermediate field tokamak devices. A base program can be maintained with remaining funds (\$3,500,000) in FY 1981, but with slower delivery schedules, consistent with the slowed pace of these facilities.

In capital equipment the reduction of \$200,000 is all related to the EBT-P project. The reduction will eliminate the funds which were to be used for a 28 GHz facility to test EBT-P microwave components. The facility would permit testing to be done independently of EBT-S operations. In the absence of project funding for this purpose, EBT-S equipment can be used. The impact on the experiment will not be severe.

The reduction of \$2,500,000 in construction is all assessed against the Elmo Bumpy Torus Proof-of-Principle project. This represents a decrease from the requested level of \$7,900,000 to \$5,400,000 for project 80-MF-3. The impact of this reduction is to delay the completion date of this facility by 5 months from September 1984 to February 1985. However, initiation of the program remains on schedule. The cost penalty is estimated to be \$3,000,000 to \$3,500,000, which includes the escalation factor on the altered spending profile, stretched out schedule, and higher base cost for contingency.

This project will still be able to do a significant amount of engineering and to make long lead procurements of critical path items such as superconductors for the magnets and cryogenics.

The amended request, which is required to support the President's initiative to balance the federal budget will still provide for a productive program effort. The reductions in the program have been made based on current priorities in an effort to maintain a balanced research program while minimizing the impact of our ability to obtain our program objectives.

Department of Energy  
FY 1981 CONGRESSIONAL BUDGET REQUEST

CONSTRUCTION PROJECT DATA SHEETS

Energy Research  
Energy Supply Research and Development - Plant and Capital Equipment  
Magnetic Fusion

(Tabular dollars in thousands. Narrative material in whole dollars.)

Site to be determined

2. Project No.: 80-WF-3

1. Title and location of project: Elmo bumpy torus proof-of-principle, site to be determined (architect/engineering and long lead procurement only)

3. Date A-E work initiated: 4th Qtr. FY 1980 5. Previous cost estimate: Date: 9/79 \$75,000,000<sup>1/</sup>

3a. Date physical construction starts: 2nd Qtr. FY 1981 6. Current cost estimate: Date: 3/80 \$78,200,000<sup>1/</sup>

4. Date construction ends: 2nd Qtr. FY 1985

7. Financial Schedule

Fiscal Year	Authorizations	Appropriations	Obligations	Costs
1980	\$ 9,100	\$ 2,000 <sup>2/</sup>	\$ 2,000	\$ 2,000
1981	7,900	5,400	5,400	2,000
1982	61,200	36,600	36,600	21,500
1983	0	24,000	24,000	30,500
1984	0	7,000	7,000	17,000
1985	0	3,200	3,200	5,200

<sup>1/</sup>In the detailed Congressional Budget, the TEC was estimated to be in the \$70,000,000-\$80,000,000 range based on project definition studies completed in December 1979. The mid-point of this range was taken as the TEC for purposes of that data sheet. The TEC is hereby revised only to account for the reduced FY 1981 request and is subject to further change after determination of the project start date, contractor selection, and site selection. The previous estimate of \$44,000,000 was an initial target for the project definition studies and was not based on any actual engineering estimates.

<sup>2/</sup>This level of FY 1980 funding reflects the appropriation transfer approved by Congress for FY 1980 which provides for a reduction of \$7,100,000 for the EER project to fund other high priority items within the magnetic fusion energy program.

## CONSTRUCTION PROJECT DATA SHEETS

Site to be determined

1. Title and location of project: Elm Hury torus proof-of-principle, site to be determined (architect/engineering and job lead procurement only) 2. Project No.: 1 80-HP-3

## 8. Brief physical description of project

The Elm Hury Torus Proof-of-Principle (EHP) experiment will be a definitive test of a nuclear fusion magnetic confinement concept that has the potential of leading to more economical fusion power reactor systems. The selection of site and contractor is presently underway. The choice of EHP for a proof-of-principle (POP) experiment was based on: (1) readiness to proceed to such a test, (2) attractiveness as a fusion reactor system, and (3) potential contributions of an EHP POP experimental program to the rest of the magnetic fusion program. Preliminary designs call for a 36 coil, superconducting, 4.5 m major radius, rf drive device.

## 9. Purpose, justification of need for, and scope of project

EHP has been judged in DOE reviews to be a very attractive reactor system with several factors that avoid some of the perceived problems of tokamak reactors. An EHP offers the potential for a steady-state, high beta, ignited reactor with very little recirculating power. The EHP is inherently a large aspect ratio device which provides good access for heat removal and maintenance. In addition, it has superconducting magnets and utilizes high frequency microwave energy input to create the stabilizing high beta electron rings and provide plasma heating.

The objective of the EHP-2 program is to achieve a (hydrogen) plasma confinement experiment in which nearly all the relevant parameters are well characterized. The experimental program will be based on the design of the reactor plant, which is substantially greater than EHP-1 parameters to allow a reasonable extrapolation in evaluation of reactor potential. The project is scheduled for start in FY 1980 and experimental operations are to begin by the middle of FY 1983.

## 10. Details of cost estimates

	Item Cost	Total Cost
a. Engineering, design and inspection at approx. 40% of construction costs, item b		\$ 17,000
b. Construction costs		44,000
1. Fabrication and assembly	31,300	
2. Installation	12,700	
3. Site preparation and utilities	5,000	
Subtotal	62,000	
c. Contingency at approximately 25% of above costs	15,500	
Total Construction Project Cost	77,500	

## CONSTRUCTION PROJECT DATA SHEET

Site to be constructed \_\_\_\_\_

1. Title and location of project: Ham honey virus proof-of-principles,  
site to be determined (architect/engineering  
and civil work agreement only) 2. Project No.: 60-001-3

## 11. Method of performance

OSM has been given the responsibility for management and technical direction of the ERT-9 project. They will subcontract with an Industrial Participation (IP) for the design, fabrication and installation of the device at a site to be selected by OSM. IP will also participate in the operational operations.

## 12. Funding sources of project funding and other related funding commitments

	FY 1959	FY 1960	FY 1961	Total
<b>a. Total project funding</b>				
1. Total project funding				
(a) Construction line item	0	0	2,000	0 79,000 0 79,000
(b) CFAS	0	0	0	0
(c) Capital funded equipment	0	0	0	0
(d) Investment	0	0	0	0
Total facility costs	0	0	2,000	0 3,000 0 3,000
2. Other project funding				
(a) R&D construction	0	170	0	0 1,400 0 14,700
(b) Other project related cost	0	1,012	0	0 5,000 0 10,700
Total other project funding	0	1,182	0	0 6,400 0 25,400
Total project funding*	0	1,150	0	0 7,400 0 104,000
Total project funding*	0	1,150	0	0 7,400 0 118,400

\*Includes capital equipment not related to construction.  
 only 1960-1961.

## CONSTRUCTION PROJECT DATA SHEET

Site to be determined \_\_\_\_\_

1. Title and location of project: Elim bump test proof-of-principle,  
site to be determined (architect/engineering  
and cost load procurement only) 2. Project No.: 80-WP-3

## b. Total Related Funding Requirements

1. Facility operating costs .....	Annual Estimate*
2. Operating expenses directly related to R&D in the facility .....	\$ 9,000
3. Capital equipment not related to construction but related to R&D in the facility .....	3,000
Total Other Related Funding Requirements .....	3,000
	\$15,000

\*Expressed in terms of FY 1980 dollars.

## 13. Narrative explanation of total project funding and other related funding requirements

## a. Total Project Funding

## 1. Other Project Funding

- (a) R&D requisite to construction: high power, high frequency microwave systems development, superconducting magnets, vacuum system components, fabrication development.

## CONSTRUCTION PROJECT DATA SHEET

Data to be returned \_\_\_\_\_

1. Title and location of project: Gas buoy tower proof-of-principle,  
site to be determined (architect/engineering  
and joint lead agreement only)      2. Project No.: 66-20-3

13. Succinctive explanation of total project funding and other related funding requirements (see's)

(b) Other project related costs

- o project definition studies
- o diagnostic development and physics support
- o startup costs

b. Total Related Funding Requirements

1. Facility operating costs

Required for facility operating including cost of utilities, operating staff and supplies.

2. Operating expenses directly related to R&D in the facility

Required to support machine upgrades and modifications.

3. Capital equipment not related to construction but related to R&D in the facility

Required for special equipment, instrumentation, etc., to meet experimental needs.

Department of Energy  
 FY 1981 Budget Amendment  
 Energy Supply Research and Development  
 (Dollars In Thousands)

Environmental Research and Development	Pending Request		Proposed Amendment		Revised Request	
	B/A	B/O	B/A	B/O	B/A	B/O
<b>Overview and Assessment:</b>						
Operating Expenses.....	\$ 60,770	\$ 58,730	\$- 8,300	\$- 8,000	\$ 52,470	\$ 50,730
Capital Equipment.....	2,040	1,390	-	-	2,040	1,390
Subtotal	\$ 62,810	\$ 60,120	\$- 8,300	\$- 8,000	\$ 54,510	\$ 52,120
<b>Biological and Environmental Research:</b>						
Operating Expenses.....	\$169,051	\$165,265	\$-14,000	\$-14,000	\$155,051	\$151,265
Capital Equipment.....	11,700	9,700	-	-	11,700	9,700
Construction.....	6,400	7,130	-	-	6,400	7,130
Subtotal	\$187,151	\$182,095	\$-14,000	\$-14,000	\$173,151	\$168,095
<b>Program Direction:</b>						
Operating Expenses.....	\$ 11,133	\$ 11,133	-	-	\$ 11,133	\$ 11,133
<b>Total Environmental Research and Development.....</b>	<b>\$261,094</b>	<b>\$253,348</b>	<b>\$-22,300</b>	<b>\$-22,000</b>	<b>\$238,794</b>	<b>\$231,348</b>

The proposed amendment reflects the Administrations decisions to reduce program efforts to assist in balancing the FY 1981 budget. The proposed amended budget allows the Assistant Secretary for Environment (ASEV) to continue essential environmental, health and safety support of priority technology efforts and maintain independent overview responsibilities which are mandated by legislation. Specific areas which will be reduced are as follows:

Overview and Assessment

Operating Expenses

Overview Management	Pending Request		Proposed Amendment		Revised Request	
	B/A	B/O	B/A	B/O	B/A	B/O
Overview Management	\$ 6,600	\$ 6,300	\$- 500	\$- 500	\$ 6,100	\$ 5,800

Environmental outreach and coordination activities will be conducted to facilitate incorporation of public participation regarding the Department's policies as they affect the environment. The impact of the proposed FY 1981 budget amendment will be to limit these activities.

	Pending Request		Proposed Amendment		Revised Request	
	B/A	B/O	B/A	B/O	B/A	B/O
Technology Impacts...	\$ 20,800	\$ 19,500	\$- 3,100	\$- 3,000	\$ 17,700	\$ 16,500

The goal of the Technology Impacts program is to improve DOE understanding of the impacts of environmental policies, laws, and regulations on energy development and use and the impacts of energy policies and development programs on the environment, health and safety of the Nation. This program is aimed at the policy formulation and program planning aspects of DOE activities. The impact of the proposed FY 1981 budget amendment will (a) cancel the technology assessment for biomass energy conversions, (b) not allow updating environmental development plans for some emerging energy technologies, (c) delay until FY 1982 the oil shale technology assessment, (d) restrict urban community impact statements to be developed for only a few high priority cases, (e) delay preparation of regional characterization documents, (f) limit comprehensive assessments to the third national energy plan, EIA forecasts, and highest priority legislative initiatives, and (g) allow no forward-looking analyses of environmental policy issues other than outside generated regulatory issues.

	Pending Request		Proposed Amendment		Revised Request	
	B/A	B/O	B/A	B/O	B/A	B/O
Operational and Environment Safety....	\$ 11,160	\$ 10,820	\$- 1,600	\$- 1,500	\$ 9,560	\$ 9,320

ASEV has the responsibility for environmental, safety and health (ES&H) overview of programmatic operations at both DOE operations and field contractor installations. The Operational and Environmental Safety program assures that the operations and installations of the Department and its contractors comply with DOE policy and other applicable Federal, State and local ES&H policies, standards and regulations. The ASEV applies its authority by developing ES&H policy standards, and conducting assessments and field appraisals.

The effect of the proposed FY 1981 budget amendment is to delay several planned improvements or end products in specific programs. The major impacts are: efforts associated with improvement of DOE's emergency response capability will be deferred;

pilot implementation program of the uniform and centralized records system for correlating employee health status with occupational hazards will be deferred, but planning for this program will be continued, thus retaining the nucleus of the staff that has been built up in FY 1980; the development of standardized procurement procedures to incorporate environmental protection, safety, and health protection provisions in DOE contracts will be delayed; and specialized advice in support of the Office of Environment's review of safety analysis effort of major projects will be reduced, but adequate reviews of some major systems acquisition projects will still be possible.

The effect of the budget reduction is to reduce planned improvements in specific programs. However, this program will retain the capability to assure that DOE operations are conducted in accordance with applicable ES&H policies.

	Pending Request		Proposed Amendment		Revised Request	
	B/A	B/O	B/A	B/O	B/A	B/O
Environmental and Safety Engineering....	\$ 22,210	\$ 22,110	\$- 3,100	\$- 3,000	\$ 19,110	\$ 19,110

The environmental and safety engineering (E&SE) program supports the Assistant Secretary for Environment by providing the capability to make independent evaluations of environmental control aspects of DOE's energy research program and national energy policies.

The proposed FY 1981 budget amendment would reduce two programs to the FY 1980 level: the E&SE site specific environmental control data acquisition and analysis activities directed at DOE synfuel initiatives, and the E&SE Liquefied Gaseous Fuels program designed to develop technical information and judgments relative to safety and environmental control aspects of handling, storing, transporting and using Liquefied Gaseous Fuels, such as liquefied natural gas (LNG) and liquefied petroleum gas (LPG).

The reduction will be accomplished by deferring aspects of each of these programs to future years. Specifically, in the environmental control data acquisition and analysis program directed at synfuel energy systems, emphasis will be placed on collecting data at the highest priority demonstration sites. For example, efforts will continue on gasifiers in industry, H-coal and solvent refined coal. In the E&SE Liquefied Gaseous Fuels program, completion of the 40 cubic metre experimental field tests will be deferred from FY 1981 until late FY 1982. Analyses of this data will also be deferred. In the interim, judgments on safety and environmental control aspects of handling, storing, transporting and utilizing these fuels will rely heavily on existing data. Plans to conduct large field experiments required to confirm the ability to predict the dispersion and flame propagation behavior of postulated realistic sized LNG releases will be continued, but at a reduced level.

	Pending Request		Proposed Amendment		Revised Request	
	B/A	B/O	B/A	B/O	B/A	B/O
<u>Biological and Environmental Research</u>						
Operating Expenses.....	\$169,051	\$165,265	\$-14,000	\$-14,000	\$155,051	\$151,265
Capital Equipment.....	11,700	9,700	-	-	11,700	9,700
Plant.....	6,400	7,130	-	-	6,400	7,130
Total	\$187,151	\$182,095	\$-14,000	\$-14,000	\$173,151	\$168,095

The Biological and Environmental Research program is conducted to determine the potential adverse environmental, health and safety (EH&S) effects of DOE operations and energy technologies. Research is conducted to gain a greater understanding of fundamental physical, chemical, and biological systems. This program provides information and technical consultation to the ASEV to determine the adequacy of EH&S activities related to developing energy technologies. This information also supports the efforts of the technology program offices in ensuring EH&S acceptability of their activities during energy development, demonstration, and commercialization. Specific areas which will be reduced are as follows:

In effecting a reduction in Biological and Environmental Research in order to support the President's budget amendment, attention has been given to the anticipated contribution of each energy technology toward meeting the Nation's energy needs. Consideration has also been given to severity and uncertainty of environmental impact and projected time scale for commercialization of particular energy technologies.

With these factors as a guide the Department has proposed deferring EH&S research in support of oil and gas and geothermal technologies. EH&S solar related research will be postponed with the principal exception of photovoltaics. Similarly, fusion related research will be delayed with the exception of studies into the potential biological effects of magnetic field exposure. Additional reductions have been made in work supporting nuclear energy technology and in selected areas of the multitechnology program.

#### Operating Expenses

	Pending Request		Proposed Amendment		Revised Request	
	B/A	B/O	B/A	B/O	B/A	B/O
Human Health Studies	\$ 30,024	\$ 29,408	\$- 2,524	\$- 2,524	\$ 27,500	\$ 26,884

The objective of this program is to obtain information on adverse human health and genetic effects of energy-related chemical and physical pollutants on selected populations who have been exposed in the occupational workplace or general environment. The impact of the proposed FY 1981 budget amendment will be as follows:

Oil and Gas - The impact of a \$524,000 reduction in oil and gas projects will be (1) termination of work on health effects of pollutants on petroleum refinery workers and their families; (2) elimination of research on a battery of tests to detect pre-cancerous lesions and genetic damage; and (3) termination of data collection pertinent to safety and health of divers involved in oil drilling on the Outer Continental Shelf.

Fission - A reduction of \$1,200,000 in the nuclear fission (low level ionizing radiation) program will reduce and slow the work to determine health effects in radium and plutonium workers and delay analysis of late effects of external radiation. Reductions in the health and mortality research on DOE and DOE contractor employees will curtail mortality analysis.

Multitechnology - The impact of a reduction of \$800,000 in multitechnology programs will be the following: (1) termination of work on the effects of energy-related pollutants on human surrogates; (2) elimination of biochemical and morphological (structure) measurements on human surrogates after exposure to controlled amounts of inhaled or injected pollutants.

	Pending Request		Proposed Amendment		Revised Request	
	B/A	B/O	B/A	B/O	B/A	B/O
Health Effects						
Research in						
Biological Systems....	\$ 30,644	\$ 49,595	\$- 4,097	\$- 4,097	\$ 46,547	\$ 45,498

This program encompasses a broad range of research on carcinogenesis, mutagenesis, and systems damage in experimental systems conducted to define health effects produced by energy-related physical and chemical agents. Another major research objective is to develop an understanding of modes of pollutant action that lead to biological damage. The ultimate goal of the program is to develop quantitative capabilities for predicting health effects associated with energy technologies. The impact of the proposed FY 1981 budget amendment will be as follows:

Solar - Health effects research on solar heating and cooling of buildings, solar satellite power systems, and biological damage produced by solar radiation would be eliminated (\$692,000) because the research addresses impacts that are associated with long-term technologies or that are not likely to result in serious health problems. Research related to solar photovoltaic technologies would be continued at reduced levels because serious health problems would not be expected during the near term.

Fusion - All fusion related health-effects research (\$904,000) concerned with tritium toxicity would be eliminated because of the long-term nature of anticipated hazards and because reasonably good capabilities for predicting tritium health effects exist.

Oil and Gas - All work in this area consisting of research (\$168,000) on toxicity of materials used in enhanced oil and gas recovery would be deferred to future years.

Multitechnology - Generic research on cancer virus and genetics on a strain of mutant mouse not closely related to near-term energy technologies will be eliminated (\$91,000).

Fission - All research concerning effects of ionizing radiation on viral replication and immune responses in biological systems would be eliminated. Effort would be reduced in research on health effects of heavy ionizing particles, studies specifically related to breeder reactor systems, research on radiation chemistry aspects of radiobiological damage, and studies of a short-term nature (\$2,242,000). Research directly related to the human low-dose radiation problem will not be impacted.

	Pending Request		Proposed Amendment		Revised Request	
	B/A	B/O	B/A	B/O	B/A	B/O
Environmental Studies	\$ 36,268	\$ 35,543	\$- 3,903	\$- 3,903	\$ 32,365	\$ 31,640

The objectives of this program are to provide information on the distribution of energy-related pollutants in the terrestrial and aquatic environment and their effects on plants, animals and total ecosystems. The impact of the proposed FY 1981 budget amendment will be as follows:

Oil and Gas - The environmental program in oil and gas (\$1,048,000) will be eliminated. Since other agencies are funding oil and gas research DOE projects will be eliminated completely.

Fusion - Because this technology is not anticipated as a major energy resource in the near future, the environmental impact efforts can be postponed (\$485,000) and protracted over the next several years.

Solar - Environmental studies on Ocean Thermal Energy Systems will be curtailed and Solar Thermal Power Systems will be eliminated for the time being since the development of these systems is projected well in the future; thus the environmental studies can be postponed temporarily (\$800,000).

Geothermal - All environmental research in geothermal related studies (\$680,000) is to be eliminated. Environmental studies have already been carried out in areas such as the Imperial Valley. Since the estimate of the contribution of geothermal energy to the total energy production is expected to be minimal, it was considered more prudent to support environmental studies in other, more urgent areas of energy development with the funds available for environmental research.

Multitechnology - This program provides the environmental base research (as related to technology base research) necessary for basic understanding of all technology impacts on the environment. The budgetary reductions made in this program (\$890,000) will result in a 15% decrease in operational funds for the National Environmental Research Parks. Research on the effects of cooling water discharges will be curtailed.

	Pending Request		Proposed Amendment		Revised Request	
	B/A	B/O	B/A	B/O	B/A	B/O
Physical and Technological Studies.....	\$ 33,615	\$ 32,919	\$- 2,910	\$- 2,910	\$ 30,705	\$ 30,000

The objective of this program is to provide the capability for accurate characterization, measurement and monitoring of energy-related pollutants, which may be released to the occupational or general environment. The impact of the proposed FY 1981 budget amendment will be as follows:

Oil and Gas - Development of prototype offshore oceanographic instrumentation for real time measurement of ocean currents and other oceanographic parameters will be terminated (\$506,000). This provides a capability for rapid mapping of water movement needed to describe transport of materials. Further development activities will be deferred to future years.

Fusion - Research on dosimetry systems for magnetic field measurement will not be continued beyond the present fiscal year (\$351,000).

Geothermal - Planned environmental research at the Baca 50 MWe geothermal demonstration facility will be delayed until FY 1982 and atmospheric transport research conducted in the Geysers will be brought to an early completion during the present fiscal year (\$1,343,000).

Multitechnology - Meteorological studies in the Great Lakes region will be phased out to preserve efforts underway in the more energy impacted northeast. Development work on atmospheric transport models will be stretched out. Development of improved techniques for particulate and chemical measurement will be decelerated (\$710,000).

	Pending Request		Proposed Amendment		Revised Request	
	B/A	B/O	B/A	B/O	B/A	B/O
Carbon Dioxide and Climate Research.....	\$ 13,900	\$ 13,500	\$- 166	\$- 166	\$ 13,734	\$ 13,328

The objective of this program is to obtain quantitative information related to the carbon dioxide issue and required for a comprehensive evaluation of the potential global impacts of increased levels of carbon dioxide in the atmosphere. The impact of the proposed FY 1981 budget amendment will be as follows:

Delay the fusion related program (\$166,000) which deals with questions of long distance transport of tritium, tritium measurement technologies for identifying low levels of tritium in the atmosphere, and transfer of tritium from the atmosphere into the oceans.

	<u>Pending</u> <u>Request</u>		<u>Proposed</u> <u>Amendment</u>		<u>Revised</u> <u>Request</u>	
	<u>B/A</u>	<u>B/O</u>	<u>B/A</u>	<u>B/O</u>	<u>B/A</u>	<u>B/O</u>
Health and Environ- mental Effects Assessment.....	\$ 4,600	\$ 4,300	\$- 400	\$- 400	\$ 4,200	\$ 3,900

The objective of this program is to determine the quantitative health and environmental impact of energy-technology developments. The impact of the proposed FY 1981 budget amendment will be as follows:

A reduction of \$400,000 in solar assessments will eliminate health and environmental risk analysis of solar energy, except photovoltaics. Minimal to moderate environmental impacts are anticipated from those solar technologies on which environmental work will be deferred.

Department of Energy  
 FY 1981 Budget Amendment  
 Energy Supply Research and Development  
 (Dollars in thousands)

	Pending Request		Proposed Amendment		Revised Request	
	BA	BO	BA	BO	BA	BO
<b>Basic Energy Sciences</b>						
Operating Expenses						
Nuclear Science	\$ 33,400	\$ 32,800	\$ ---	\$ ---	\$ 33,400	\$ 32,800
Materials Sciences	92,000	90,900	- 1,600	- 1,600	90,400	89,300
Chemical Sciences	63,300	62,400	- 2,100	- 2,100	61,200	60,300
Engineering, Mathematical and Geosciences	28,600	27,600	- 1,000	- 2,000	26,600	25,600
Advanced Energy Projects	8,000	7,700	- 800	- 800	7,200	6,900
Biological Energy Research	8,800	8,400	- 500	- 500	8,300	7,900
Program Direction	2,444	2,444	---	---	2,444	2,444
<b>Total Operating Expenses</b>	<b>\$236,544</b>	<b>\$232,244</b>	<b>\$- 7,000</b>	<b>\$- 7,000</b>	<b>\$229,544</b>	<b>\$225,244</b>
<b>Plant and Capital Equipment</b>						
Capital Equipment						
Nuclear Science	1,400	1,000	- 100	- 100	1,300	900
Materials Sciences	7,600	6,900	- 300	- 300	7,300	6,600
Chemical Sciences	4,740	4,240	- 300	- 300	4,440	3,940
Engineering, Mathematical and Geosciences	2,060	1,660	- 300	- 300	1,760	1,360
Advanced Energy Projects	300	300	---	---	300	300
Biological Energy Research	400	400	---	---	400	400
Plant						
Basic Energy Sciences	6,800	17,802	---	---	6,800	17,802
<b>Total Plant and Capital Equipment</b>	<b>\$ 23,300</b>	<b>\$ 32,302</b>	<b>\$- 1,000</b>	<b>\$- 1,000</b>	<b>\$ 22,300</b>	<b>\$ 31,302</b>
<b>Total Basic Energy Sciences</b>	<b>\$259,844</b>	<b>\$264,546</b>	<b>\$- 8,000</b>	<b>\$- 8,000</b>	<b>\$251,844</b>	<b>\$256,546</b>

Basic Energy Sciences is the major Department of Energy program which plans, supports and administers basic research in the physical and biological sciences, engineering and mathematics most important to the Nation's energy program. The Amendment provides for a decrease of \$8,000,000 in budget authority for Basic Energy Sciences, from \$259,844,000 to \$251,844,000. The amended FY 1981 request for operating expenses is \$229,544,000, a decrease of \$7,000,000 from the original request. The amended capital equipment request is \$15,500,000, a decrease of \$1,000,000.

As indicated in the above table, the reductions affect the requested FY 1981 funding levels for each of the six major subprograms within Basic Energy Sciences: 1) Nuclear Science; 2) Materials Sciences; 3) Chemical Sciences; 4) Engineering, Mathematical and Geosciences;

5) Advanced Energy Projects; and 6) Biological Energy Research. The major impact will be a slowdown in the rate of growth in the program and, therefore, a lessening in the program's ability to assist in reducing barriers to the development of various energy technologies. The Department's basic research effort is very important to the Nation's energy future, because it expands the scientific and engineering knowledge base with which applied energy technology programs have to work. The amended request, which is necessary to support the President's initiative to balance the Federal budget, still provides for a productive basic research effort within the Department. While that effort needs to continue to expand, current inflationary trends require extraordinary actions by the Federal government. The reductions in the program have been made in a manner which will preserve a well-balanced basic research program in support of the different energy technologies.

Department of Energy  
 FY 1981 Budget Amendment  
 Energy Supply Research and Development  
 (Dollars in thousands)

	Pending Request		Proposed Amendment		Revised Request	
	BA	BO	BA	BO	BA	BO
<b>Technical Assessment Projects</b>						
Operating Expenses						
Assessment Projects	\$ 3,200	\$ 3,200	\$ ---	\$ ---	\$ 3,200	\$ 3,200
Satellite Power Systems	5,500	5,500	- 5,500	- 5,500	0	0
Advanced Technology Projects	12,000	11,300	---	---	12,000	11,300
Program Direction	540	540	---	---	540	540
<b>Total Operating Expenses</b>	<u>\$21,240</u>	<u>\$20,540</u>	<u>\$- 5,500</u>	<u>\$- 5,500</u>	<u>\$15,740</u>	<u>\$15,040</u>
<b>Total Technical Assessment Projects</b>	<u>\$21,240</u>	<u>\$20,540</u>	<u>\$- 5,500</u>	<u>\$- 5,500</u>	<u>\$15,740</u>	<u>\$15,040</u>

Technical Assessment Projects provides the Department with independent, objective analysis and assessments of research and technical needs and opportunities. The program includes conceptual development and evaluation of the Satellite Power System (SPS). The Amendment to the FY 1981 budget request provides for a decrease of \$5,500,000 in budget authority for Technical Assessment Projects, from \$21,240,000 to \$15,740,000. This reduction results from the elimination of work on SPS.

The SPS activity will complete the Concept Development and Evaluation Program (CDEP) in July 1980. The three-year CDEP, which was undertaken in conjunction with NASA, was intended to provide an initial assessment of the SPS concept and to establish a basis for making more informed decisions. The original FY 1981 budget request for SPS provided funds for developing additional information on emerging technologies and environmental issues and for covering transitional activities and implementation planning in case a new SPS initiative was proposed. At a time when extraordinary actions are required to balance the Federal budget and to combat inflationary trends, it is not prudent to continue the SPS efforts. This action does not preclude any further research on SPS, but instead it postpones further work until the Congress and the Administration have fully analyzed the CDEP report and a definitive understanding of further research needs have been developed.

Department of Energy  
 FY 1981 Budget Amendment  
 Energy Supply Research and Development  
 (Dollars in thousands)

	Pending Request		Proposed Amendment		Revised Request	
	BA	BO	BA	BO	BA	BO
University Research Support						
Operating Expenses						
University Institutional Agreements	\$7,700	\$7,700	\$-3,000	\$-3,000	\$4,700	\$4,700
University Reactor Fuel Assistance	2,500	2,500	---	---	2,500	2,500
University/Laboratory Cooperative Program	3,800	3,800	---	---	3,800	3,800
Program Direction	320	320	---	---	320	320
Total University Research Support	\$14,320	\$14,320	\$-3,000	\$-3,000	\$11,320	\$11,320

The \$3,000,000 proposed budget amendment under the University Research Support Program will defer the initiation of a new program effort in the University Institutional Agreements Program which had been developed to support a small number of goal-oriented multidisciplinary university research awards. This effort was proposed to encourage teams of university faculty and graduate students to develop for DOE consideration multidisciplinary research proposals on longer-range energy problems which require a systematic analysis involving physical scientists, engineers, environmental researchers, and social scientists. Proposals would have been selected for support following a broad national competition involving highly capable and productive university research teams.

This new program initiative is proposed for deferral in order to maintain the continuity of existing and proposed university research awards in the balance of the University Institutional Agreements Program. This includes support for exploratory energy research awards and minority institution research and education awards. Funds remaining in the budget request for the University Institutional Agreements Program will be used to honor existing commitments and to initiate a small number of new research awards as described in the FY 1981 budget justification.

Department of Energy  
 FY 1981 Budget Amendment  
 Uranium Enrichment  
 (Dollars in thousands)

	Pending Request		Proposed Amendment		Revised Request	
	BA	BO	BA	BO	BA	BO
Uranium Enrichment Activities (BA)						
Operating Expenses						
Gaseous Diffusion Operations and Support	\$ 840,426	\$ 831,091	\$ -43,000	\$ -43,000	\$ 797,426	\$ 788,091
Gas Centrifuge Operations and Support	64,800	64,800	---	---	64,800	64,800
Program Direction Revenues	3,060	3,060	---	---	3,060	3,060
Total Operating Expenses	<u>-801,100</u>	<u>-801,100</u>	<u>-190,000</u>	<u>-190,000</u>	<u>-991,100</u>	<u>-991,100</u>
Total Operating Expenses	107,186	97,851	-233,000	-233,000	-125,814	-135,149
Plant & Capital Equipment						
Gaseous Diffusion Operations and Support						
Capital Equipment Plant	24,000	23,200	---	---	24,000	23,200
71-1-f	20,000	62,492	-20,000	-12,400	0	50,092
All Other Plant	102,000	104,645	---	---	102,000	104,645
Gas Centrifuge Operations and Support						
Capital Equipment Plant	3,300	3,291	---	---	3,300	3,291
76-8-g	319,000	328,000	-170,000	-99,000	149,000	229,000
All Other Plant	---	21,109	---	---	---	21,109
Revenues						
Capital Equipment Plant	-36,300	-36,300	---	---	-36,300	-36,300
Total Plant & Capital Equipment	<u>-451,645</u>	<u>-451,645</u>	<u>190,000</u>	<u>190,000</u>	<u>-261,645</u>	<u>-261,645</u>
Total Plant & Capital Equipment	-19,645	54,792	---	78,600	-19,645	133,392
Total Uranium Enrichment Activities	<u>\$ 87,541</u>	<u>\$ 152,643</u>	<u>\$ -233,000</u>	<u>\$ -154,400</u>	<u>\$ -145,459</u>	<u>\$ -1,757</u>

## PROGRAM BUDGET JUSTIFICATION

Three Uranium Enrichment Activities program elements were selected for reduction as DOE anti-inflationary measures. The three elements reduced include cascade power, projects 71-1-f and 76-8-g. The total value of the reductions is \$233,000,000 in budget authority and \$154,400,000 in budget outlays.

Operating expenses for cascade power are being reduced by \$43,000,000 in budget authority and budget outlays. These funds were originally requested in the Congressional budget to pay the demand charges associated with firm contract power that would not be purchased in FY 1981. In the FY 1981 Congressional budget, the cascade power level was reduced from the firm contract power previously negotiated in order to lower production and help balance supply and demand in the long-term. DOE is negotiating with all three power suppliers to obtain the needed power reduction without incurring demand payments. This amendment assumes the negotiations will be successful and DOE will not have to pay the demand charges. Whereas initial staff negotiations to date with one of the power suppliers have not been encouraging, negotiations with all three suppliers are still being actively pursued. Preliminary assessments are that at least partial relief from demand payments can be obtained. However, if the final negotiations are not successful, it may be necessary to reduce power further than planned to stay within the revised power budget. Reduction of the FY 1981 budget level to cover the \$43,000,000 demand payments could necessitate operating the diffusion plants below the safe minimum operating level during the winter months. This mode of operation has never been attempted and presents a potentially high operational risk in that massive equipment failures and process freeze-ups could occur.

Funds for construction project 71-1-f, Process equipment modifications, gaseous diffusion plants, are being reduced \$20,000,000 in budget authority and \$12,400,000 in budget outlays. As the result of a detailed program review, following settlement of a labor strike at the Portsmouth, Ohio plant, it has been determined that the construction project can be completed without these funds. Thus this will reduce the total estimated cost of the project to \$970,000,000 from the \$990,000,000 currently authorized. The reduced funding level will permit completion of the program by the end of FY 1981 as scheduled at the Oak Ridge, Tennessee and Paducah, Kentucky plants and by mid FY 1983 at Portsmouth, Ohio where the program was delayed by the recent strike. The mid FY 1983 completion date at Portsmouth results from the decision to utilize the workers returning after the strike and accept a stretch out of the completion date, rather than hire and train additional new workers for a short period of time to complete the project sooner.

Funds for construction project 76-8-g, Enriched uranium production facilities, Portsmouth, Ohio (Gas Centrifuge Enrichment Plant) were reduced \$170,000,000 in budget authority and \$99,000,000 in budget outlays. At the reduced funding level, work will continue on process building 1, the recycle/assembly building, the manufacturing of centrifuge machines for qualification and reliability testing, and engineering design and technical support. New procurement and construction contracts will be deferred until FY 1982. Also, work by the system support contractor and construction manager will be reduced. The first 2.2 million separative work units (SWUs) of gas centrifuge plant capacity will slip one year to 1989. The full 8.8 million SWUs of gas centrifuge plant capacity will also slip one year to FY 1994. The total estimated cost of the project will increase \$200,000,000.

Department of Energy  
 FY 1981 BUDGET AMENDMENT

CONSTRUCTION PROJECT DATA SHEETS  
 Uranium Enrichment - Plant and Capital Equipment  
 Uranium Resources and Enrichment  
 Uranium Enrichment Activities

(Tabular dollars in thousands. Narrative material in whole dollars.)

Oak Ridge Operations

1. Title and location of project: Enriched uranium production facilities, Portsmouth, Ohio 2. Project No. 76-B-8
3. Date A-E work initiated: 4th Qtr. FY 1976 5. Previous cost estimate:  
 Date: 12/79 \$1,121,630
- 3a. Date physical construction starts: 3rd Qtr. FY 1979 6. Current cost estimate:  
 Date: 3/80 \$ 951,630 2/
4. Date construction ends: 4rd Qtr. FY 1994 1/

7. Financial schedule

Fiscal Year	Authorizations	Appropriations	Obligations	Costs
1976	\$ 25,000	\$ 12,630	\$ 7,595	0
Transition Qtr.	0	0	2,652	2,185
1977	230,000	167,325	168,763	18,911
1978	107,630	150,000	147,592	45,748
1979	150,000	150,000	150,610	126,314
1980	290,000	322,675	325,418	200,000
1981	149,000	149,000	149,000	229,000
After 1981	0	0	0	329,472

1/ Construction was started for the first process building in early FY 1980. The first two buildings (capacity 2.2 million SWU's) will be completed in 1989, providing a reasonable minimum plant. Follow-on capacity will be added in increments of 1.1 million SWU's per building sequentially at a rate to match future demand. For planning purposes, completion of the full 6.8 million SWU's is targeted for FY 1994.

2/ Authorization requested to date. Total line item project cost is currently estimated at \$5,700,000,000 in FY 1981 dollars, assuming project completion in FY 1994.

## CONSTRUCTION PROJECT DATA SHEETS

Oak Ridge Operations

I. Title and location of project: Enriched uranium production facilities, Portsmouth, Ohio 2. Project No. 76-8-g

8. Brief physical description of project:

This project provides approximately 8.8 million separative work units (SWU) per year of additional enrichment capacity through construction of new gas centrifuge enrichment facilities which will consist of eight process buildings, necessary auxiliaries, and other administrative, support, test, and service facilities as required.

In addition, other new and modified facilities will be provided, such as hot water pumping facilities, sanitary water facilities, and electric switching facilities as required. Temporary construction buildings, facilities, and equipment will also be provided for the construction contractor(s). Railway spurs, roads, and other land improvements will be provided as required. Certain other new and/or modified facilities will be provided at the production site and the development sites, such as administration facilities, training facilities, and test facilities.

Each process building consists of operating bays containing the centrifuges, plus service bays containing all auxiliary equipment. The recycle/assembly building will be a multi-level enclosed building with an open area for receiving and storage. Facilities provided will include incoming parts receiving and storage; uprighting and balancing stations for rotors; assembly areas with conveyors and fixtures for assembly of all major subassemblies; equipment for vacuum testing; final inspection stations; disassembly stands; decontamination facilities; scrap processing stations; office areas; and maintenance facilities.

The FY 1981 obligational authority will provide for continuation of the activities which began in prior fiscal years and will continue in FY 1981. Included will be Titles I, II, and III engineering, technical support, and expansion of certain vendor capability, along with major procurement activities and construction of various test, service, support, and process facilities. Procurement activities will include awarding subcontracts and exercising options for continued testing and qualification of machine material and components, and for production quantities of major equipment. Major construction activities to continue or to be initiated include process building I, recycle/assembly building, process support building, electrical distribution systems, water supply and sewage treatment facilities, outside utilities, improvements to land, and other process and plant support facilities.

CONSTRUCTION PROJECT DATA SHEETS

Oak Ridge Operations

1. Title and location of project: Enriched uranium production facilities, Portsmouth, Ohio 2. Project No. 76-6-g

9. Purpose, justification of need for and scope of project:

The capacity of the improved and uprated existing gaseous diffusion plants is currently committed to fulfilling existing U.S. toll enrichment contracts with domestic and foreign electric utility systems. With additional capacity from these new facilities, DOE will accept orders for additional enrichment services consistent with feed availability and reasonable plant economics.

10. Details of cost estimate (authorizations requested to date)

	<u>Item Cost</u>	<u>Total Cost</u>
a. Engineering, design and inspection .....		\$240,000
b. Land and land rights .....		225
c. Construction costs .....		525,405
(1) Improvements to land .....	30,000	
(2) New buildings and additions .....	139,405	
(3) Building modifications .....	25,000	
(4) Special facilities .....	276,000	
(5) Other structures .....	15,000	
(6) Outside utilities .....	40,000	
d. Standard equipment .....		7,000
Subtotal .....		772,630
e. Technical support .....		162,000
f. Gaseous diffusion activities .....		17,000
Subtotal .....		951,630
g. Contingency at approximately 0% .....		0
Total project cost .....		\$ 951,630

11. Method of performance

Overall project management and coordination will be performed by DOE. Design and inspection will be on the basis of negotiated architect-engineering contracts assisted as necessary by the operating contractors and consultants. Plant construction and procurement will be accomplished by cost-reimbursable contracts and fixed-price prime contracts and subcontracts awarded on the basis of competitive bids to the extent feasible. The operation contractors will perform certain tie-ins as required and procure certain unique and/or long delivery equipment. DOE will have prime procurement responsibility for the gas centrifuge machines and associated materials.

CONSTRUCTION PROJECT DATA SHEETS

Oak Ridge Operations

1. Title and location of project: Enriched uranium production facilities, Portsmouth, Ohio 2. Project No. 76-B-g

12. Funding schedule of project funding and other related funding requirements:

	Prior Years	FT 1981	FT 1982	FT 1983	FT 1984	FT 1985	FT 1986	FT 1987
<b>A. Total project funding</b>								
1. Total facility costs								
(a) Construction line item	\$393,000	\$229,000	\$279,000	\$551,000	\$605,000	\$561,000	\$596,000	\$653,000
(b) CP&D	0	0	0	0	0	0	0	0
(c) Expense funded equipment	0	0	0	0	0	0	0	0
(d) Inventories	0	0	200	400	500	700	900	1,400
Total facility costs	393,000	229,000	279,200	551,400	605,500	561,700	596,900	654,400
2. Other project funding								
(a) Other project related costs	21,940	800	3,000	6,000	16,000	29,000	50,000	79,000
Total other project funding	21,940	800	3,000	6,000	16,000	29,000	50,000	79,000
Total project funding	\$414,940	\$229,800	\$282,200	\$557,400	\$621,500	\$590,700	\$646,900	\$733,400
	FT 1988	FT 1989	FT 1990	FT 1991	FT 1992	FT 1993	FT 1994	Total
<b>A. Total project funding</b>								
1. Total facility costs								
(a) Construction line item	\$721,000	\$984,000	\$981,000	\$984,000	\$876,000	\$719,000	\$ 168,000	\$9,300,000
(b) CP&D	0	0	0	0	0	0	0	0
(c) Expense funded equipment	0	0	0	0	0	0	0	0
(d) Inventories	2,400	4,400	7,600	11,400	15,600	20,100	24,500	90,100
Total facility costs	723,400	988,400	988,600	995,400	891,600	739,100	192,500	9,390,100
2. Other project funding								
(a) Other project related costs	122,000	170,000	234,000	302,000	387,000	473,000	552,000	2,445,740
Total other project funding	122,000	170,000	234,000	302,000	387,000	473,000	552,000	2,445,740
Total project funding	\$ 967,400	\$1,328,400	\$1,456,600	\$1,539,400	\$1,665,600	\$1,685,100	\$1,296,500	\$14,281,580

## CONSTRUCTION PROJECT DATA SHEETS

Oak Ridge Operations

1. Title and location of project: Enriched uranium production facilities, Portsmouth, Ohio 2. Project No. 76-B-8

B. Total related funding requirements (estimated life of project: 30 years) 1/

1. Facility operating costs .....	\$ 580,000
2. Capital equipment not related to construction but related to programmatic effort in the facility .....	4,400
3. GPP or other construction related to programmatic effort in the facility .....	2,700
4. Other costs .....	31,000
Total other related annual funding requirements .....	\$ 598,100

## 13. Narrative explanation of total project funding and other related funding requirements:

1. Total facility
  - (a) Construction line item - see "Brief physical description of project."
  - (b) CP&D - no requirements for funds identified at this time.
  - (c) Expense funded equipment - no requirements for funds identified at this time.
  - (d) Inventories - included are additions to inventory required to maintain a three months' supply of centrifuge spare parts and an equivalent 6.4 months' supply of operating and maintenance materials based on forecasted demand.
2. Other project funding
  - (a) Other project related costs - these funds include \$2,445,740,000 related to direct project support expense. Included are funds to support operating contractor personnel training, plant startup activities, operating costs of "on stream" facilities until the plant is fully operating, and funds to repair failed centrifuges after acceptance through project completion. Also included are prior year expenditures of \$21,600,000 for conceptual engineering. In addition, necessary development and demonstration funds are included in the gas centrifuge process development operating budget. The capital cost includes technical support for the project.

1/ Average annual cost for the post-construction period of the ten years following equivalent full production of the plant.

CONSTRUCTION PROJECT DATA SHEETS

Oak Ridge Operations

1. Title and location of project: Enriched uranium production facilities, Portsmouth, Ohio 2. Project No. 76-8-g

3. Other related funding requirements

- (a) Facility operating costs - these costs include the annual costs required to assure that the plant will operate as required. The costs of maintenance, general and administrative labor, utilities (except electric power), and miscellaneous operating materials are included, as well as those costs directly related to the uranium enrichment program, including the costs of operating labor for the enrichment plant, recycle/assembly building, and auxiliary facilities, centrifuge replacement parts, and electric power.
- (b) Capital equipment - these include the projected capital equipment requirements associated with the programmatic effort, not including construction. The startup of this or any new and unique facility will normally require some new capital equipment in the early years. These costs are projected from budget and operating experience at the existing Portsmouth Gaseous Diffusion Plant.
- (c) General plant projects - office space renovation and modification, modification and upgrading of utility systems, security system upgrading, miscellaneous building additions and modifications, etc.
- (d) Other annual costs - additional funds will be expended for on-going plant support for the plant operating organization.

Department of Energy  
 FY 1981 Budget Amendment  
 Uranium Enrichment  
 (Dollars in thousands)

	Pending Request		Proposed Amendment		Revised Request	
	BA	BO	BA	BO	BA	BO
Uranium Resource Assessment (RA)						
Operating Expenses						
Assessment Program	\$ 29,825	\$ 46,825	\$ -7,000	\$ -8,500	\$ 22,825	\$ 38,325
Program Direction	<u>4,630</u>	<u>4,630</u>	---	---	<u>4,630</u>	<u>4,630</u>
Total Operating Expenses	34,455	51,455	-7,000	-8,500	27,455	42,955
Plant and Capital Equipment						
Assessment Program						
Capital Equipment	500	1,000	---	---	500	1,000
Plant	<u>800</u>	<u>1,300</u>	---	---	<u>800</u>	<u>1,300</u>
Total Plant and Capital Equipment	<u>1,300</u>	<u>2,300</u>	---	---	<u>1,300</u>	<u>2,300</u>
Total Uranium Resource Assessment	<u>\$ 35,755</u>	<u>\$ 53,755</u>	<u>\$ -7,000</u>	<u>\$ -8,500</u>	<u>\$ 28,755</u>	<u>\$ 45,255</u>

## PROGRAM BUDGET JUSTIFICATION

Operating expenses for Uranium Resource Assessment are being reduced by \$7,000,000 in budget authority and \$8,500,000 in budget outlays. This activity was selected for reduction as a DOE anti-inflationary measure.

The FY 1981 Budget amendment will be implemented by a strategy modification in which, at least for the near-term, the geologic approach to assessment of World Class and Intermediate Grade sites will be emphasized rather than the comprehensive systematic quadrangle assessment of the continental United States.

World Class and Intermediate Grade investigations will continue on a more limited and geologically selective basis. Specialized aerial, hydrogeochemical, and drilling support will be obtained as needed but FY 1981 activities will be directed more toward planning for later detailed studies and drilling projects.

No new assessments will be initiated in FY 1981, but all those quadrangles for which the assessment process had begun in FY 1980 will be completed. Maximum use will be made of data already collected and analyzed, but all aerial, hydrogeochemical, surface and subsurface data collection efforts - in support only of quadrangle assessment - will be terminated at the end of FY 1980. This will not excessively impact the reliability of estimates made for those quadrangles that are currently planned for completion. Any backlog data collected at the end of FY 1980 will continue to be processed, analyzed, and released to the public, to protect the investment already made. If the comprehensive assessment is continued, completion will be delayed at least until 1990.

Department of Energy  
 FY 1980 Request for Rescission  
 Uranium Resources and Enrichment  
 Uranium Enrichment - Operating Expenses  
 Uranium Enrichment - Plant & Capital Equipment  
 (Amounts in thousands)

	Presently Available		Revised Appropriation		Proposed Rescission	
	BA	BO	BA	BO	BA	BO
Advanced isotope separation technology						
Operating expenses						
Application and assessments of advanced technologies	\$ 5,000	\$ 5,300	\$ 4,000	\$ 4,300	\$ -1,000	\$ -1,000
Uranium enrichment	41,200	43,200	41,200	43,200	---	---
Program direction	718	718	718	718	---	---
Total operating expenses	46,918	49,218	45,918	48,218	-1,000	-1,000
Plant and capital equipment						
Uranium enrichment	8,800	6,400	8,800	6,400	---	---
Total plant & capital equipment	8,800	6,400	8,800	6,400	---	---
Total Advanced isotope separation technology	\$ 55,718	\$ 55,618	\$ 54,718	\$ 54,618	\$ -1,000	\$ -1,000

Department of Energy  
 FY 1981 Budget Amendment  
 Uranium Resources and Enrichment  
 Uranium Enrichment - Operating Expenses  
 Uranium Enrichment - Plant & Capital Equipment  
 (Amounts in thousands)

	Pending Request		Proposed Amendment		Revised Request	
	BA	BO	BA	BO	BA	BO
Advanced isotope separation technology						
Operating expenses						
Application and assessments of advanced technologies	\$ 9,000	\$ 9,000	\$ -3,000	\$ -3,000	\$ 6,000	\$ 6,000
Uranium enrichment	57,355	54,100	---	---	57,355	54,100
Program direction	944	944	---	---	944	944
Total operating expenses	67,299	64,044	-3,000	-3,000	64,299	61,044
Plant and capital equipment						
Uranium enrichment	19,645	13,460	---	---	19,645	13,460
Total plant & capital equipment	19,645	13,460	---	---	19,645	13,460
Total Advanced isotope separation technology	\$ 86,944	\$ 77,504	\$ -3,000	\$ -3,000	\$ 83,944	\$ 74,504

Because of the high priority given to the Advanced Isotope Separation Program, the reduction in the AIS budget will be accomplished without affecting the development schedule for the three mainline processes.

In FY 1980 the program will continue research and development activities on the atomic vapor, molecular and plasma processes. Efforts will be concentrated to address the more significant science questions for the processes and to maintain the fabrication schedule for the preprototype systems. The planned basic research programs at universities related to the applications of advanced isotope separation technology to the solution of other energy related problems will be reduced.

In FY 1981 major milestones for the AIS program will be the completion of the preprototype systems for the atomic vapor, molecular and plasma processes. In addition, Title I design for two general purpose laboratories, one at Los Alamos National Laboratory and one at Lawrence Livermore National Laboratory, will be started. In order that these priority efforts continue as planned, the work associated with the French chemical exchange process will be discontinued.

Department of Energy  
 FY 1961 Budget Amendment  
 Departmental Administration  
 (Dollars in Thousands)

	Funding BA	Request BO	Proposed BA	Amendment BO	Revised BA	Request BO
Departmental Administration						
Operating Expenses						
Policy Analysis and System Studies	\$ 19,600	\$ 19,600	\$-1,000	\$-1,000	\$ 18,600	\$ 18,600
International Affairs Management and Support	5,100	5,100	-1,000	-1,000	4,100	4,100
Intergovernmental and Institutional Relations	287,665	287,665	-5,000	-5,000	282,665	282,665
In-House Energy Management	36,743	36,743	---	---	36,743	36,743
Security Investigations	3,900	3,900	---	---	3,900	3,900
Other Departmental Administration	17,012	17,012	-2,000	-2,000	15,012	15,012
	<u>-75,464</u>	<u>-75,464</u>	<u>---</u>	<u>---</u>	<u>-75,464</u>	<u>-75,464</u>
Total Operating Expenses	\$294,556	\$294,556	\$-9,000	\$-9,000	\$285,556	\$285,556
Plant and Capital Equipment						
Management and Support	4,600	4,600	---	---	4,600	4,600
Intergovernmental and Institutional Relations	565	565	---	---	565	565
In-House Energy Management	53,000	29,900	---	10,000	53,000	19,900
Other Departmental Administration	9,000	9,927	---	---	9,000	9,927
Total Plant and Capital Equipment	\$ 67,165	\$ 44,992	\$---	\$-10,000	\$ 67,165	\$ 34,992
Total Departmental Adminis- tration	\$361,721	\$339,548	\$-9,000	\$-19,000	\$352,721	\$320,548

Department of Energy  
 FY 1981 Budget Amendment  
 Departmental Administration  
 Policy Analysis and Systems Studies  
 (Dollars in thousands)

	<u>Pending Request</u>		<u>Proposed Amendment</u>		<u>Revised Request</u>	
	<u>BA</u>	<u>BO</u>	<u>BA</u>	<u>BO</u>	<u>BA</u>	<u>BO</u>
	Policy Analysis and Systems Studies	19,600	19,600	-1,000	-1,000	18,600

Narrative Description of Proposed Reduction

The proposed amendment to the Fiscal Year 1981 Policy Analysis and Systems Studies budget request reflects a somewhat less ambitious program of contractor support than was initially anticipated. Plans for long-term energy modeling and integrative analysis beyond the year 2000 will not culminate in the initiation of a comprehensive long-term modeling program during Fiscal Year 1981. Postponement of this major effort for one year will still provide an opportunity to adequately analyze the Nation's pre-2000 energy situation within the reduced budget request. Mid-term studies concerning interactions of the energy sector with the other portions of the economy will be scaled back; full development of a new dynamic model for this purpose will not be undertaken. As a compensating measure, the focus of shorter- and longer-term analyses will be extended to include the mid-term. Although this approach will, in some measure, reduce the comprehensive nature of the intended analysis, the compromise will provide adequate data for meaningful progress toward integrative policy development.

The number of studies related to development and promotion of energy standards to be considered when retrofitting commercial buildings and designing industrial equipment will be reduced in Fiscal Year 1981 to reflect the expected reduction in near-term business expenditures for capital goods due to the high commercial cost of money.

These reductions, although significant, will not undermine the continued development of a comprehensive and coherent national energy policy. It will remain the goal of the Office of Policy and Evaluation to create a solid foundation for improved analysis and evaluation of energy-relevant activities inside and outside of the Department, so as to provide the Secretary with the requisite data base for minimizing the uncertainty associated with the Nation's current and future energy needs.

Department of Energy  
 FY 1981 Budget Amendment  
 Policy and Management  
 Departmental Administration - Operating Expenses

(dollars in thousands)

	Pending Request		Proposed Amendment		Revised Request	
	BA	BO	BA	BO	BA	BO
International Affairs						
Operating Expenses						
International Cooperation in						
Non-Nuclear Technologies	\$3,600	\$3,600	\$- 100	\$- 100	\$3,500	\$3,500
International Policy Studies	<u>1,500</u>	<u>1,500</u>	<u>- 900</u>	<u>- 900</u>	<u>600</u>	<u>600</u>
Total Operating Expenses	\$5,100	\$5,100	\$-1,000	\$-1,000	\$4,100	\$4,100
Total International Affairs	<u>\$5,100</u>	<u>\$5,100</u>	<u>\$-1,000</u>	<u>\$-1,000</u>	<u>\$4,100</u>	<u>\$4,100</u>

Department of Energy  
FY 1981 Budget Amendment  
Policy and Management  
Departmental Administration - Operating Expenses

International Cooperation in Non-Nuclear Technologies

The FY 1981 budget request for this activity, more commonly known as the Country Energy Assessments Program, is being reduced from \$3.6 million to \$3.5 million. The reduction will delay until later in the fiscal year the initiation of one of the assessments that is planned to begin in FY 1981. The revised funding level will still enable us to complete the on-going assessment efforts underway with the governments of Argentina, Portugal, and the Republic of Korea and initiate assessments with three additional countries to be selected by the Department of State.

International Policy Studies

The FY 1981 budget request for this activity is being reduced from \$1.5 million to \$600,000. This reduction will decrease the number of studies and analyses that International Affairs will be able to conduct during FY 1981. With the revised funding level we will be able to continue funding the Foreign Energy Supply Assessment Program and only those studies and analyses dealing with the most critical international energy issues rather than a broad range of studies.

Department of Energy  
 FY 1980 Request for Recission  
 Departmental Administration  
 (Dollars in Millions)

	Presently RA	Available BO	Revised RA	Appropriation BO	Proposed RA	Recission BO
Departmental Administration						
Operating Expenses						
Management and Support	\$ 263.5	\$ 263.6	\$ 260.5	\$260.6	\$-3,000	\$-3,000
All Other Departmental Administration	11.3	18.9	11.3	18.9	---	---
Total Departmental Administration	\$ 274.8	\$ 282.5	\$ 271.8	\$279.5	\$-3,000	\$-3,000

Department of Energy  
Proposed Recission of FY 1980 Budget Authority  
Departmental Administration

The decision to reduce Departmental Administration expenses for FY 1980 was made in an effort to comply with Presidential direction that Federal Agencies reduce operating expenses. The reduction in salaries and expenses, including the supplemental pay raise will be off-set by the hiring freeze currently in effect.

Department of Energy  
 Proposed FY 1981 Budget Amendment  
 Departmental Administration  
 Management and Support  
 \$ in millions

	Pending Request		Proposed Amendment		Revised Request	
	<u>BA</u>	<u>BO</u>	<u>BA</u>	<u>BO</u>	<u>BA</u>	<u>BO</u>
Management and Support Operating Expenses	\$287.7	\$287.7	\$-5.0	\$-5.3	\$282.7	\$282.4

Narrative Description of Proposed Reduction

The decision to reduce the FY 1981 budget results in a \$5.0 million reduction in the Contractual Services and Support area. This amendment will not prevent performance of ongoing services, but will require very judicious and selective use of resources by Headquarters and field offices. Areas impacted by a reduction include automatic data processing, communications, printing, graphics, copier services and word processing.

Department of Energy  
 FY 1980 Request for Deferral  
 Departmental Administration

(amounts in thousands)

	Presently Available		Revised Appropriation		Proposed Deferral	
	BA <u>1/</u>	BO <u>2/</u>	BA <u>1/</u>	BO <u>2/</u>	BA	BO
In-house Energy Management Operating Expenses	\$ 3,600	\$ 4,700	\$ 3,600	\$ 4,700	\$ ---	\$ ---
Plant and Capital Equipment						
80-DA-1 Modifications for Energy Manatement, Various Locations	15,000	4,500	15,000	3,500	---	-1,000
Other In-house Energy Management	<u>18,050<sup>1/</sup></u>	<u>10,080<sup>2/</sup></u>	<u>18,050</u>	<u>18,050</u>	---	---
Total Plant and Capital Equipment	<u>\$33,050</u>	<u>\$14,580</u>	<u>\$33,050</u>	<u>\$13,580</u>	<u>\$ ---</u>	<u>\$-1,000</u>
Total In-house Energy Management	<u>\$36,650</u>	<u>\$19,280</u>	<u>\$36,650</u>	<u>\$18,280</u>	<u>\$ ---</u>	<u>\$-1,000</u>

This deferral will delay the accomplishment of projects in the Modifications for Energy Management line item in FY 1980. While a delay will be experienced, project cancellation is not anticipated and annual savings and increases in energy efficiency will occur but at a later date.

1/ Includes \$4,850,000 for FY 1980 Supplemental.

2/ Includes \$1,100,000 for FY 1980 Supplemental.

Department of Energy  
 FY 1981 Budget Amendment  
 Departmental Administration  
 (Dollars in Thousands)

	Pending Request		Proposed Amendment		Revised Request	
	BA	BO	BA	BO	BA	BO
<b>In-house Energy Management</b>						
Operating Expenses	\$ 3,900	\$ 3,900	\$ ---	\$ ---	\$ 3,900	\$ 3,900
<b>Plant and Capital Equipment</b>						
81-A-601 Modifications for Energy Management, Var. Locations	\$28,200	\$ 6,610	\$ ---	\$-2,930	\$28,200	\$ 3,680
81-A-604 HVAC Heat Recovery & Night Setback, Richland	3,000	2,000	---	-1,500	3,000	500
81-A-605 Automated Energy Management System, ANL	3,800	1,370	---	-970	3,800	400
80-DA-3 Process Waste Heat Util., Portsmouth GPD	---	2,200	---	-500	---	1,700
80-DA-4 Automated Energy Management System, Pantex	---	3,500	---	-2,400	---	1,100
80-DA-6 Alt. Energy Source, Pantex	9,000	1,800	---	-800	9,000	1,000
80-DA-7 Alt. Energy Source, Pinellas	---	1,000	---	-900	---	100
Other In-house Energy Management	9,000	14,220	---	---	9,000	14,220
<b>Total Plant &amp; Capital Equipment</b>	<u>\$53,000</u>	<u>\$32,700</u>	<u>\$ ---</u>	<u>\$-10,000</u>	<u>\$53,000</u>	<u>\$22,700</u>
<b>Total In-house Energy Management</b>	<u>\$56,900</u>	<u>\$36,600</u>	<u>\$ ---</u>	<u>\$-10,000</u>	<u>\$56,900</u>	<u>\$26,600</u>

The FY 1981 budget amendment proposed for in-house energy management will delay the accomplishment of two fuel conversion and several energy saving retrofit projects in the FY 1981 program.

Although delayed, these projects will not be cancelled and the resultant increase in energy efficiency and annual dollar savings for the Department will occur at a later date.



CONSTRUCTION PROJECT DATA SHEETS

Office of Construction and Facility Management, Headquarters

In-house Energy Management

1. Title and location of project: Modifications for energy management,  
various locations
2. Project no. 80-DA-1

8. Description: (Continued)

C. Lawrence Berkeley Laboratory (LBL)

Energy Monitoring and Control System (EMCS).....\$ 1,100

This computerized energy management system will provide monitoring and control of building energy consumption and plant operations. The system proposed will be designed to provide continuous monitoring and control of energy systems and will provide flexibility, both for day-to-day operational changes, as well as future additions.

D. Lawrence Livermore Laboratory (LLL)

Energy Monitoring and Control System (EMCS).....\$ 1,100

This computerized energy management system will provide monitoring and control of building energy consumption and plant operations. The system proposed will be designed to provide continuous monitoring and control of energy systems and will provide flexibility, both for day-to-day operational changes, as well as future additions.

CONSTRUCTION PROJECT DATA SHEETS

Office of Construction and Facility Management, Headquarters

In-house Energy Management

I. Title and location of project: Modifications for energy management, various locations 2. Project no. 80-DM-1

8. Description: (Continued)

E. Brookhaven National Laboratory (BNL)

(1) Installation of Economizer for Feed Water Preheating.....\$ 777.7

This project provides for the installation of a heat reclaim for the 180,000 lbs./hr. boiler (No. 5) at the Central Steam Plant. The economizer is an air to water heat exchanger that extracts heat from the boiler flue gases and transfers the heat to the entering boiler feed water. The economizer cycle of operation reduces fuel consumption, lowers stack temperatures and improves overall efficiency.

(2) Conversion of Central Steam Facility from No. 6 Oil to an Alternate Liquid Fuel.....\$ 1,500

This project provides for the conversion of the Central Steam Facility boilers and fuel distribution system to use an Alternate Liquid Fuel (ALF) prepared from waste industrial alcohols, solvents, etc., in lieu of No. 6 fuel oil.

Listed below are other projects currently planned:

Title and location of retrofit projects:

Total Estimated Cost

Tank Insulation Using Plastic Balls, Paducah Gaseous Diffusion Plant, Paducah, KY.....	\$ 22.8
Shutdown and Heat Recovery, Building 894, Sandia Laboratories, Albuquerque, NM.....	\$ 28.0
Power Factor Improvements, Building 86, Lawrence Berkeley Laboratory, Berkeley, CA.....	\$ 17.0

## CONSTRUCTION PROJECT DATA SHEETS

In-house Energy Management

Office of Construction and Facility Management, Headquarters

2. Project no. 80-DA-1

1. Title and location of project: Modifications for energy management,  
various locations

8. Description: (Continued)

## Title and location of retrofit projects:

	Total Estimated Cost
Variable Volume, Automatic Setback and Heat Recovery, Argonne National Laboratory-East, Argonne, IL.....	\$ 396.9
Economizer Cycle, Convert to Demand and Temperature Setback, Sandia Laboratories, Albuquerque, NM.....	48.4
Convert HVAC to Demand Control, Building 804, Sandia Laboratories, Albuquerque, NM.....	7.0
Insulate Walls and Ceilings, Various Buildings, Richland Operations Office, Richland, WA.....	478.4
Return Air, Heat Recovery and Temperature Setback, Argonne National Laboratory-East, Argonne, IL.....	76.5
Heat Recovery, Automatic Setback and Demand Control, Los Alamos Scientific Laboratory, Los Alamos, NM.....	226.6
Direct Cooling of Condensing Water, Argonne National Laboratory-East, Argonne, IL.....	261.9
Conservation Mode to Chemical Plant, Idaho National Engineering Laboratory, Idaho Falls, ID.....	50.0
Convert Chillers From Electric to Steam, Sandia Laboratories, Albuquerque, NM.....	139.7
Energy Monitoring and Control System, Princeton Plasma Physics Laboratory, Princeton, NJ.....	93.5
Process Metering, Various Locations.....	570.7
Subtotal.....	\$ 8,522.3

9. Justification:

These energy modifications will be accomplished for the purpose of saving energy and oil. Projects have been selected on the basis of return on investment. Only those projects which are relatively quick in payback will be selected and funded.

Present experience shows that when evaluated by a present value analysis method, using a discount rate of 10%, the various small retrofit projects selected for this line item will have the following total effect:

Average Savings to Investment Ratio	5.0
Annual Savings, 1977 Dollars	\$3,655,000
Total Annual Energy Savings	1.8 Trillion Btus
Average Btu Savings Per Investment Dollar	126,000 Btu/\$
Average Discounted Payback Period	4.0 Years

## CONSTRUCTION PROJECT DATA SHEETS

Office of Construction and Facility Management, Headquarters

In-house Energy Management

1. Title and location of project: Modifications for energy management,  
various locations

2. Project no. 80-DA-1

## 10. Details of cost estimate:

	<u>Total Cost</u>
(1) RL Energy Monitoring and Control System.....	\$ 800.0
(2) SK River Water Pump Modification.....	1,200.0
(3) LBL Energy Monitoring and Control System.....	1,100.0
(4) LLL Energy Monitoring and Control System.....	1,100.0
(5) BNL Install Economizer for Feedwater Preheating.....	777.7
(6) BNL Conversion of Central Steam Facility to ALF.....	1,500.0
Subtotal.....	6,477.7
(7) Other retrofit projects.....	8,522.3
Total project cost.....	<u>\$15,000.0</u>

## 11. Method of performance:

Design and inspection will be performed under a negotiated architect-engineer contract. Construction and procurement will be accomplished by fixed-price contracts awarded on the basis of competitive bidding.

## 12. Funding schedule of project funding and other related funding requirements:

Not applicable.

## 13. Narrative explanation of total project funding and other related funding requirements:

Not applicable.

Department of Energy  
 FY 1981 BUDGET AMENDMENT  
 CONSTRUCTION PROJECT DATA SHEETS  
 Departmental Administration  
 In-house Energy Management

Administration

2. Project No.: 81-A-601
1. Title and location of project: Modifications for energy management, various locations.
3. Date A-E work initiated: 1st Qtr. 1981
- 3a. Date physical construction starts: 2nd Qtr. 1981
4. Date construction ends: 1st Qtr. 1984
5. Previous cost estimate:  
Date: None
6. Net cost estimate: \$28,200  
Date: 12/79

7. Financial schedule: (dollars in thousands)

Fiscal Year	Authorizations	Appropriations	Obligations	Costs
1981	\$ 28,200	\$ 28,200	\$ 28,200	\$ 3,680
1982	0	0	0	11,455
1983	0	0	0	10,920
1984	0	0	0	2,145

## CONSTRUCTION PROJECT DATA SHEETS

## Administration

1. Title and location of project: Modifications for energy management, various locations 2. Project No.: 81-A-601

## §. Description:

This project is for various small retrofit projects to reduce energy consumption. These small modifications have been selected on the basis of energy saved per investment dollar, total dollar return on investment, and quickness of payback. Projects compete on a DOE-wide basis for funding under this lump sum item thus assuring the greatest economic return and greatest energy savings per investment dollar for the Department. The requested FY 1981 funding will be used to make the energy conservation modifications identified below.

## A. Savannah River (SR)

Centralized Monitoring and Controlling of Reactor Cooling Water Supply System.....\$ 1,500

This project provides for the installation of a Utility Control System (UCS) to monitor and control the flow and power consumption for the cooling water system serving the three reactor areas.

## B. Richland (RL)

Convert Boiler No. 6 to Wood-Pallet Firing.....\$ 1,500

This retrofit project will convert the No. 6 Boiler in the 300 Area Steam Plant from fuel oil firing to pelletized wood firing.

## C. Argonne National Laboratory, Argonne, Illinois (CHO)

Convert to Variable Volume, Recover Waste Heat, Bldg 212.....\$ 1,500

This project will convert ventilation air handling systems from constant volume to variable volumes, install waste heat recovery equipment, modify temperature controls.

## CONSTRUCTION PROJECT DATA SHEETS

## Administration

1. Title and location of project: Modifications for energy management,  
various locations 2. Project No.: 81-A-601

## 8. Description: (continued)

D. Los Alamos Scientific Laboratory (ALO)

Sigma Building HVAC Modifications, Los Alamos, New Mexico.....\$ 1,200

This project will convert single pass (once-through) ventilation systems to recirculation for night and weekend temperature setback.

E. T-12 Plant, Oak Ridge, Tennessee (ORO)

Chiller System Modifications, Building 9201-5.....\$ 1,000

This project will reduce energy consumption of the building chiller system and its supporting cooling tower by changing tower fans to two-speed, motorizing valves, delecting chiller head pressure control, and installing automatic control panel.

F. Rocky Flats Plant, Rocky Flats, Colorado (ALO)

Energy Monitoring and Control System (EMCS).....\$ 1,050

This computerized energy management system will provide monitoring and control of building energy consumption and plant operations. The system proposed will be designed to provide continuous monitoring and control of energy systems and will provide flexibility, both for day-to-day operational changes, as well as future additions.

G. Mound Facility, Miamisburg, Ohio (DAO)

Energy Monitoring and Control System (EMCS).....\$ 1,300

This computerized energy management system will provide monitoring and control of building energy consumption and plant operations. The system proposed will be designed to provide continuous monitoring and control of energy systems and will provide flexibility, both for day-to-day operational changes, as well as future additions.

CONSTRUCTION PROJECT DATA SHEETS

Administration

1. Title and location of project: Modifications for energy management, 2. Project No.: 81-A-601  
various locations

8. Description: (continued)

D. Los Alamos Scientific Laboratory (ALO)

Sigma Building HVAC Modifications, Los Alamos, New Mexico.....\$ 1,200

This project will convert single pass (once-through) ventilation systems to recirculation for night and weekend temperature setback.

E. Y-12 Plant, Oak Ridge, Tennessee (ORO)

Chiller System Modifications, Building 9201-5.....\$ 1,000

This project will reduce energy consumption of the building chiller system and its supporting cooling tower by changing tower fans to two-speed, motorizing valves, deleting chiller head pressure control, and installing automatic control panel.

F. Rocky Flats Plant, Rocky Flats, Colorado (ALD)

Energy Monitoring and Control System (EMCS).....\$ 1,050

This computerized energy management system will provide monitoring and control of building energy consumption and plant operations. The system proposed will be designed to provide continuous monitoring and control of energy systems and will provide flexibility, both for day-to-day operational changes, as well as future additions.

G. Mound Facility, Miamisburg, Ohio (DAO)

Energy Monitoring and Control System (EMCS).....\$ 1,300

This computerized energy management system will provide monitoring and control of building energy consumption and plant operations. The system proposed will be designed to provide continuous monitoring and control of energy systems and will provide flexibility, both for day-to-day operational changes, as well as future additions.

CONSTRUCTION PROJECT DATA SHEETS

Administration

2. Project No.: 81-A-601

1. Title and location of project: Modifications for energy management, various locations

8. Description: (continued)

Listed below are other projects currently planned:

Title and location of retrofit projects:

	Total Estimated Cost
Install Demand Reset Controls, Building 9203, Y-12 Plant, Oak Ridge, TN.....	\$ 25.0
Install Automatic Off-Hour HVAC Setback Controls, 3 Buildings, Paducah Gaseous Diffusion Plant, Paducah, KY.....	\$ 22.0
Install Night Setback Controls, 0 & 00 - Wings, University of Rochester, Rochester, NY.....	\$ 40.0
Insulate Fuel Oil Tank Top with Plastic Balls, K1401, Oak Ridge Gaseous Diffusion Plant, Oak Ridge, TN.....	\$ 30.0
Install Automatic Off-Hour Lighting Setback Controls, Switch House, Paducah Gaseous Diffusion Plant, Paducah, KY.....	\$ 32.0
HVAC System Modifications, Savannah River Plant, Aiken, SC.....	\$ 38.0
Install Automatic Off-Hour Heating & Ventilation Cutback Controls, Paducah Gaseous Diffusion Plant, Paducah, KY.....	\$ 23.0
Separate Process and Heating Steam Lines, Paducah Gaseous Diffusion Plant, Paducah, KY.....	\$ 34.0
Install Interconnection Flow Controls, Building 4500N, Oak Ridge National Laboratory, Oak Ridge, TN.....	\$ 150.0
Modifications to Various Buildings Environmental Systems, Brookhaven National Laboratory, Upton, NY.....	\$ 290.0
Energy Monitoring and Control Systems, Sandia Laboratories, Albuquerque, NM.....	\$ 580.0
Automated Control of SCTI Lighting, Energy Technology Engineering Center, Santa Susana, CA.....	\$ 4.5
Install Boiler Economizer, Sandia Laboratories, Albuquerque, NM.....	\$ 68.0
Install Automatic HVAC Shutdown Controls, Sandia Laboratories, Tonopah, NV.....	\$ 165.0
Automatic Equipment Shutoff Chiller Modifications, Building 463, Brookhaven National Laboratory, Upton, NY.....	\$ 200.0
Ventilation Reduction, Building 9808, Y-12 Plant, Oak Ridge, TN.....	\$ 77.0
Install Evaporative Cooling Assist, Sandia Laboratories, Albuquerque, NM.....	\$ 160.0
Modifications to AC9 Service and Office Building 911, Brookhaven National Laboratory, Upton, NY.....	\$ 230.0
Install HVAC Automatic Shutdown Demand Temperature Control Economizer, Savannah River Plant, Aiken, SC.....	\$ 16.0
Heat Reclamation on Chiller Unit, Building 74, Lawrence Berkeley Laboratory, Berkeley, CA.....	\$ 41.0
Preheat Furnace Combustion Air, Building K-1501, Oak Ridge Gaseous Diffusion Plant, Oak Ridge, TN.....	\$ 71.0

## CONSTRUCTION PROJECT DATA SHEETS

1. Title and location of project: Modifications for energy management, various locations. 2. Project No.: 81-A-601

## Administration

## B. Description: (continued)

## Title and location of retrofit projects:

	Total Estimated Cost
Install Automatic Stack Dampers, Various Buildings, Brookhaven National Laboratory, Upton, NY.....	27.0
Utilize Pond Water to Cool Accelerator Components, Fermi National Accelerator Laboratory, Batavia, IL.....	105.0
Energy Monitoring and Control Systems, Sandia Laboratories, Livermore, CA.....	360.0
Add Steam Condensate Lines to Steam Plant, Paducah Gaseous Diffusion Plant, Paducah, KY.....	580.0
Reduce Steam Distribution Pressure, Rocky Flats Plant, Golden, CO.....	350.0
Chilled Water System Improvements, Pinellas Plant, Clearwater, FL.....	355.0
Waste Heat Recovery, FMI Facility, Michiland Hanford Plant, Richland, WA.....	590.0
Modify Chillers and HVAC Systems, Building 202, Argonne National Laboratory, Argonne, IL.....	99.0
Insulate Fuel Storage Tank No. 611D, Brookhaven National Laboratory, Upton, NY.....	43.0
HVAC System Automatic Shutdown Controls, Savannah River Plant, Aiken, SC.....	25.0
Install High Pressure Sodium Lighting, AGS Experimental Hall Building 912, Brookhaven National Laboratory, Upton, NY.....	125.0
Install Automatic Ventilation Setback Controls, Rocky Flats Plant, Golden, CO.....	275.0
Install Blending System for Alternate Liquid Fuel, Brookhaven National Laboratory, Upton, NY.....	355.0
Install Unoccupied-Hours Air Shutback Controls, Building 5500, Oak Ridge National Laboratory, Oak Ridge, TN	49.0
Ventilation Reduction Modifications, Building 9995, Y-12 Plant, Oak Ridge, TN.....	320.0
Install High Pressure Sodium Lighting - 1, Sandia Laboratories, Albuquerque, NM.....	53.0
Install Chiller Economizers, Sandia Laboratories, Livermore, CA.....	32.0
Install Automatic Temperature and Air Flow Setback Controls, Sandia Laboratories, Livermore, CA.....	115.0
Chiller Efficiency Upgrading, Oak Ridge National Laboratory, Oak Ridge, TN.....	690.0
HVAC Cooling Coil Bypass and Demand Controls, Savannah River Plant, Aiken, SC.....	36.0
Demand Reset Controls, Building 9202, Y-12 Plant, Oak Ridge, TN.....	120.0
Replace Steam Traps, Mound Plant, Miamisburg, OH.....	385.0
Convert HVAC To Demand Controlled Environment Room, Building 221, Argonne National Laboratory, Argonne, IL.	650.0
Magnet Waste Heat Utilization, Hyperan and P-Center Areas, Fermi National Accelerator Laboratory, Batavia, IL.....	37.0
	59.0

## CONSTRUCTION PROJECT DATA SHEETS

2. Project No.: 81-A-601

## Administration

1. Title and location of project: Modifications for energy management, various locations.

## 8. Description: (continued)

Title and location of retrofit projects:	Total Estimated Cost
Evaporative Cooling and Humidification Modifications, Inhalation Toxicology Research Institute, Albuquerque, NM.....	\$ 205.0
Heating System Modernization, O-Wing, University of Rochester, Rochester, NY.....	\$ 65.0
Convert HVAC to Variable Volume, Building 211, Argonne National Laboratory, Argonne, IL.....	\$ 89.0
Replace Translucent Siding with Insulated Siding, Argonne National Laboratory, Idaho Falls, ID.....	\$ 11.0
Install Automatic Fume Hood Dampers, Sandia Laboratories, Albuquerque, NM.....	\$ 83.0
Install Soot Blowers on Five Buildings, Princeton Plasma Physics Laboratory, Princeton, NJ.....	\$ 62.0
Install High Pressure Sodium Lighting - 2, Sandia Laboratories, Albuquerque, NM.....	\$ 130.0
Insulate Loading Dock Shop Space, Building 20, Argonne National Laboratory, Argonne, IL.....	\$ 15.0
Facility Heating Control Upgrade, Idaho National Engineering Laboratory, Idaho Falls, ID.....	\$ 350.0
HVAC Modifications and Economize, Cycle, Sandia Laboratories, Livermore, CA.....	\$ 53.0
Heat Recovery, O-Wing, University of Rochester, Rochester, NY.....	\$ 100.0
Recovery and Utilization of Synthetic Gas, Grand Forks Energy Technology Center, Grand Forks, ND.....	\$ 42.0
Insulate Exterior Walls, Building 880, Sandia Laboratories, Albuquerque, NM.....	\$ 90.0
Install HVAC Automatic Dampers, Controls and High Pressure Sodium Lighting, Savannah River Plant, Aiken, SC	\$ 115.0
Recover Waste Heat from Stratified Air Layer, Argonne National Laboratory, Idaho Falls, ID.....	\$ 215.0
Install Sodium and Fluorescent Lighting, Idaho National Engineering Laboratory, Idaho Falls, ID.....	\$ 400.0
Install Backdraft Dampers on HVAC Intake, Energy Technology Engineering Center, Santa Susana, CA.....	\$ 12.5
Install Automatic Off-Hour Flow Reduction Controls, Savannah River Plant, Aiken, SC.....	\$ 22.0
Heat Recovery, Building 84, Pittsburgh Energy Technology Center, Pittsburgh, PA.....	\$ 160.0
Storm Window Installation, O-Wing, University of Rochester, Rochester, NY.....	\$ 38.0
Cutback Size Summer Steam Distribution, Argonne National Laboratory, Idaho Falls, ID.....	\$ 110.0
Install Economizer, Building 880, Sandia Laboratories, Albuquerque, NM.....	\$ 70.0
Building Insulation, 200 Area, Richland Hanford Plant, Richland, WA.....	\$ 285.0
Exhaust Air Heat Recovery, Morgantown Energy Technology Center, Morgantown, WV.....	\$ 74.0
Utilize Waste Heat from Exhaust Air, Inhalation Toxicology Research Institute, Albuquerque, NM.....	\$ 405.0
Insulate Steam Pipe Runs, 200 Area, Richland Hanford Plant, Richland, WA.....	\$ 890.0

## CONSTRUCTION PROJECT DATA SHEETS

Administration

2. Project No.: 81-A-601

1. Title and location of project: Modifications for energy management, various locations.

8. Description: (continued)

Title and location of retrofit projects:	Total Estimated Cost
Upgrade Ventilation and Air Conditioning, Buildings 83 and 84, Pittsburgh Energy Technology Center Pittsburgh, PA.....	\$ 350.0
Replace Gas Reheat with Heat Recovery Chiller, Lawrence Livermore Laboratory, Livermore, CA.....	\$ 65.0
Install Air Handling Controls, Kansas City Plant, Kansas City, MO.....	\$ 390.0
Replace Incandescent and Fluorescent with High Pressure Sodium Lighting, Princeton Plasma Physics Laboratory, Princeton, NJ.....	\$ 21.0
Convert from Terminal Reheat to Variable Air Volume, Lawrence Livermore Laboratory, Livermore, CA.....	\$ 280.0
Install High Pressure Sodium Lighting, Kansas City Plant, Kansas City, MO.....	\$ 950.0
Convert to Variable Air Volume, Building 113, Lawrence Livermore Laboratory, Livermore, CA.....	\$ 245.0
HVAC Heat Recovery System, Los Alamos Scientific Laboratory, Los Alamos, NM.....	\$ 100.0
Install High Pressure Sodium Lighting - 4, Sandia Laboratories, Albuquerque, NM.....	\$ 80.0
Install Electrically Driven Air Cooled Chillers, Bartlesville Energy Technology Center, Bartlesville, OK...	\$ 220.0
Power Plant Burner Modifications, Los Alamos Scientific Laboratory, Los Alamos, NM.....	\$ 385.0
Automated Energy Management System, Energy Technology Engineering Center, Santa Susana, CA.....	\$ 320.0
U-Factor Improvement, Pittsburgh Energy Technology Center, Pittsburgh, PA.....	\$ 83.0
Variable Air Volume Conversion, Building 131, Lawrence Livermore Laboratory, Livermore, CA.....	\$ 415.0
Boiler Plant Efficiency Improvement Modifications, Grand Junction Office, Grand Junction, CO.....	\$ 205.0
Install High Pressure Sodium Lighting, Sandia Laboratories, Livermore, CA.....	\$ 56.0
Insulate Roof, Building 131, Lawrence Livermore Laboratory, Livermore, CA.....	\$ 105.0
Install Double Glazed Storm Windows, Argonne National Laboratory, Idaho Falls, ID.....	\$ 69.0
Install Condensate Return System, Idaho National Engineering Laboratory, Idaho Falls, ID.....	\$ 700.0
Replace Incandescent with High Pressure Sodium Lighting, Savannah River Plant, Aiken, SC.....	\$ 54.0
Install Energy Management System, Pittsburgh Energy Technology Center, Pittsburgh, PA.....	\$ 69.0
Building Insulation, 1100 Area, Richland Hanford Plant, Richland, WA.....	\$ 740.0
Building Insulation, 300 Area, Richland Hanford Plant, Richland, WA.....	\$ 135.0
Building Envelope Upgrade, Buildings 58 and 83-4, Pittsburgh Energy Technology Center, Pittsburgh, PA.....	\$ 470.0
Process Metering, Various Locations.....	\$ 420.0
Subtotal.....	\$19,150.0

## CONSTRUCTION PROJECT DATA SHEETS

## Administration

1. Title and location of project: Modifications for energy management, various locations 2. Project No.: 81-A-601

## 3. Justification:

These energy modifications will be accomplished for the sole purpose of saving energy. Projects will be selected on the basis of economics and energy saved per dollar invested. Only those projects with a relatively quick payback will be selected and funded.

When evaluated by a present value analysis, using a discount rate of 10%, the projects selected for this line item will have the following total effect:

Average Savings to Investment Ratio	4.2
Average Discounted Payback Period	4.1 years
Annual Savings, 1978 Dollars	\$7,700,000
Total Annual Energy Savings	2,600 billion BTUs
Average BTU Savings Per Investment Dollar	92,000

## 10. Details of cost estimate

1. SR Centralized Monitoring and Controlling of Reactor Cooling Water Supply System.....	\$ 1,500.0
2. NL Convert Boiler No. 6 to Wood Firing.....	\$ 1,500.0
3. ANL Convert to Variable Volume, Recover Waste Heat, Bldg 212.....	\$ 1,500.0
4. LASL Sigma Building HVAC Modifications.....	\$ 1,200.0
5. Y-12 Chiller System Modifications, Building 9201-5.....	\$ 1,000.0
6. RF Energy Monitoring and Control System.....	\$ 1,050.0
7. DAO Energy Monitoring and Control System.....	\$ 1,300.0
Subtotal.....	\$ 9,050.0
8. Other retrofit projects.....	\$19,150.0
Total Project Cost.....	\$28,200.0

## 11. Method of performance:

Design and inspection will be performed under a negotiated architect-engineer contract. Construction and procurement will be accomplished by fixed-price contracts awarded on the basis of competitive bidding.

CONSTRUCTION PROJECT DATA SHEETS

## Administration

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1. Title and location of project: Modifications for energy management,  
various locations

2. Project No.: 81-A-601

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12. Funding schedule of project funding and other related funding requirements

Not required.

13. Narrative explanation of total project funding and other related funding requirements

Not required.



CONSTRUCTION PROJECT DATA SHEETS

Administration

Richland Operations Office

1. Title and Location of Project: HVAC Heat Recovery and Night Setback  
Richland, Washington
2. Project No.: 81-A-604

## 8. Brief Physical Description of Project: (Cont'd.)

Other facilities are available that lend themselves to the same type of savings and are considered as part of this project to the extent they can be completed within the total estimated cost. The twelve specific subprojects listed below are subject to change depending on the identification of other subprojects showing better results based on economic analysis. Other technologies will also be considered (e.g., solar, wind, thermal storage, etc.) that may be incorporated into the facility processes to increase energy conservation and improve the economic payback periods. The typical subprojects presently being considered are as follows:

- a. Building 23A-52  
Runaround coils will be installed between the intakes and the exhausts and a humidification control system will be added.
- b. Building 2101M  
Building 2101 is used as a warehouse for storing spare equipment and parts used by the RL contractors. Modifications to the ventilation system, which has multiple supply fan units and no exhaust outlets (total of 250,000 cfm run only up to 70 percent capacity) will consist of installing a recirculation system to reuse the conditioned air, providing for a bypass in the inlet plenums to avoid re-washing the recirculated air (only make-up air will be washed), changing of operating procedures for night environmental air control, and reducing fan velocities.
- c. Building 202S  
Runaround coils will be installed between the intake and exhaust of the three office air handlers.
- d. Building 326 (HEDL operated)  
Building 326 contains laboratory facilities and offices. Modifications to the ventilation system, which is rated at 76,000 cfm, will consist of installing runaround heat recovery systems to capture waste heat from the once-through exhaust in order to provide heat for the supply air during the winter, and adjusting the temperature control system for the new configuration.

CONSTRUCTION PROJECT DATA SHEETS

Administration  
 Richland Operations Office

1. Title and Location of Project: HVAC Heat Recovery and Night Setback  
 Richland, Washington

2. Project No.: 81-A-604

8. Brief Physical Description of Project: (Cont'd.)

e. Building 225B

Runaround coils will be installed between the several intake and exhaust fans in this building. Humidification controls will be installed on air handlers.

f. Building 242A

A runaround heat recovery system will be installed on the intake of the two air handlers and after the HEPA filters. Humidification control will be installed on the air handlers.

g. Building 224B

Runaround coils will be installed between the several intake and exhaust fans in this building. Humidification controls will be installed on air handlers.

h. Building 327 (HEDL operated)

Building 327 contains recovery facilities and offices. Modifications to the ventilation system which operated at 40,000 cfm, will consist of installing runaround heat recovery systems to capture waste heat from the once-through exhaust in order to provide heat for the supply air during the winter, and adjusting the temperature control system for the new configuration.

i. Building 2724W

Runaround coils will be installed between intake and exhaust and a humidification control system will be added.

CONSTRUCTION PROJECT DATA SHEETS

Administration

Richland Operations Office

1. Title and Location of Project: HVAC Heat Recovery and Night Setback  
Richland, Washington

2. Project No.: 81-A-604

8. Brief Physical Description of Project: (Cont'd.)

j. Building 306E

The proposed design is to recirculate the second floor exhaust to the supply which handles approximately 50,000 cfm.

k. Building 309

Approximately 18,000 cfm will be changed to recirculated air from once-through during the heating season.

l. Building 209E

Humidification controls will be installed on the air wash.

9. Purpose, Justification of Need for, and Scope of Project:

Since most HVAC systems for the heat recovery buildings identified are one-pass systems with high ventilation rates, significant amounts of heat are exhausted to the atmosphere in the winter. It is proposed to recover the wasted heat to preheat the building make-up air and reuse the conditioned air by recirculating the air where feasible. Runaround heat recovery systems are used in areas where there is a potential for radioactive airborne contamination thus eliminating the potential for introducing contamination into an occupied area. Due to the cold climate in the Richland, Washington region (5,267 heating degree days), approximately 0.151 million BTU/cfm-yr can be recovered from building exhaust. This heat is mainly supplied through steam generated by oil and coal at central plants. A savings of roughly 12 percent in the total heating load for these buildings is anticipated.

This project is estimated to save 146,000 MBTU of steam per year. Since the present cost of steam is \$4.50 per MBTU, the total first year savings will be \$657,000.

## CONSTRUCTION PROJECT DATA SHEETS

Administration  
Richland Operations Office

1. Title and Location of Project: HVAC Heat Recovery and Night Setback  
Richland, Washington

2. Project No.: 81-A-604

9. Purpose, Justification of Need for, and Scope of Project: (Cont'd.)

Savings to Investment Ratio (SIR)	2-5
Discounted Payback Period, years	5-3
Annual Cost Savings, FY 1978 dollars	\$657,000
Annual Energy Savings, BTU	146 Billion
Lifetime Energy Savings, BTU	
per Budget Investment (TEC) Dollar	10,920,000

## 10. Details of Cost Estimate:

	Item Cost	Total Cost
a. Engineering, design, and inspection at approximately 35% of construction cost, item b .....		\$ 600
b. Construction costs .....		1,700
(1) Special Facilities		
(a) Runaround heat recovery and night setback systems .....	\$1,700	
SUBTOTAL .....		\$2,300
c. Contingency at 30% of above cost .....		700
TOTAL PROJECT COST .....		\$3,000

Cost estimate based on completed conceptual design study.

CONSTRUCTION PROJECT DATA SHEETS

Administration  
 Richland Operations Office

1. Title and Location of Project: HVAC Heat Recovery and Night Setback  
 Richland, Washington
2. Project No.: 81-A-604

11. Method of Performance:

Design and inspection for the candidate energy conservation heat recovery projects will be performed by the on-site, cost-plus-fixed-fee architect-engineer or by negotiated architect-engineer contracts where feasible. Construction will be accomplished by the on-site, cost-plus-award-fee construction contractor utilizing fixed-price subcontracts to the extent feasible which are awarded on the basis of competitive bids. The operating contractors will procure the major engineered equipment.

12. Funding schedule of project funding and other related funding requirements

Not required.

13. Narrative explanation of total project funding and other related funding requirements

Not required.

Department of Energy  
 FY 1981 BUDGET AMENDMENT  
 CONSTRUCTION PROJECT DATA SHEETS  
 Departmental Administration  
 In-house Energy Management

(Tabular dollars in thousands. Narrative material in whole dollars.)

Chicago Operations Office

1. Title and location of project: Automated energy management system, Argonne  
 National Laboratory, Argonne, Illinois

2. Project no. 81-A-605

3. Date A-E work initiated: 1st Qtr. FY 1981

5. Previous cost estimate: \$4,500  
 Date: 12/78

3a. Date physical construction starts: 2nd Qtr. FY 1981

6. Current cost estimate: \$3,800  
 Less amount for P&ID: 0  
 Net cost estimate: \$3,800  
 Date: June 1979

4. Date construction ends: 4th Qtr. FY 1983

7. Financial schedule: (dollars in thousands)

Fiscal Year	Appropriations	Obligations	Costs
1981	\$3,800	\$3,800	\$ 400
1982	0	0	3,020
1983	0	0	380

CONSTRUCTION PROJECT DATA SHEETSChicago Operations Office

1. Title and location of project: Automated energy management system, Argonne National Laboratory, Argonne, Illinois 2. Project no. 81-A-605

8. Description:

This project includes a complete system for monitoring and controlling the physical plant systems, such as heating, ventilating and air conditioning, with sensors of various types located at the points to be monitored. The action of the sensors will be transmitted to a central location which will have the capability of issuing commands to make necessary on-line adjustments to various system parameters with response occurring immediately; a combination of hardware and software will permit simultaneous data processing, output printing and operator communication. Through its central computerized control, the system will start and stop fans based on inside/outside conditions, adjust air stream temperature to provide the most economic enthalpy control for heating and cooling, survey supply and return temperature differentials to adjust loading and unloading of chillers, and improve damper operation to meet minimum leakage requirements. The system initially will comprise 5,500 points (including both sensors and final control elements) and will be expandable to 10,000 points without additional computer module or extensive system modifications.

The following items will be located at the fully computerized central location: Central processing unit(s) with bulk memory storage capacity; full cathode ray tube display with alpha/numeric keyboard entry; a graphic projector; a line printer; an alpha/numeric keyboard printer for input/output functions and any additional items required for the subsystems. Loop remote terminals at all major buildings and facilities on the site will be linked by coaxial cable and external pairs of wires as required. Remote inputs will be linked by single pair wires.

The immediate, and primary, purpose of the system is to conserve energy, but it will have inherent capability for security, maintenance and other uses to reduce manpower levels and assure reliability.

9. Justification:

This project is justified by the potentially large savings which can be realized by the centralized control of numerous systems which are currently independently and inefficiently controlled. The initial installation will coordinate the systems of about 37 buildings, including the central heating plant. Expansion capability for additional buildings will be provided without the requirement for major system modification.

## CONSTRUCTION PROJECT DATA SHEETS

Chicago Operations Office

1. Title and location of project: Automated energy management system, Argonne National Laboratory, Argonne, Illinois 2. Project no. 81-A-605

## 9. Justification: (continued)

Other inherent benefits resulting in substantial but not readily calculable savings will include reduced maintenance and operation costs and increased useful life of equipment, which will be afforded by the generation and availability of complete operational cost records, preventive maintenance schedules, and other valuable engineering information.

Present value analysis, accomplished according to DOE guidelines, using a discount rate of 10%, and a 25 year useful life of the system, indicates the following:

Savings to Investment Ratio (SIR)	2.5
Discounted Payback Period	5.9 years
Annual Savings, Dollars	\$760,118
Annual Energy Savings	205 Billion Btus
Btu savings per investment dollar	53,200

	Item Cost	Total Cost
10. Details of cost estimate*		
a. Engineering, design and inspection at approximately 16% of construction cost, item b.....		\$ 500
b. Construction cost.....		2,800
1. Central station material.....	\$ 1,200	
2. Field installation, field management and testing.....	1,600	
c. Contingency at approximately 15% of above costs.....		500
	Total project cost	<u>\$ 3,800</u>

\* Cost estimate based on completed conceptual design study.

CONSTRUCTION PROJECT DATA SHEETS

Chicago Operations Office

1. Title and location of project: Automated energy management system, Argonne National Laboratory, Argonne, Illinois      2. Project no. 81-A-605

11. Method of performance:

It is planned to prepare a specification as a basis on which to invite proposals to design and build the system. The proposals will be evaluated and, based on the selected proposal, a contract will be awarded to design and build the system with the provisions that the final design is to be approved by the Laboratory before construction commences.

12. Funding schedule of project funding and other related funding requirements:

Not required.

13. Narrative explanation of total project funding and other related funding requirements:

Not required.

Department of Energy  
FY 1981 BUDGET AMENDMENT

CONSTRUCTION PROJECT DATA SHEETS  
Departmental Administration - Operating Expenses and Construction  
Policy and Management

(Tabular dollars in thousands. Narrative material in whole dollars.)

Oak Ridge Operations Office

In-house Energy Management

1. Title and location of project: Process waste heat utilization, Portsmouth 2. Project no. 80-DA-3  
Gaseous Diffusion Plant, Piketon, Ohio

3. Date A-E work initiated: 1st Qtr. FY 1980 5. Previous cost estimate: None  
Date:

3a. Date physical construction starts: 3rd Qtr. FY 1980 6. Current cost estimate: \$4,200  
Less Amount for PE&D: 0  
Net Cost Estimate: \$4,200  
Date: December 1978

4. Date construction ends: 4th Qtr. FY 1982

7. Financial Schedule: (dollars in thousands)

Fiscal Year	Obligations	Costs
1980	\$4,200	\$ 900
1981	0	1,700
1982	0	1,600

8. Description:

This project will provide hot water heating systems for several major DOE-owned auxiliary buildings at the Portsmouth Gaseous Diffusion Plant to permit utilization of hot water from the uranium enrichment process recirculating cooling water to meet the space heating requirements of these facilities, eliminating the use of coal-fired steam for this purpose. The buildings to be heated under this project include the Cleaning, Decontamination (High Bay only), and Maintenance and Stores Buildings two Switch Houses; and two Test and Repair Buildings. These buildings contain a total floor space of approximately 570,000 square feet and encompass a total annual heat load of approximately 270 billion Btus.

CONSTRUCTION PROJECT DATA SHEETS

Oak Ridge Operations Office

In-house Energy Management

1. Title and location of project: Process waste heat utilization, Portsmouth Gaseous Diffusion Plant, Piketon, Ohio

2. Project no. 80-DA-3

## 8. Description: (continued)

The Gas Centrifuge Enrichment Plant will install a piping and pumping system to heat its own buildings with gaseous diffusion plant waste heat. The mains and pumps installed to heat the centrifuge facilities will be used to supply branches to buildings included under this project. Small primary pumping stations will be installed in the Process Buildings to circulate hot water from return headers to the Switch Houses and the Test and Repair Buildings through new piping mains. All mains will be insulated, and those below-ground will be provided with suitable corrosion protection. After being used for space heating, the water will be returned through parallel piping to the process cooling system which will then transport it to the cooling towers.

Secondary pumping stations will be installed inside the buildings to be heated, to circulate the hot water in the building heating systems. Steam coils in existing building ventilation systems will be replaced with hot water coils, and hot water unit heaters will be installed in some building areas. Hot water supply and return piping will be extended to each coil and unit heater, and redundant steam and condensate piping will be abandoned or removed. The present temperature control systems will be removed and replaced with control systems composed of face and by-pass dampers for freeze protection, new thermostats, water flow regulators, and fan activators.

## 9. Justification:

Large quantities of waste process heat (approximately 7 billion Btus per hour at full gaseous diffusion plant loading) are continuously removed from process streams by the recirculating cooling water and rejected to the atmosphere through the operation of evaporative cooling towers. The temperature of much of the recirculating cooling water as it leaves the process buildings is sufficiently high to be utilized for conventional space heating requirements of major plant-site auxiliary buildings. In addition, this water has already been softened and treated with corrosion inhibitors for the protection of piping and heat transfer components. The waste heat utilization as proposed in this project will significantly reduce the quantities of fossil fuels required for steam generation at the Steam Plant. This avoidance will not only result in fuel cost savings, but will also reduce the generation of pollutants normally associated with coal-fired steam production. The annual building heating load savings of 270 billion Btus results in a total energy savings of 474 billion Btus when steam production inefficiencies and distribution losses are accounted for (57% overall efficiency).

## CONSTRUCTION PROJECT DATA SHEETS

## Oak Ridge Operations Office

## In-house Energy Management

1. Title and location of project: Process waste heat utilization, Portsmouth  
Gaseous Diffusion Plant, Piketon, Ohio
2. Project no. 80-DA-3

## 9. Justification: (continued)

Present value analysis, accomplished according to DOE guidelines, using a discount rate of 10%, and assuming a service life of 25 years, indicates the following:

Savings to Investment Ratio (SIR)	2.7
Discounted Payback Period	5.4 years
Annual Savings, 1977 Dollars	\$687,000
Annual Energy Savings	474 billion Btus
Btu Savings Per Investment Dollar	113,000 Btus/\$

## 10. Details of cost estimate:\*

	Item Cost	Total Cost
a. Engineering, design, and inspection at approximately 20% of construction costs, item b.....		\$ 580
b. Construction costs.....		2,860
1. Outside utilities (above and below ground distribution piping).....	\$ 330	
2. Building modifications (secondary pumping stations and retrofit hot water systems in existing buildings).....	2,330	
3. Special facilities (primary pumping stations).....	200	
Subtotal.....	\$ 3,440	
c. Contingency at approximately 22% of above costs.....	760	
Total Project Cost.....		\$ 4,200

## 11. Method of performance:

Design and inspection will be accomplished by a negotiated architect-engineering contract and the operating contractor. To the extent feasible, construction and procurement will be accomplished by prime fixed-price contracts awarded on the basis of competitive bidding.

\*Cost estimate based on completed conceptual design.

CONSTRUCTION PROJECT DATA SHEETS

Oak Ridge Operations Office

In-house Energy Management

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1. Title and location of project: Process waste heat utilization, Fortamouth  
Cassous Diffusion Plant, Piketon, Ohio      2. Project no. 80-DA-3

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12. Pending schedule of project funding and other related funding requirements:

Not applicable.

13. Narrative explanation of total project funding and other related funding requirements:

Not applicable.

Department of Energy  
FY 1981 BUDGET AMENDMENT

CONSTRUCTION PROJECT DATA SHEETS  
Departmental Administration - Operating Expenses and Construction  
Policy and Management

(Tabular dollars in thousands. Narrative material in whole dollars.)

Albuquerque Operations Office

In-house Energy Management

1. Title and location of project: Automated energy management system - 2. Project no. 80-DA-4  
Pantex Plant, Amarillo, Texas
3. Date A-E work initiated: 2nd Qtr. FY 1980 5. Previous cost estimate: None  
Date:
- 3a. Date physical construction starts: 4th Qtr. FY 1980 6. Net cost estimate: \$4,000  
Less amount for FE&D: 0  
Net cost estimate: \$4,000  
Date: December 1978
4. Date construction ends: 4th Qtr. FY 1981

7. Financial schedule: (dollars in thousands)

Fiscal Year	Obligations	Costs
1980	\$4,000	\$ 500
1981	0	1,100
1982		2,400

8. Description:

This project replaces the existing utility monitoring system with a new system that includes the latest "state-of-the-art" proven products available for monitoring building environments, outside environments, building equipment status and managing the physical plant energy usage. The automated energy management system will have the flexibility for future expansion, and it will incorporate peripheral/distributed processing. Energy management calculations, predictions, usage records, Cathode Ray Tube display of system controlled component status, and rapid information printout will be included in the system capability. Initially, approximately 4,000 monitoring and control points will be included into several independent data gathering/control units. These units will each be programmed to serve the unique requirements of a group of buildings. In addition, each remote unit will feed information to a central processing unit which will have the ability

CONSTRUCTION PROJECT DATA SHEETSAlbuquerque Operations Office

In-house Energy Management

1. Title and location of project: Automated energy management system  
Pantex Plant, Amarillo, Texas

2. Project no. 80-DA-4

8. Description: (continued)

to override the remote units in special situations requiring such control (such as plant-wide "peak" demand limiting). Space allocation for the new central unit will be provided by rehabilitating 2,500 square feet of existing space. The remote micro-processors and control consoles will be located in various existing buildings. This is a DOE-owned facility.

9. Justification:

The purpose of this project is to save energy in the Pantex Plant by monitoring and controlling the various plant systems and equipment to optimize energy use. The existing monitoring system is obsolete, and spare parts and sensors for further expansion are not available. The existing capabilities of the system are limited in response speed, inability to make energy calculations and predictions, incapable of limiting demand and adjusting systems to take advantage of outside environment conditions.

This automated energy management system will save approximately 21% of the plants fuel oil consumption and 18% of the electric energy usage. This savings is the result of controlling air handling units, return air fans, vacuum and water pumps, dehumidification units, miscellaneous process units, electric refrigeration and absorption refrigeration to obtain optimum use of the plant systems and equipment.

Present value analysis, accomplished according to Department of Energy guidelines, using a discount rate of 10% assuming a 20 year life, indicates the following:

Savings to Investment Ratio (SIR)	3.0
Discounted Payback Period	6.0 years
Annual Savings, 1977 Dollars	\$690,000
Annual Energy Savings	18.2 billion Btus
Btu Savings Per Investment Dollar	40,500 Btus/\$

CONSTRUCTION PROJECT DATA SHEETS

Albuquerque Operations Office

In-house Energy Management

1. Title and location of project: Automated energy management system  
Pantex Plant, Amarillo, Texas

2. Project no. 80-DA-4

10. Details of cost estimate

	<u>Item Cost</u>	<u>Total Cost</u>
a. Engineering, design, and inspection costs, at approximately 13% of construction costs, item b .....		\$ 400
b. Construction costs .....		3,000
1. Modification of existing structure for central station space .....	\$ 20	
2. Central station equipment including computer .....	300	
3. Peripheral/distributive processing units (micro-processors) .....	175	
4. Data gathering control panels for each building .....	512	
5. Remote sensors, start/stop controls and other control mechanisms .....	1,500	
6. Trunk cable for communication .....	163	
7. Demand metering and other energy use measurement devices .....	310	
Subtotal .....	\$ 3,400	
c. Contingency, at approximately 18% of above costs .....		600
Total project cost .....		\$ 4,000

11. Method of performance:

Design and inspection will be performed under a negotiated architect-engineer contract. Construction and procurement will be accomplished by fixed-price contracts awarded on a basis of competitive bidding.

12. Funding schedule of project funding and other related funding requirements:

Not applicable.

13. Narrative explanation of total project funding and other related funding requirements:

Not applicable.

\* Cost estimate based on completed conceptual design.

Department of Energy  
 FY 1980 SUPPLEMENTAL BUDGET AMENDMENT  
 CONSTRUCTION PROJECT DATA SHEETS  
 Departmental Administration

(Tabular dollars in thousands. Narrative material in whole dollars.)

Albuquerque Operations Office

2. Project No. 80-DA-06

1. Title and location of project: Alternate energy source  
 Pentex Plant, Amarillo, Texas
3. Date A-E work initiated: 3rd Qtr., FY 1980
- 3a. Date physical construction starts: 3rd Qtr., FY 1981
4. Date construction ends: 4th Qtr., FY 1986
5. Previous cost estimate: None  
 Date:
6. Current cost estimate: \$46,600  
 Less Amount for PE&D 0  
 Net Cost Estimate \$46,600  
 Date:

7. Financial schedule

Fiscal Year	Authorizations	Appropriations	Obligations	Costs
1980	\$46,600	\$ 3,300	\$ 1,800	\$ 0
1981		9,000	10,500	1,000
1982		34,300	33,650	1,800
1983			650	5,300
1984				13,900
1985				10,000
1986				10,000
1987				4,600

8. Brief physical description of project

This project will provide a new coal fired steam plant and a new underground hot water distribution system to supply the building heating requirements of the Pentex Plant, near Amarillo, Texas. This project will replace the 28-year-old natural

CONSTRUCTION PROJECT DATA SHEETS

Administration

Albuquerque Operations Office

A. Title and location of project: Alternate energy source  
Pantex Plant, Amarillo, Texas

2. Project No. 80-DA-06

B. Brief physical description of project (continued)

gas-fired steam plant and distribution system. The new plant will be designed to burn low sulfur coal and will include provision for cogeneration of 4,000 kilowatts of electric power to offset outside power requirements. The new steam plant will be centrally located between major heating and cooling loads on the site.

Improvements to land will consist of a new railroad spur, approximately 5,800 feet long, a railroad car unloading facility, paving of access and parking, and a fire protection system will be provided as a part of the site development. An ash yard, approximately 300 feet long and 100 feet wide will be located adjacent to the coal storage area.

A new building will be built to house the boilers and associated equipment. The building will be a steel frame structure approximately 150 feet long, 100 feet wide and 60 feet high. The walls will be of insulated metal siding. The boiler plant will consist of three high pressure steam boilers rated at 40,000 pounds per hour each and two turbine generators rated at 2,000 kw each. Adjacent to the boiler house will be a 7' diameter, 140 foot high stack.

Equipment to be provided by this project, in addition to the boilers and generators, will include the necessary boiler auxiliary equipment such as de-aerators, pumps, and heat exchangers. Coal handling equipment will include a rail car unloader and conveyor to the boiler house. Conveyors will also be provided to handle ash. Particulate emission control equipment will be provided to meet air pollution control requirements. Equipment associated with the hot water distribution system will include pumps and instrumentation. Some existing steam absorption chillers and dehumidification equipment will be modified and reused.

Special facilities included in this project include construction necessary to modify 123 existing buildings which presently use steam for heating, cooling, and dehumidification, or which use natural gas combustors for direct heating. Existing equipment and piping will be modified where possible to use hot water from a new underground distribution system.

Utilities to be provided include connections between the existing power distribution system and the new generators. Electric power will be produced at 4,160 volts, stepped up to 12,470 volts, and tied into the primary feeders to the main weapon production areas. The connection from the generator to the main feeder will be made through an oil circuit breaker. Utilities also include the new hot water system that will distribute 265 degree F water for heating and cooling. Approximately 33,000 feet of underground insulated piping will be installed. Man holes and valves will be installed. New hot water piping will be

CONSTRUCTION PROJECT DATA SHEETS

Administration  
Albuquerque Operations Office

1. Title and location of project: Alternate energy source,  
Pantex Plant, Amarillo, Texas

2. Project No. 80-DA-06

8. Brief physical description of project (continued)

Installed in existing buildings to connect both new and modified heating and cooling equipment. A new water well will be located at the plant site and will be connected to appropriate treatment and a demineralization water storage tank will be provided. A sanitary sewer will be installed to connect with the existing sanitary systems serving the site.

The existing above ground steam distribution system and the steam piping in existing buildings will be dismantled and removed.

The \$3,300,000 appropriation requested for FY 1980 will be used for architect-engineering only.

The \$9,000,000 requested for FY 1981 appropriation will be used for procurement of long lead equipment and for minor site preparation.

9. Purpose, justification of need for, and scope of project

The purpose of this project is to reduce the use of natural gas at the Pantex Plant by replacing the 28-year-old natural gas-fired steam plant and steam distribution system with a modern coal burning steam plant and hot water distribution system.

In consonance with the Power Plant and Industrial Fuels Use Act of 1978, the Department of Energy plans an aggressive fuel conversion program covering both Federal and private facilities. As part of the Department's actions to implement the Act, orders will be issued prohibiting consumption of fuel oil and natural gas to new installations with boiler capacities similar to those of the Pantex Plant. The conversion program is being initiated at this time as part of DOE policy to reduce its use of fuel oil and natural gas. It is appropriate to proceed with conversion of the Pantex Plant due to the age and poor condition of the existing facilities. Both the existing boiler plant and the existing steam distribution systems are near the end of their design life and are in need of repair.

Engineering studies have evaluated in detail the five most realistic applications for alternate fuel options at the Pantex Plant. These include:

## Administration

Albuquerque Operations Office

2. Project No. 80-DA-06

1. Title and location of project: Alternate energy source, Pantex Plant, Amarillo, Texas

## 9. Purpose, justification of need for, and scope of project (continued)

1. Coal-fired steam plant with steam distribution system
2. Coal-fired steam plant with hot water distribution system
3. Coal-fired steam plant with steam distribution system and cogeneration of electricity
4. Coal-fired steam plant with hot water distribution system and cogeneration of electricity
5. All electric power for heating, cooling, and process needs

Life cycle cost analysis showed that extensive use of electric power at the Pantex Plant would result in highest fuel costs and the poorest payback potential. These findings are consistent with DOE policy and the National Energy Act which discourage the use of electricity for electric resistance heating. The studies showed that a coal-fired steam plant with a hot water distribution system and cogeneration would be the most economical alternate fuel option. The facilities to be provided by the construction project described in this budget request are economically justified on the basis of a 20 year life cycle cost analysis. The main reason for the lower life cycle cost of the proposed cogeneration plant is that coal is lower in cost than natural gas on a BTU basis. The turbine generators included in this project are sized to produce maximum power from steam which is used to satisfy the Plant's thermal demand. The resultant reduction in costs for outside electrical power contributes to the lower life cycle costs of this project.

The life cycle cost comparison shows that this project will produce an annual cost saving of \$5.5 million and will payback in 14.5 years. Over 248 billion BTUs of energy will be saved annually and more than 540 million cubic feet of natural gas will not be used. By comparison with the existing facilities, total operating costs at the Pantex Plant for energy (electricity, fuel and applicable maintenance materials and personnel costs) using the proposed project is approximately \$3,440,000 per year versus current costs of \$5,250,000 per year. The difference in costs is almost entirely in the cost of fuel and purchased electric power.

Administration

Albuquerque Operations Office

1. Title and location of project: Alternate energy source, Pantex Plant, Amatillo, Texas 2. Project No. 80-DA-06

10. Details of cost estimate a/

a. Engineering, design, and inspection at approximately 15% of construction costs, Item b.		\$ 4,770
b. Construction costs		33,580
(1) Improvements to land including railroad spur, road paving, and fire protection system	\$ 570	
(2) Boilerhouse, approximately 15,000 square feet at about \$277 per square foot	4,160	
(3) Boilers, generators, and auxiliary equipment	11,420	
(4) Other structures including stack, precipitators, coal, and ash handling system	1,330	
(5) Special facilities including installation of hot water equipment and connections to 123 buildings	5,820	
(6) Utilities including hot water distribution system and electrical power facilities and sewers	10,280	
c. Removal cost less salvage		470
d. Contingency at approximately 20% of above costs		38,820
	Subtotal	7,780
	Total project cost	\$46,600 b/

a/ Based upon completed conceptual design.

b/ This total includes escalation of 12% in 1980, 10% in 1981 and 9% thereafter to the mid-point of construction.

11. Method of performance

Design and inspection will be performed under negotiated architect-engineer contracts and by the operating contractors. Construction will be accomplished on a fixed-price contract awarded on the basis of competitive bidding. Procurement of major equipment, installation and relocation of standard equipment, and support to the construction contractor will be performed by the FPPF operating contractor.

CONSTRUCTION PROJECT DATA SHEETS

Administration

Albuquerque Operations Office

2. Project No. 80-DA-06

1. Title and location of project: Alternate energy source,  
Fantex Plant, Amarillo, Texas

12. Funding schedule of project funding and other related funding requirements

	Prior Yrs.	FY 1980	FY 1981	FY 1982	FY 1983	FY 1984	FY 1985	FY 1986	Total
<b>a. Total project funding</b>									
<b>1. Total facility costs</b>									
(a) Construction line items.....	\$ 0	\$1,000	\$1,800	\$5,300	\$13,900	\$10,000	\$10,000	\$4,600	\$46,600
Total facility costs.....	0	\$1,000	\$1,800	\$5,300	\$13,900	\$10,000	\$10,000	\$4,600	\$46,600
<b>2. Other project funding</b>									
(a) Conceptual design.....	35	0	0	0	0	0	0	0	35
(b) Other project related costs.....	0	0	0	0	0	0	0	540	540
Total other project funding....	35	0	0	0	0	0	0	540	575
Total project funding (item 1 & item 2).....	\$ 35	\$1,000	\$1,800	\$5,300	\$13,900	\$10,000	\$10,000	\$5,140	\$47,175
<b>b. Total related funding requirements (estimated life of project: 20 years)</b>									
1. Facility operating costs.....									\$ 3,440
Total other related annual funding requirements.....									\$ 3,440

CONSTRUCTION PROJECT DATA SHEETS

## Administration

Albuquerque Operations Office

1. Title and location of project: Alternate energy source,  
Pantex Plant, Amarillo, Texas
2. Project No. 80-DA-06

13. Narrative explanation of total project funding and other related funding requirements

## a. Total project funding

## 1. Total facility

## (a) Construction line item

no narrative required

## (b) CP&amp;D

no narrative required

## (c) Expense funded equipment

N/A

## (d) Inventories

N/A

## 2. Other project funding

## (a) R&amp;D necessary to complete construction

N/A

## (b) Other project related funding

FY 1978 conceptual design cost was \$35,000. The cost of plant startup and training of operators in FY 1986 is estimated to be \$540,000.

CONSTRUCTION PROJECT DATA SHEETS

## Administration

## Albuquerque Operations Office

1. Title and Location of project: Alternate energy source, Pantex Plant, Amarillo, Texas 2. Project No. 80-DA-06

## 13. Narrative explanation of total project funding and other related funding requirements (continued)

## b. Total related funding requirements

## 1. Facility operating costs

Facility operating costs of \$3,440,000 are projected for the first year of operation exclusive of startup and training operators. Of this cost, \$2,440,000 is the projected fuel cost and \$1,000,000 will be required to cover personnel costs (\$320,000); equipment maintenance (\$220,000); and supplies and related expenses (\$460,000).

## 2. Programmatic operating expenses directly related to the facility

N/A

## 3. Capital equipment not related to construction but related to the programmatic effort in the facility

N/A

## 4. GPP or other construction related to programmatic effort

N/A

## 5. Other costs

N/A

Department of Energy  
 FY 1980 SUPPLEMENTAL BUDGET AMENDMENT  
 CONSTRUCTION PROJECT DATA SHEETS  
 Departmental Administration  
 In-house Energy Management

(Tabular dollars in thousands. Narrative material in whole dollars.)

Albuquerque Operations Office

1. Title and location of project: Alternate energy source, Pinellas Plant, St. Petersburg, Florida 2. Project No. 80-DA-07

3. Date A-E work initiated: 3rd Qtr., FY 1980

3a. Date physical construction starts: 3rd Qtr., FY 1981

4. Date construction ends: 3rd Qtr., FY 1982

7. Financial schedule:

Fiscal Year	Authorizations	Appropriations	Obligations	Costs
1980	\$1,550	\$1,550	\$ 100	\$ 100
1981			1,450	100
1982				1,000
1983				350

8. Brief physical description of project:

This project will provide a new heat pump system to furnish hot water to the existing hot water distribution system that serves the buildings at the Pinellas Plant at St. Petersburg, Florida. Hot water for space heating, process use and domestic needs is currently provided by hot water boilers fueled by natural gas and oil. Three of four existing boilers will be removed. The existing hot water distribution system, a closed loop system, satisfies the requirements of the plant and will remain in service.

5. Previous cost estimate: None  
 Date:

6. Current cost estimate: \$1,550  
 Less Amount for PE&D 0  
 Net Cost Estimate \$1,550  
 Date: 12/79

CONSTRUCTION PROJECT DATA SHEETS

Albuquerque Operations Office

2. Project No. 80-DA-07

1. Title and location of project: Alternate energy source, Pinellas Plant, St. Petersburg, Florida

6. Brief physical description of project:

The new heat pump system will include three electrically driven heat pumps having a total capacity of about 4.9 million BTUs per hour, four hot water pumps, and four condenser water pumps. A 1,500 kw electrical substation will be installed to provide power for the new equipment. The heat pump system and the substation will be installed in an existing building occupying space vacated by removal of three old hot water boilers.

The electric motor driven heat pump units will utilize as their heat source waste heat rejected from the existing centrifugal chillers that serve the Pinellas Plant cooling requirements. Currently the waste heat energy contained in the condenser water is released to the environment through cooling towers. There is a nearly constant internal cooling load in the plant due to heat generating devices, lights, and people. This source of heat is sufficient to meet most of the plant's requirements for hot water except during building unoccupied hours in winter. One existing hot water boiler will remain in place as a backup system for the heat pumps. In the winter months, this boiler will be maintained in an operational status to provide additional hot water to the system as required.

This project will provide all piping, equipment, and controls necessary to the heat pump system operation.

The FY 1980 appropriation requested will complete the project.

9. Purpose, justification of need for, and scope of project:

This project will substantially reduce the amount of fuel oil and natural gas used at the Pinellas Plant.

Partial replacement of the Pinellas Plant's hot water boiler system will reduce the consumption of fuel oil and natural gas by approximately 90 percent. The use of electrically driven heat pumps will shift part of the fuel consumption to the local electrical utility. The utility presently generates electricity using fuel oil and nuclear energy and is expected to convert some of its generating capacity to coal in the future. A substantial reduction in the amount of fuel required to heat the Pinellas Plant will be achieved by use of the heat pump system recovering waste heat from the existing cooling systems.

Although there will be an increased usage of purchased electric power, the net reduction in energy use at the Pinellas Plant will be about 16,655 million BTUs per year for an annual cost saving of approximately \$487,000 beginning in FY 1983. On the basis of this saving, the cost of this construction project will be recovered in 3.1 years. The actual reduction in natural gas and fuel oil consumption will be approximately 53,700 million BTUs per year.

CONSTRUCTION PROJECT DATA SHEETS

Albuquerque Operations Office

1. Title and location of project: Alternate energy source, Pinellas Plant, St. Petersburg, Florida 2. Project No. 80-DA-07

9. Purpose, justification of need for, and scope of project: (continued)

The Department of Energy plans an aggressive fuel conversion program for both Federal and private facilities under the Power Plant and Industrial Fuels Use Act of 1978. This project provides the Department an exceptional opportunity to demonstrate application of a proven and reliable method of energy saving through fuel conversion and to substantially reduce operating costs at an existing Government facility.

10. Details of cost estimate a/

a. Engineering, design, and inspection at approximately 15% of construction costs, Item b.....	\$ 160
b. Construction costs.....	1,070
c. Removal cost less salvage.....	10
	Subtotal..... 1,240
d. Contingency at approximately 25% of above costs.....	310
	Total project cost..... <u>\$1,550</u> <u>b/</u>

11. Method of performance

Design and inspection will be performed under a negotiated architect-engineer contract. To the extent feasible, construction and procurement will be accomplished by fixed-price contracts awarded on the basis of competitive bids.

12. Funding schedule of project funding and other related funding requirements

Not required.

13. Narrative explanation of total project funding and other related funding requirements

Not required.

a/ Based upon completed conceptual design.

b/ Includes escalation at 8% per year to the mid-point of construction.

Department of Energy  
 FY 1981 Budget Amendment  
 Departmental Administration  
 (Dollars in Thousands)

	Pending Request		Proposed Amendment		Revised Request	
	BA	BO	BA	BO	BA	BO
Security Investigations						
Operating Expenses	<u>\$17,012</u>	<u>\$17,012</u>	<u>\$-2,000</u>	<u>\$-2,000</u>	<u>\$15,012</u>	<u>\$15,012</u>
Total Operating Expenses	\$17,012	\$17,012	\$-2,000	\$-2,000	\$15,012	\$15,012
Total Security Investigations	<u>\$17,012</u>	<u>\$17,012</u>	<u>\$-2,000</u>	<u>\$-2,000</u>	<u>\$15,012</u>	<u>\$15,012</u>

The security investigations program was selected for reduction as part of DOE's overall Departmental Administration Appropriation reduction. This reduction will reduce the number of Federal Bureau of Investigation (FBI) full field investigations by 500; and reduce the number of Office of Personnel Management (OPM) full field investigations by 1,348. This reduction is linked primarily to the delay in the construction of the Portsmouth Gas Centrifuge Enrichment Plant which will decrease the FY 1981 requirement for security clearances at the Oak Ridge Operations Office. The amended FY 1981 budget request for security investigations will continue to provide full support, within the funds available, to all the Atomic Energy Defense related programs.

	Cases	\$
Defense Activities	20,102	\$12,803
Uranium Enrichment	3,461	1,821
Policy and Management	<u>1,101</u>	<u>388</u>
	24,664	\$15,012

Department of Energy  
 WITHDRAWALS OF  
 PENDING 1980 SUPPLEMENTALS  
 (\$ in thousands)

	1980 Supplemental Request <u>Pending</u>	1980 Proposed <u>Amendment</u>	1980 Revised <u>Request</u>
Atomic Energy Defense Activities ....	\$ 2,346	\$ -2,346	\$ ---
General Science and Research Activities .....	45	-45	---
Energy Supply Research and Development Activities .....	1,670	-1,670	---
Fossil Energy Research and Development .....	1,786	-1,786	---
Uranium Enrichment Activities .....	187	-187	---
Energy Production, Demonstration and Distribution .....	566	-566	---
Energy Conservation .....	703	-703	---
Energy Information Administration ...	935	-935	---
Economic Regulatory Administration ..	2,523	---	2,523
Federal Energy Regulatory Commission .....	2,435	-2,435	---
Geothermal Resources Development Fund .....	7	-7	---
Power Marketing Administration (Southwestern Power Administration) .....	208	-208	---
Departmental Administration .....	<u>6,396</u>	<u>-6,396</u>	<u>---</u>
Total .....	<u>\$ 19,807</u>	<u>\$ -17,284</u>	<u>\$ 2,523</u>

This amendment withdraws the requests for a supplemental appropriation to provide funds for salary expenses effected by Executive Order 12165 (October 1979 pay raise). This action would reduce outlays by \$16.497 million in 1980 and \$.787 million in 1981.

Mr. BEVILL. Thank you, Dr. Sawhill.

We all want to welcome you on your first appearance before this subcommittee.

Mr. SAWHILL. Thank you, sir. Thank you very much.

Mr. BEVILL. Certainly we are looking forward to working with you. We appreciate the background and knowledge that you have for the job. We are expecting great things from you. You have quite a challenge ahead of you.

Mr. SAWHILL. Yes, sir.

Mr. BEVILL. You and the Secretary both have quite a challenge.

#### PERSONNEL HIRING FREEZE

How much do you expect to save in 1980 and 1981 as a result of the Department-wide freeze on personnel hiring?

Mr. SAWHILL. That is a little hard to tell right now because we are not quite sure of how the freeze will take effect and how long it will continue. But as we get a better understanding, we could supply you that information.

Mr. BEVILL. Maybe you can furnish that for the record. Do it on a monthly basis since you may not know how long it will last.

Mr. SAWHILL. That's right. I think it would be helpful if we give you monthly figures.

Mr. BEVILL. Give us your best estimate. We need to have some estimate on which to make a decision.

Mr. SAWHILL. Yes.

Mr. BEVILL. We will need this information right away.

Mr. SAWHILL. Yes, sir.

Mr. BEVILL. Thank you.

[The information follows:]

Impact of Hiring Freeze  
Through FY 1981

The following table shows the potential savings to the Department as a result of the hiring freeze. These Department-wide amounts are based on estimated monthly on-board personnel strength and assume that the hiring freeze will be lifted at the end of FY 1980. To offset the impact of the freeze, the Department has withdrawn \$17.3 million of its FY 1980 Pay Raise Supplemental request and, in addition, has submitted a rescission for \$3.0 million in Management and Support.

	Estimated Dollar Savings (\$ in Thousands)	
	By Month	Cumulative
<u>FY 1980</u>		
March	\$ 96	\$ 96
April	--	96
May	-96	0
June	638	638
July	1,436	2,074
August	2,393	4,466
September	3,286	7,752
<u>FY 1981</u>		
October	2,871	\$ 2,871
November	2,616	5,487
December	2,361	7,848
January	2,105	9,953
February	1,850	11,803
March	1,563	13,366
April	1,308	14,674
May	1,053	15,727
June	798	16,525
July	542	17,067
August	287	17,354
September	0	17,354

## POSSIBLE FURTHER REDUCTIONS TO DOE PROGRAMS

Mr. BEVILL. If the committee decided to further reduce DOE's impact on government expenditures by \$200 million to \$300 million what would be your candidates for further reductions of this magnitude?

Mr. SAWHILL. Well, that is an awfully large reduction. We tried to go through our budget quite carefully. We did not just take an across-the-board cut in all of our programs but rather we reviewed this on a program by program basis when the President decided to ask for these further reductions.

I think if we dug much deeper in our budget we would find that we would be seriously impeding some of our ongoing activities. So I would be a little reluctant to single out any particular program at this time.

## UNOBLIGATED BALANCES

Mr. BEVILL. In the year 1979 you had an extremely large amount of unobligated funds, nearly \$1.5 billion not including the Strategic Petroleum Reserve. Why shouldn't the committee apply all or part of these funds to reducing your fiscal 1980 and fiscal 1981 requirements?

Mr. SAWHILL. Well, because most of these funds are needed for carryovers. Some of these funds, for example, are the \$653.2 million revolving fund used by the Bonneville Power Administration, and they really need that for their ongoing activities.

There is another \$43 million in the Geothermal Resources Development Fund which supports the Loan guaranties that we have made under that program.

Another \$77.5 million involves funding for ongoing plant projects in the Atomic Energy Defense Activities.

So as I have tried to analyze this, most of the carryover funds are funds that are needed for ongoing projects and it really wouldn't be appropriate to apply those against these reductions we are talking about.

Mr. BEVILL. In order for the committee to have that option which I don't know that it would exercise, but let us assume that the committee decided to reduce the appropriations by another \$200 million to \$300 million, would you furnish for the record, in the event that decision is made, what you would recommend under these conditions?

Mr. SAWHILL. Yes, sir.

Mr. BEVILL. So we can have some guidance, because your opinion on this would be very important to us.

Mr. SAWHILL. Yes, sir.

[The information follows:]

## CANDIDATES FOR REDUCTIONS

The Department does not have additional candidates for budget reductions.

The following list of activities were proposed by the Department to OMB for budget reductions. Negotiations between OMB and DOE either added to other proposed activities or substituted activities and traded off those on this list.

## ENERGY AND WATER DEVELOPMENT APPROPRIATIONS

(\$ in Millions)

	FY 1981	
	<u>BA</u>	<u>BO</u>
<u>Energy Supply Research and Development</u>		
Magnetic Fusion	8.0	8.0
Barstow	10.0	36.5
Industrial Process Heat	5.0	5.0
Spent Fuel	2.0	2.0
Liquid Metal Fast Breeder	7.0	7.0
Commercial Waste	20.0	20.0
Converter Reactor	3.0	3.0
Advanced Nuclear Systems	8.0	8.0
General Purpose Facilities	<u>7.5</u>	<u>2.7</u>
Subtotal	70.5	97.2
<u>Atomic Energy Defense Activities</u>		
Inertial Confinement Fusion	50.0	44.0
Nuclear Materials	108.8	66.3
Weapons	257.6	165.1
Defense Waste	<u>8.0</u>	<u>7.0</u>
Subtotal	424.4	282.4
<u>OMB Addition</u>		
Inertial Confinement Fusion	<u>0.0</u>	<u>23.0</u>
Subtotal Including OMB Addition	424.4	305.4
<u>Departmental Administration</u>		
In-House Energy Management	9.0	10.0
International Affairs	<u>2.0</u>	<u>2.0</u>
Subtotal	11.0	12.0
<u>Federal Energy Regulatory Commission</u>	3.0	3.0

## POWER DEMAND CHARGES

Mr. BEVILL. How do you expect to resolve the question of demand charges for uranium enrichment power if the \$43 million requested for this is deleted? Do you plan to submit a supplemental request if negotiations to reduce this obligation are unsuccessful?

Mr. SAWHILL. Well, it is our feeling that we will be able to renegotiate on some of that \$43 million. Those are charges that we pay for the electricity we use for the uranium enrichment plants. We think that in renegotiating our contracts in part that we can get partial or total relief of \$43 million. There is some still in dispute with the TVA. We have not quite resolved that, that's \$20 million.

Mr. BEVILL. \$23 million, I believe.

Mr. SAWHILL. Yes. So for about half of it—we have commitments to reduce the charges. The other half we are still negotiating with the TVA and I think we are going to be able to resolve that satisfactorily.

Mr. BEVILL. In the event you are unable to resolve that—

Mr. SAWHILL. These demand charges?

Mr. BEVILL. The demand charges, do you plan to submit a supplemental request?

Mr. SAWHILL. No, I don't think we would submit a request for supplemental. We would have to find another program reduction.

## PORTSMOUTH GAS CENTRIFUGE PLANT

Mr. BEVILL. What is the overall impact on separative work availability if the Portsmouth Gas Centrifuge Plant is slipped a year?

Mr. SAWHILL. The one year slip will delay completion of the first 2.2 million separative work units of capacity until 1989, and the full 8.8 million SWU's capacity would become totally available in 1994. The delay takes the output of that plant and slips it a year, but I understand that you have heard testimony earlier on some of the difficulties in bringing some of the reactors online. Our analysis is that the nuclear program itself is not going to be delayed as a result of bringing this on a year later.

Mr. BEVILL. Would you furnish for the record a table of the estimates on these slippages?

Mr. SAWHILL. Yes, sir.

[The information follows:]

## ANNUAL PORTSMOUTH GAS CENTRIFUGE ENRICHMENT PLANT PRODUCTION

[Millions of SWU]

Fiscal year:	No delay schedule	One year delay
1988.....	0.9	—
1989.....	2.8	0.9
1990.....	4.0	2.8
1991.....	5.3	4.0
1992.....	6.8	5.3
1993.....	8.1	6.8
1994.....	8.8	8.1
1995.....	8.8	8.8
Total.....	45.5	36.7

Mr. BEVILL. Mr. Myers.

Mr. MYERS. Thank you, Mr. Chairman.

#### IMPACT OF DELAYS ON PROGRAM OBJECTIVES AND COSTS

Mr. Sawhill, a number of times in your statement you used such words as "delay" "stretch-out" and "slowdowns" and in one case at page 6 you say the stretch-out will cost ultimately more money.

Mr. SAWHILL. That's true.

Mr. MYERS. Has there been any judgment made as to whether it would be better to stretch these projects out, to take the delays, or whether it would be wiser to cut somewhere else, for example, in research, and go ahead with these? Have we made the right decision? I know we are all concerned about the budget.

Mr. SAWHILL. Yes.

Mr. MYERS. We have been for quite some time. In fact when President Carter was a candidate he said he would balance the budget by the end of his first term, and even as a Republican I said, "Gee, I'm going to try to help him." I'm just sorry it took him three years to remember that campaign pledge. If he had started three years ago we wouldn't be in the crash program we are in today. But are we wise to do it this way, can we do it without risk to our energy program that we need so bad?

Mr. SAWHILL. I think we presented a responsible budget the first time around. We thought it was a budget that we could defend. Now we are asked to reduce that budget and we have made these proposed reductions in areas where we thought reductions could be made without seriously hurting our energy programs.

I think most of the reductions we made are of that character, but I have to tell you honestly that if you delay a construction project, for example, in the Magnetic Fusion program, if we delayed by 5 to 6 months the Elmo Bumpy Torus project, it's ultimately going to end up costing more.

So I think we have made the right choices, yes, but by the same token it would be wrong for me not to tell you that there are some costs associated with it.

#### ELMO BUMPY TORUS

Mr. MYERS. You cited the Bumpy Torus project. About how much would the increase be for the delay?

Mr. SAWHILL. I am not sure. I can't give you an exact figure on that.

Mr. MYERS. Then there wasn't any real judgment used in these cuts, you had to make some cuts and you just—

Mr. SAWHILL. No, there was good judgment here.

Mr. MYERS. You ought to have a figure then for how much more it's going to cost.

Mr. SAWHILL. I can supply that.

Mr. MYERS. OK.

[The information follows:]

The increase in the project cost resulting from the proposed budget amendment is estimated to be \$3.0 to \$3.5 million.

Mr. MYERS. Thank you.

Mr. SAWHILL. I cite that as an example of a new project start-up that will come on line 6 months later than it would otherwise.

#### DECISION CRITERIA FOR PROPOSED REDUCTIONS

Mr. MYERS. How was the decision made as to which projects would be deferred, rescinded, or slowed down? Was the decision made in-house from your department?

Mr. SAWHILL. Yes. We sat down beginning over a weekend and met with our various assistant secretaries and got them to make proposals and then—

Mr. MYERS. Could you briefly relate how this happened and the timeframe it happened in? How did you decide?

Mr. SAWHILL. We were asked by the President to come up with suggested cuts, and—

Mr. MYERS. Were you given a dollar figure cut that you had to come up with?

Mr. SAWHILL. We were given a range that we should work in and we came up with proposed cuts based on the recommendations of our assistant secretaries.

Mr. MYERS. Over a weekend?

Mr. SAWHILL. No, over a weekend we started the process. And we reviewed it many times in subsequent weeks, because it is very difficult, once you have gone through a budget process—and we tried to do it in a very careful way—to go through and then re-do it and make the kind of cuts that we felt were necessary in view of the inflationary pressures that we are facing.

Mr. MYERS. We all share those sentiments, and I suppose we do more acutely because we have to go back home and face the people every once in a while, the ones that send us here. We have to be accountable for how the money is spent. But our country is running out of energy and the proposition we're facing now is that we may have to go to war over oil from the Persian Gulf. What concerns me is are we making the right priorities in the cuts? Should we make cuts here in order not to make cuts other places in the budget?

#### IMPACT OF PROPOSED CUTS

Mr. SAWHILL. I would say this, Mr. Myers, that I don't feel any of the cuts are going to seriously impair our energy production capability over the next 5 years. In other words, we tried not to cut those things which had immediate or near term payoff.

Mr. MYERS. But 5 years from now even if the President should be re-elected, there would be a new administration, and some of us will still be around here. Maybe Carter's only worried about the next 5 years, and obviously in a budget that's true. But some of us

are concerned about our children and grandchildren in this country, not just the political impact of the program over just the next 5 years.

Mr. SAWHILL. I think we are concerned about that, too, and that is why we presented you a balanced program that includes longer term research and development as well as short term actions to increase supplies of energy.

#### IMPACT OF PROPOSED URANIUM ENRICHMENT REDUCTIONS

Mr. MYERS. I share the concern that the Chairman had about the project at Portsmouth. The enrichment cuts at a time when we are depending on nuclear. Obviously we don't need a whole lot more now, but the NRC is slowly starting to license again, a process that was held up as you know. We won't need the large amounts of uranium in the near future. Construction being what it is you won't have a program to expand our nuclear ability very rapidly either.

So are we going to be ready if we need more nuclear power?

Mr. SAWHILL. Having worked in this area for some time, starting when I was in the Office of Management and Budget, I do not believe that the deferral of that project will hamper our nuclear program. I think we will have the supplies of enriched uranium we need to fully supply our reactors, and meet our international commitments.

Mr. MYERS. We are buying from Russia, aren't we, to meet our own requirements? We're buying enriched fuel from Russia?

Mr. SAWHILL. Not to my knowledge.

Mr. MYERS. Aren't we negotiating for that?

Mr. SAWHILL. Not to my knowledge.

Mr. MYERS. Well, a month or so ago the Washington Post carried an article that we were negotiating to buy fuel from Russia.

Mr. SAWHILL. It certainly isn't going on in the Department of Energy to my knowledge.

#### MAGNETIC FUSION PROGRAM

Mr. MYERS. Well, my last question concerns magnetic fusion. You are cutting \$7.5 million from that. Would that stretch that program out beyond the year 2000?

Mr. SAWHILL. I don't think it will delay the program. The principal change there is the 5 to 6 month slippage in the startup of the Elmo Bumpy Torus Project. The answer to your earlier question, Mr. Hewitt points out to me, is that that slippage will probably cost us an additional \$3 million to \$3.5 million. I met with our senior research people yesterday in preparation for this hearing and I asked them what I am sure is on your minds, and that is, are we doing something that will damage the fusion program? And they assured me that we are not.

Mr. MYERS. The \$3.5 million, what does that represent as the difference? What was it going to cost, and what is it going to cost now?

Mr. SAWHILL. I don't have the total cost of it but I can provide it.

Mr. MYERS. You can supply that for the record.

Mr. SAWHILL. Yes, sir.

[The information follows:]

*EBT proof-of-principle total estimated cost*

	<i>Millions</i>
Old TEC .....	\$75.0
Additional costs due to delay .....	3.0-3.5
Revised TEC .....	78.2

This represents about a 4-percent increase in total estimated cost.

SELECTION OF PROGRAMS FOR REDUCTION

Mr. MYERS. Again, are we being penny-wise and pound-foolish? I agree we need a balanced budget. But are there other areas involved in our total budget that we might be wiser in making the reductions in other areas? Is it going to further aggravate our ability to—or preclude our ability to—solve our own problems. I am not at all sure the right decisions have been made here.

I want to make some reductions, but it should be done right. Are we cutting the right places?

Mr. SAWHILL. I am glad you share our concerns and objectives for the energy program. There is no question about a coincidence of interest here.

Mr. MYERS. I am concerned that someone will make arbitrary cuts. You said you received a dollar figure to come in with.

Mr. SAWHILL. We tried not to be arbitrary, Mr. Myers.

Mr. MYERS. I know, but someone was making the decision, they gave you a dollar figure. Did someone ask, "Can you make the cuts?" Apparently they said, "Make cuts within a certain bracket." Am I wrong?

Mr. SAWHILL. We are strong advocates for our budget. We would like to have a bigger budget, frankly.

Mr. MYERS. Everyone would.

Mr. SAWHILL. As all of our assistant secretaries proposed larger budgets to us, of course, you know we are in a position where we are obviously—we would like new programs and new projects and we are concerned about the energy situation but we think that it is a responsible budget and that it will not impact our capabilities to move this country away from the position that it is in today which I think is very serious.

Mr. MYERS. I want to cut the budget but I am not sure these are the wise cuts.

Thank you, Mr. Chairman.

Mr. BEVILL. Mr. Chappell.

GASOLINE ALLOCATIONS TO NEW SERVICE STATIONS

Mr. CHAPPELL. Mr. Secretary, when Secretary Duncan was here we presented him a letter with a goodly number of signatures dealing with new allocations, allocations to new service stations. Is anything happening on that?

Mr. SAWHILL. We are looking at the question of the allocation of gasoline to service stations and we have not yet made a decision on whether or not to change our regulations.

Mr. CHAPPELL. Well, I sure hope you look at it because a lot of people are hurting from that situation. There is a lot of interest as you know in the Congress on that.

Mr. SAWHILL. Yes, sir.

Mr. CHAPPELL. It is a real problem.

Mr. SAWHILL. I know it is a problem.

Mr. CHAPPELL. The problem is where allocations are really being taken away from the incumbent service stations—if I can say it that way—and given to new stations, and it's working a real disservice and inequity.

Mr. SAWHILL. Yes.

Mr. CHAPPELL. Particularly when some seem to be getting more in their allocation than others.

So I hope you give that some good thought and act on that matter.

Mr. SAWHILL. We will give it a very high priority.

Mr. CHAPPELL. We are interested, the Chairman is interested too. Thank you.

Mr. SAWHILL. We have met with a group of service station owners and have discussed this.

Mr. BEVILL. The Chair recognizes Mr. Burgener.

Mr. BURGNER. Thank you, Mr. Chairman.

#### GAS COOLED BREEDER REACTOR

Mr. Secretary, and gentlemen, you have proposed here early termination of the Gas Cooled Breeder Reactor, a rescission of \$5.350 million in operating expenses, and \$2.650 in plant and capital equipment.

Mr. SAWHILL. Yes.

Mr. BURGNER. Could you tell us how much the Federal Government has invested in this program to date approximately?

Mr. SAWHILL. I don't have the figure. I am sorry. I will have to supply that to you. The project has been around for a long time because when I was in OMB in 1972 I remember seeing presentations on it.

Mr. BURGNER. My impression is that it is a large amount that we have invested in it.

Mr. SAWHILL. My impression is that it is a large amount of money, yes.

Mr. BURGNER. If you are going to terminate the project, do you have money to do it? I understand we don't just terminate things for free around here.

Mr. SAWHILL. No, we believe that we have funding sufficient to terminate that project.

Mr. BURGNER. How much have you provided for funding to terminate it?

Mr. SAWHILL. I will have to provide it to you although I did see some data on that here.

[The information follows:]

The Federal funding for this program has been \$106.4M and the private funding has been \$30.3M. Termination cost for this program is estimated to be approximately \$1.0M in fiscal year 1981. Termination will be initiated in fiscal year 1980 in order to achieve program closeout in early fiscal year 1981. Program participants

will prepare termination plans which will provide a better estimate of the total termination costs in fiscal year 1980 and fiscal year 1981.

Mr. BURGNER. Of course I don't agree with the decision to terminate it at all. There is a large consortium of utilities, plus the industry. They have a vested interest. The utilities have a slightly different view of things, but they have really banded together, thinking this technology has merit. It obviously uses less cooling water, and ultimately I am told could lead to a technology that would use no cooling water. Out West we have some desert sites that are pretty remote and yet they are not so far from population centers that transmission of power would be a problem at all. I sure disagree with this one, but I would like to know for the record, how much money you have in there.

Mr. SAWHILL. For termination?

Mr. BURGNER. To terminate. Will it be done in an orderly fashion if you prevail?

Mr. SAWHILL. Yes.

Terminating a project doesn't mean all that investment is lost. We have certainly learned a lot from the project so that it shouldn't be taken as a project that was not useful to either private industry or to the government.

Mr. BURGNER. Thank you, Mr. Chairman.

Mr. BEVILL. The Chair recognizes Mrs. Boggs.

Mrs. BOGGS. Thank you, Mr. Chairman.

#### PHOTOVOLTAIC PURCHASE PROGRAM

I am sorry I was late. What effect will reduced purchase of photovoltaics have on efforts to commercialize this solar electric system?

Mr. SAWHILL. I don't think that it will have a significant effect on that. Obviously we felt that that was one way to stimulate demand for photovoltaics but it is an attractive industry. There is a lot of development going on and there still will be significant purchases of photovoltaics so that I don't believe that it will significantly retard that program.

#### NASA INTERNATIONAL SOLAR POLAR LAUNCH

Mrs. BOGGS. You are proposing reduction in the fiscal year 1981 budget for the NASA International Solar Polar Spacecraft Launch. What is the impact of this reduction?

Mr. SAWHILL. It is my understanding that NASA has rescheduled the launch date of the Solar Polar Mission from fiscal year 1983 to fiscal year 1985. We believe that we can accommodate the later date with the redirected budget.

Mrs. BOGGS. What concerns me are the international arrangements we have and how they might be affected, particularly in the space program. It delays the impetus and drive that has been gathered by international agreements and participations and so on.

Mr. SAWHILL. I don't think this will impact any international agreements we have or seriously hamper our international relationships.

## OCEAN THERMAL ENERGY CONVERSION

Mrs. BOGGS. Earlier this year the Department had requested a supplemental funding of \$6 million for ocean thermal conversion research and development. What would the results be of failure to provide the requested funds? Might additional funds be available within existing funds to support some advanced research in the OTEC field?

Mr. SAWHILL. I think that program is important. You see this is really the only base load solar option that we have. It is a technology that we have demonstrated that works and we are trying to get a better understanding of the economics of it. It is a highly regional resource. It may I think be able to provide some supplies of energy to the Southeast, certainly it can be important for Hawaii and I really feel that that is the program which is well worth pursuing.

Mrs. BOGGS. Might additional funds be available from within the Department to cover that?

Mr. SAWHILL. Well, I think it would be hard, having made these cuts to find additional funds available for it but I think, given the funding we have, we can move forward with the program.

Mrs. BOGGS. Thank you, Mr. Sawhill.

Thank you, Mr. Chairman.

Mr. BEVILL. Thank you, Dr. Sawhill. Thank you for a very fine presentation, I do have some questions that I would submit and request you to answer for the record.

Mr. SAWHILL. We will do that.

## EXPENDITURE REDUCTIONS

Mr. Bevill. What flexibility do you have to manage departmental activities in such a way as to further reduce DOE expenditures?

Mr. Sawhill. Modest additional savings could be achieved by prohibiting payment of overtime to all government and contractor employees, delaying purchases of supplies and award of contracts for management services, reducing preventative maintenance and other similar actions. The adverse impact on the Department's effectiveness would be significant when compared to the relatively small amount of funding that would be saved. Funding for many of these activities would simply be delayed and not represent a real savings.

## GAS COOLED FAST REACTOR

Mr. Bevill. With the rescission of FY 1980 funds for the gas-cooled fast reactor program, how will that program be brought to an orderly close?

Dr. Sawhill. The recent rescission actions by the Department to support a balanced budget will effect an \$8,000,000 reduction of the available \$9,000,000 uncosted obligational authority left in this program. We had previously intended to use this budget authority to spend an estimated \$9,000,000 of budget outlays for closeout of the program in early FY 1981. However, with the rescission of \$8,000,000 of this budget authority, sufficient funds will no longer be available to the GCFR program to cover anticipated termination costs in FY 1981. By starting program closeout actions in July 1980, we expect, with the budget authority and outlays remaining, to be able to bring the program to an orderly conclusion early in FY 1981.

Specific actions to be taken in July 1980, include terminating the following activities: fast mixed spectrum reactor conceptual design at Brookhaven National Laboratory, gas reactor in-pile safety test loop design and reliability studies at Idaho National Engineering Laboratory, steel melting and relocation tests at Los Alamos Scientific Laboratory, helium loop cladding tests (after completion of present test) at Pacific Northwest Laboratory, direct electrical heating tests at Argonne National Laboratory, engineering evaluation studies by General Electric Company and the prestressed concrete reactor vessel model tests at the Oak Ridge National Laboratory.

The remaining tasks in the program would be rescheduled and reduced in scope to permit termination by the end of FY 1980. FY 1980 plant and capital equipment appropriations are affected as well as operating expense funds. All equipment procurements will be stopped, and projects 80-ES-14, Gas Reactor In-Pile Safety Test (GRIST-2), and 80-ES-15, Core Flow Test Loop (CFTL) would be impacted.

## NUCLEAR WASTE MANAGEMENT REDUCTIONS

Mr. Bevill. Given the priority funding accorded to nuclear waste management activities in the President's proposals for FY 1981, why are you proposing to reduce the program?

Mr. Sawhill. The areas which are identified for reduction, Remedial Actions in the Commercial Nuclear Waste Program and Interim Waste Operations and Long Term Technology in the Defense Nuclear Waste Program, are in portions of those programs which will not impact critical areas of waste management as identified by the President in his recent policy statement on radioactive waste management. In recognition of the nation's need to have a balanced Federal budget in FY 1981, we have proposed reductions in waste management activities which can be temporarily deferred at minimum risk.

## DEFENSE WASTE INTERIM OPERATIONS REDUCTIONS

Mr. Bevill. What additional safety risks result from the reduced request for interim defense waste?

Mr. Sawhill. With the reduction, safe handling and storage or disposal of DOE radioactive wastes will be continued. However, the reduction may impact our program goal to have all of the high-level waste transferred from old tanks to new tanks at Savannah River by 1988 and for the isolation and stabilization of old single-shell tanks at Hanford by 1985. Upgrade activities to assure safe conditions at Hanford in response to the Congressionally requested Facilities Upgrading Study will be initiated.

## DEFENSE WASTE MANAGEMENT REDUCTIONS

Mr. Beville. What's the specific impact of the reductions in the defense waste management request for FY 1981? What specific programs will be reduced and at which locations?

Mr. Sawhill. The reductions in Defense Waste Management will affect the Interim Operations and Long Term Waste Management Programs. The Interim Operations reductions will potentially stretch our schedules for transferring high-level waste from old tanks to new tanks at Savannah River and Hanford and will defer some improvements to the waste management system. The reduced funding will still allow necessary efforts to continue for safe handling and storage or disposal of DOE radioactive wastes pending implementation of the long-term waste management program. The \$10M reduction in operating funds for FY 1981 in Interim Operations is allocated as follows:

Hanford	\$ 2.0
Idaho	1.0
Oak Ridge	1.0
Savannah River	5.0
Hanford/Landlord	1.0
	<u>\$10.0</u>

The reductions in the Long-Term Waste Management program of \$3M will delay some reference technology efforts for the long-term management of defense high-level wastes. However, the emphasis on alternative waste form development will not be impacted. The lead field office for this work is the Savannah River Operations Office.

## SERI FACILITY RESCISSION

Mr. Bevill. What is the impact of the FY 1980 rescission on the SERI facility design effort.

Mr. Sawhill. The rescission of \$3,500,000 in FY 1980 will constrain FY 1980 activities on the SERI Facility to include only the completion of Title I (Preliminary Design) and initiation of limited Title II (Definitive Design) activities.

## SOLAR ENERGY RESEARCH INSTITUTE RESCISSION

Mr. Bevill. Why is the Department proposing to rescind \$3,500,000 for design activities for the Solar Energy Research Institute laboratory but continuing to request over \$60,000,000 for new general purpose facilities at other locations?

Dr. Sawhill. In the case of SERI, the permanent building is a logical outgrowth of the development of solar technology programs. The decision to delay completion of Title II, definitive design for the SERI facility reflects the Department's judgment that SERI will be able to continue to operate in the modern leased facility which it currently occupies with a minimum of program impact.

The \$60 million request for general purpose facilities is the first step of a multiyear effort to redress the severe facility deficiencies at the multiprogram national labs. These labs have accumulated an enormous backlog of deficiencies over the years due to the perennial competition for funding between individual program objectives and institutional needs required to support all the programs at a given lab. These deficiencies include overcrowded, temporary and deteriorated-through-age office and lab space; utility systems which are well beyond their economic service lives; and inadequate fire safety and protection conditions.

Sustaining the \$60 million request in the face of the FY 1981 Federal budget reductions reflects the seriousness of the Department's commitment to correct the existing deficiencies at the multiprogram labs.

## MULTIPROGRAM GENERAL PURPOSE FACILITIES

Mr. Bevill. Why is it more important to have a new Energy System Research laboratory at Oak Ridge, a new Energy Science laboratory at Brookhaven, a new Environmental and Energy Technology laboratory at Richland than a Solar Research laboratory?

Dr. Sawhill. The lab construction projects at Oak Ridge, Brookhaven and Richland are included in the \$60 million request for multiprogram general purpose facilities funding in FY 1981. They are essential components of the Department's multiyear program to alleviate substandard conditions and upgrade the general purpose physical plant at the multiprogram labs. These three projects are intended to overcome existing overcrowded working conditions and replace space now occupied in old and deteriorated buildings, many of which are temporary dating from World War II.

The reduction in funding for the SERI permanent facility will delay completion at least one year. SERI will be able to continue to operate in the modern leased facility with minimal impact on the conduct of DOE's total Solar Technology program objectives.

## ADVANCED ISOTOPE SEPARATION TECHNOLOGY

Mr. Bevill. Why are you proposing to rescind 1 million dollars for AIST in FY 1980 and increase the program by 50 percent in FY 1981?

Dr. Sawhill. The 50 percent increase in the FY 1981 program is directed toward the mainline effort of developing an improved uranium enrichment process. In addition to the mainline effort, other elements of the AIS program address proliferation implications of emerging enrichment processes and the possible application of enrichment technologies to a broad spectrum of energy problems. The budget rescission in FY 1980 will be absorbed by reducing the activities in the studies related to alternate applications and will not affect the mainline efforts in FY 1980 and FY 1981.

## SOLAR ENERGY DEVELOPMENT BUDGET REDUCTION

Mr. Bevill. Explain briefly how the \$20.0 million reduction in solar energy development will affect your solar programs and reaching the President's goals for solar energy.

Dr. Sawhill. The \$20 million reduction in our solar development request will affect the pacing of projects contained in the Solar Applications request but will not significantly affect the President's goal. This will mean a \$15 million reduction in the Market Test and Applications line for photovoltaics in which we are reducing the request level for the Federal Photovoltaic Utilization Program by \$5 million and the multi-year purchase program by \$10 million. Total funds in the amended request for photovoltaics in this line item are \$20.2 million.

In the Systems Development line, we are reducing our activities on certain projects by a total of \$5 million. In active systems, we are slowing the pace of laboratory testing of dessicant and rankine cooling systems by a total of \$1.5 million. Our original request for these activities was \$3.3 million; the amended request is \$1.8 million. In passive systems we are slightly reducing the number of marketable designs and prototype buildings that will be initiated. The funding originally requested was \$3 million; the amended request of \$2 million will support 8 to 14 projects. Also our amended request reduces the level of basic physical studies from \$1.5 million to \$1.0 million. The amended request of \$2 million will reduce support to one point-focusing industrial heat project, but will permit continued development of the more advanced line-focusing techniques.

Mr. Bevill. With the new tax credits and other incentives, why isn't it possible to make further reductions in the federal solar program?

Dr. Sawhill. The new tax credits will certainly increase the attractiveness of solar options to particular users; however, their enactment does not lessen the need to provide information about solar to potential users, resolve institutional barriers and develop cost-effective technology, all of which we are trying to do in the federal solar program. We believe that further budget reductions will begin to seriously lessen the chances of meeting the President's goal.

## MAGNETIC FUSION REDUCTION

Mr. Bevill. What is the impact of the reduction in the fusion program on the EBT proof-of-principle program?

Mr. Sawhill. The President's amended budget provides for a reduction of \$2.5 million in construction funds. In addition, there is a reduction of \$0.8 million in operating funds and \$0.2 million capital equipment funds for R&D activities in support of the construction program. This will result in the project's scheduled completion date slipping by five months and a slight increase in the TEC. The project will still be able to do a significant amount of engineering and to make long-lead procurements of critical path items such as cryogenics and superconductors for magnets.

Mr. Bevill. How does the delay in this project affect your overall program goals?

Mr. Sawhill. The objectives for the fusion program of demonstrating scientific feasibility, establishing a sound engineering base supporting an engineering test facility decision, maintenance of a strong scientific base, and encouragement of research in alternative concepts will not be altered by the proposed budget amendment.

Mr. Bevill. What are the increased costs due to delay as a percent of the total project cost?

Mr. Sawhill. The increase in the project cost resulting from the proposed budget amendment is estimated to be \$3.0-\$3.5 million. Based on an estimated total construction cost of \$75.0 million, this represents about a 4% increase.

## REDUCTIONS TO ENVIRONMENTAL PROGRAMS

Mr. Bevill. Why have you proposed a larger relative reduction in environmental programs than in other areas?

Dr. Sawhill. We believe we have exercised our best judgment in our effort to determine how the President's FY 1981 amendment should be allocated to the various DOE programs. The larger relative reduction in the environmental programs does not reflect a lessened commitment by the Department to environmental protection goals. The Department and the Administration have made some very difficult decisions in preparing the budget amendment before you. In many cases, we could not reduce programs which we believe may make near term contributions to the energy supply problem we face. To ensure that such potential near term pay off was not compromised, we reduced those environmental programs which involve technologies that are expected to have the least environmental impact. Despite this reduction, the Department continues to strongly support environmental, safety and health objectives of all DOE programs.

## PRIORITY ENVIRONMENTAL PROGRAMS

Mr. Revill. At the revised requested level for environment, can you still meet your priority needs in such areas as CO2 investigations and fossil energy effects.

Dr. Sawhill. Yes, I believe we can. In constructing the amended budget request we reduced other program areas so we could protect the CO2 and fossil efforts as much as possible.

The FY 1981 amended request for the CO2 and Climate Research program represents more than a 50% increase in funding from the FY 1980 budget estimate. I believe this program can be pursued adequately at the requested level.

In the fossil energy area, while efforts related to oil and gas will be deferred, the amended request will allow us to continue the high priority we have placed on research needed to determine the health and environmental effects associated with increased production and use of synthetic fuels produced from coal and oil shale.

## BASIC ENERGY AND GENERAL SCIENCES REDUCTIONS

Mr. Bevill. Even at the revised requested levels, you are proposing large increases in basic energy sciences and general science programs. Couldn't these be scaled back 3 to 5 percent without seriously impacting DOE programs?

Dr. Sawhill. The FY 1981 Budget Amendment recently transmitted by the President to Congress has already reduced the President's original FY 1981 request for Basic Energy Sciences by more than three percent. The reduction included in the Amendment for the General Sciences and Research category was slightly less than two percent. These reductions were made after careful analysis of the Department's total budget request and in view of the need to balance the Federal budget in order to reduce the unacceptably high rate of inflation in the country at this time. The revised budget requests for these programs would provide for productive research programs which would permit them to make satisfactory progress toward their programmatic goals. Any further reductions below these levels would cause severe programmatic impacts. More specifically, the High Energy Physics and Nuclear Physics programs have very high fixed costs associated with operation of the DOE accelerator centers in the United States. Further reductions in these programs would cause further weakening of the Nation's existing very competitive position in these prestigious programs, very insufficient operating levels at existing accelerators, and much less than satisfactory progress on the newer capabilities that are required to exploit the recent major strides which have been made in our understanding of the nature of matter and energy. Further reductions to Basic Energy Sciences would result in the Department's inability to fulfill its commitments to operate and equip the unique new research facilities which will soon be available for basic, energy-related research (in particular, the Combustion Research Facility at Sandia-Livermore and the National Synchrotron Light Source at Brookhaven National Laboratory).

A reduction in Basic Energy Sciences would also represent a major setback in the Department's attempt to increase the share of its energy-related budget going to basic research. Increased funding in Basic Energy Sciences is vital to ensure the provision of fundamental scientific information necessary for the development of the various energy technologies.

Further reductions in either of these categories would yield losses of scientific accomplishments as well as scientific and technical manpower and would require major restructuring of these programs.

At a time when more and more economists, educators and others are becoming increasingly aware of the importance of basic research to increases in the Nation's productivity levels, further reductions in these programs would clearly be ineffective and, in fact, counter-productive to attempts to control inflation.

## EMPLOYMENT OF WOMEN

Mrs. Boggs. Mr. Sawhill, earlier this year Mr. Hewitt reported to this subcommittee that he did not believe the current hiring freeze and budgetary reductions would have an adverse impact on efforts by the Administration to hire and advance women within your Department. As Chairman of the Department's Executive Personnel Board do you agree with Mr. Hewitt's assessment?

Mr. Sawhill. Yes, I am in agreement with Mr. Hewitt. We will continue to assure that women are considered for SES positions and for SES development. We will continue to monitor the Department's employment profile to ascertain our rate of progress and to determine any adverse impact of the freeze.

THURSDAY, APRIL 17, 1980.

## FISCAL YEAR 1981 BUDGET REVISIONS

## CORPS OF ENGINEERS

## WITNESSES

MICHAEL BLUMENFIELD, ASSISTANT SECRETARY OF THE ARMY  
(CIVIL WORKS)  
E. R. HEIBERG III, MAJ. GEN., DIRECTOR OF CIVIL WORKS  
LEWIS H. BLAKEY, CHIEF, OFFICE OF POLICY, CIVIL WORKS  
GEORGE BRAZIER, CHIEF, CONSTRUCTION-OPERATIONS DIVISION,  
CIVIL WORKS  
LLOYD A. DUSCHA, CHIEF, ENGINEERING DIVISION, CIVIL WORKS  
DAN SHANAHAN, ASSISTANT CHIEF, PLANNING DIVISION, CIVIL  
WORKS  
HENRY S. POINTON, JR., ACTING CHIEF, PROGRAMS DIVISION, CIVIL  
WORKS  
EDWARD O'NEILL, ACTING DEPUTY CHIEF, PROGRAMS DIVISION,  
CIVIL WORKS  
MAXIMILIAN IMHOFF, COL., COMMANDER AND DIRECTOR, WATER RE-  
SOURCE SUPPORT CENTER  
RAYBURN L. WILLIAMSON, COL., CHIEF, RESOURCES MANAGEMENT  
OFFICE

## PRESIDENT'S FISCAL YEAR 1981 AMENDED BUDGET

Mr. BEVILL. We will now hear testimony regarding the budget reduction for 1981 proposed by the Administration.

The President has proposed reductions in his original 1981 budget request of \$165 million for the Corps of Engineers. I will place in the record at this point a table showing a breakdown of the reductions:

[The information follows:]

General investigations.....	\$13,945,000
Construction, general.....	53,955,000
Operation and maintenance, general.....	72,350,000
Flood control, Mississippi River and tributaries.....	5,450,000
General expenses.....	1,500,000
Revolving fund.....	17,800,000
Total.....	165,000,000

Mr. BEVILL. The total budget request for all Corps activities for 1981 was originally \$3,037,914,000. That amount as we viewed it was about \$200 million short of keeping your programs on a decent schedule. With the additional reduction of \$165 million, you are about \$365 million short, not taking into account any fuel increases or general inflation increases.

This subcommittee supports balancing the budget. We know that everyone must work toward that objective and everyone must share in the cuts if it is a reasonable approach.

Each year since I have been Chairman, this subcommittee has been under the President's budget in total, for those items under our jurisdiction. However, we must be careful to insure that the additions to and cuts from the President's requests are in the best interest of our Nation.

We need to know if the Corps can get by with the revised budget submitted by the President, or if the revised program will have a devastating impact on your activities.

In the final analysis, it is this committee that must make the decisions as to what agencies will get cut and which agencies will get additional funds based on national needs.

Mr. Secretary, the Chair will recognize you at this time for your statement.

STATEMENT OF MICHAEL BLUMENFELD, ASSISTANT SECRETARY OF THE  
ARMY (CIVIL WORKS)

Mr. BLUMENFELD. I appreciate today this opportunity to present and explain the President's amendments to the fiscal year 1981 budget for the Civil Works Program of the Army Corps of Engineers.

As President Carter announced in his March 31 amended budget message, the overriding need to reduce inflationary pressures requires reductions in planned Federal outlays to achieve a balanced budget in fiscal year 1981. The Civil Works Program's share of these reductions totals \$165 million, or about 5.4 percent of the original fiscal year 1981 budget request.

The \$165 million reduction was achieved by reducing, or deleting, activities which we believe should be done when the Nation's economy improves.

Specifically, we are deleting 42 survey and Phase I studies, two studies of authorized projects, and five advance engineering and design projects.

Except for one new hydropower survey, all new survey starts have been deleted. We are also delaying construction activities on 60 continuing construction projects, which will result in delays from scheduled completion dates for 41 of these projects, with the delays averaging about 5 months. The committee should be aware that the \$42 million reduction in budget authority for continuing construction, representing \$35 million in outlays, is focused on lower priority work items on the various affected projects.

Further, we are delaying maintenance activities on 158 completed projects. Once again, we have attempted to impact only the lower priority structural maintenance, dredging and miscellaneous maintenance work in the 1981 budget program. Further details on the reductions are reflected in the material we have provided to the committee. Mr. Chairman, we are ready to answer questions.

Mr. BEVILL. We will place the tabulations of the President's amended fiscal year 1981 budget in the record at this point.

[The information follows:]

PRESIDENT'S AMENDMENT OF THE FISCAL YEAR 1981 BUDGET  
 CORPUS OF ENGINEERS, CIVIL WORKS  
 APPROPRIATION TITLE: GENERAL INVESTIGATIONS

The original FY 1981 Budget Request of \$141,463,000 for General Investigations is amended to \$127,518,000, a reduction of \$13,945,000.

Item	Amounts in thousands of dollars		
	FY 1981 Original Budget	FY 1981 Budget Amendment	Revised FY 1981 Budget Request
1. <u>Surveys</u>			
a. Navigation, Flood Damage Protection, and Shoreline Protection Surveys	50,941	-7,553	43,313
c. Special Studies	9,980	-253	9,727
d. Review of Authorized Projects	3,349	-1,310	2,039
(1) Restudy of Deferred Projects	(437)	(-60)	(377)
(2) Review of Completed Projects	(1,812)	(-158)	(1,654)
(3) Review for Deauthorization	(100)	(-92)	(8)
(4) Review of Marginal DEM Projects	(500)	(-500)	(0)
(5) Review of Local Protection Projects	(500)	(-500)	(0)
e. Coordination Studies with Other Agencies and Non-Federal Interests	6,545	-2,165	4,380
f. Phase I, Advance Engineering and Design	9,905	-1,300	8,680
		<u>Subtotal: -12,581</u>	
2. <u>Collection and Study of Basic Data</u>			
a. Flood Plain Management Services	9,250	-1,035	8,215
c. Other Programs			
(1) Stream Gaging (U.S. Geological Survey)	589	-54	535
(2) Precipitation Studies (Nat'l Weather Serv)	318	-42	276
(4) Hydrologic Studies	350	-43	307
(5) Scientific & Technical Information Centers	318	-90	228
(7) Transportation Systems	400	-100	300
		<u>Subtotal: -1,364</u>	

## BREAKDOWN OF SELECTED ITEMS - GENERAL INVESTIGATIONS

Item	Amounts in thousands of dollars		
	FY 1981 Original Budget	FY 1981 Budget Amendment	Revised FY 1981 Budget Request
1. Surveys			
a. Navigation, Flood Damage Protection, and Shoreline Protection Surveys			
Bayou La Batre, AL (NAV) (N)	55	-55	0
Rivers & Harbors in Alaska, AK (FDP) (N)	370	-370	0
Clarksville, AR (FDP) (N)	100	-100	0
Poteau River, AR & OK (FDP) (C)	200	-200	0
Russellville-Morrilton, AR (FDP) (N)	150	-150	0
St. Francis River Navigation, AR (NAV) (C)	150	-150	0
Morro Bay Harbor, CA (NAV) (C)	75	-75	0
Northern California Streams, CA (FDP) (C)	175	-175	0
Sacramento River & Tributaries (Bank Protection & Erosion Control), CA (FDP) (C)	500	-500	0
Washington, D. C. & Vicinity, D.C. (FDP) (N)	260	-260	0
Golden Gates Estates, FL (FDP) (C)	157	-157	0
Gulf Coast Passes, IWW, Caloosahatchee River to Anclote River, FL (NAV) (C)	250	-250	0
Sarasota County, FL (SP) (C)	100	-100	0
South Metropolitan Atlanta Area, GA (FDP) (N)	175	-175	0
Rock River above Rockton, IL & MI (FDP) (C)	125	-125	0
Grand (Neosho) River, KS & OK (FDP) (C)	250	-250	0
Stranger Creek Basin, KS (FDP) (C)	200	-200	0
Lower Cumberland & Tennessee Rivers below Barkley Canal, KY & TN (NAV) (C)	150	-50	100
Salyersville, KY (FDP) (N)	100	-100	0
Monhegan Harbor, ME (NAV) (N)	40	-40	0
Commonwealth of the Northern Marianas, CM (NAV) (N)	150	-150	0
Monongahela-Youghiogheny River Basin, MD, PA, & WV (FDP) (C)	500	-50	450
East Bout River, Sandwich, MA (NAV) (C)	100	-100	0
Saginaw River, MI (FDP) (C)	295	-295	0
St. Joseph Harbor, MI (Commercial Navigation) (NAV) (N)	80	-80	0

## BREAKDOWN OF SELECTED ITEMS - GENERAL INVESTIGATIONS

Item	Amounts in thousands of dollars		
	FY 1981 Original Budget	FY 1981 Budget Amendment	Revised FY 1981 Budget Request
1. <u>Surveys</u>			
a. <u>Navigation, Flood Damage Prevention, and Shoreline Protection Surveys (Cont'd)</u>			
Sturgeon River & Tributaries, MI (FDP) (C)	145	-145	0
Duluth-Superior Harbor, MN & WI (NAV) (C)	185	-185	0
Minnesota River Valley, MN (FDP) (C)	860	-860	0
Reservoirs at Headwaters of Mississippi River, MN (NAV) (C)	100	-100	0
Upper Allegheny River Basin, NY & PA (FDP) (C)	100	-25	75
West Onslow Beach & New River Inlet, NC (SF) (C)	95	-95	0
Red River & Tributaries above Denison Dam, OK, TX, & NM (FDP) (C)	100	-100	0
Eastern South Dakota & Upper Big Sioux River, SD & IA (FDP) (C)	456	-456	0
Western Dakotas Region of South Dakota, SD (FDP) (C)	480	-480	0
Little Cypress Creek, TX (FDP) (C)	200	-200	0
San Jacinto River & Tributaries, TX (FDP) (C)	150	-150	0
Kanawha River Navigation Study, WV (NAV)(N)	600	-600	0
Subtotals: (1) Continuing Studies Deleted(2)5,348		-5,348	0
(2) Continuing Studies Delayed(3)	750	-125	625
(3) New Starts Deleted(11)	2,080	-2,080	0
c. <u>Special Studies</u>			
Chesapeake Bay Study, MD & VA	2,750	-253	2,497
d. <u>Review of Authorized Projects</u>	3,349	-1,310	2,039
(1) <u>Restudy of Deferred Projects</u>			
Christiansted Harbor, VI	60	-60	0

## BREAKDOWN OF SELECTED ITEMS - GENERAL INVESTIGATIONS

Item	Amounts in thousands of dollars		
	FY 1981 Original Budget	FY 1981 Budget Amendment	Revised FY 1981 Budget Request

d. Review of Authorized Projects (Cont'd)(2) Review of Completed Projects

Heyburn Lake, OK	150	-150	0
Millwood Lake, AR	250	-8	242
		<u>-158</u>	
	100	-92	8

(3) Review for Deauthorizatione. Coordination Studies with Other Agencies, States, and Non-Federal Interests

(1) Soil Conservation Service	175	-60	115
(2) Water and Power Resources Service	225	-70	155
(3) Basin Commissions and Committees	805	-420	385
(4) Cooperation with State of New York	450	-150	300
(5) Cooperation with Commonwealth of Puerto Rico	550	-240	310
(6) Cooperation with States	3,390	-1,020	2,370
(7) National Wild and Scenic Rivers	60	-10	50
(8) Technical and Engineering Assistance on Shore and Streambank Erosion	240	-90	150
(10) Technical Assistance on Area-wide Waste Treatment Management	320	-105	215
		<u>-2,165</u>	

f. Phase I. Advance Engineering and Design

Morrison Creek Stream Group, CA (FDP) (C)	500	-500	0
Camp Ground Lake, KY (FDP) (C)	300	-50	250
Pembina River, ND (FDP) (C)	475	-475	0
La Crosse, WI (FDP) (N)	275	-275	0
		<u>-1,300</u>	

## Type of Study: FDP = Flood Damage Protection

NAV = Navigation

SP = Shore Protection

C = Continuing

N = New Start



BREAKDOWN OF SELECTED ITEMS - CONSTRUCTION, GENERAL

Item	Amounts in thousands of dollars		
	FY 1981 Original Budget	FY 1981 Budget Amendment	Revised FY 1981 Budget Request
1. Advance Engineering and Design Projects			
Hartwell Drainage & Levee District, IL (FC)	275	-275	0
Louisville Lake, IL (FC)	500	-500	0
Big Blue Lake, IN (FC)	300	-300	0
Lake Texoma (Perimeter Access Roads), OK & TX (MP)	150	-150	0
Yakima River at Ellensburg, WA (FC)	230	-230	0
		Subtotal: -1,455	

Type of Project: FC = Flood Control

MP = Multiple Purpose, Including Power

REDUCTIONS TO PENDING 1981 REQUESTS  
 --US ARMY CORPS OF ENGINEERS

PROJECT	1981 BUDGET REQ. PENDING	1981 PROPOSED AMENDMENT	1981 REVISED REQUEST	MONTHS OF DELAY
JONES BLUFF LOCK & DAM, AL.....	2060	-1009	1051	12
TENNESSEE-TOMBIGEE WATERWAY, AL & MS...	209000	-930	208070	0
MIEMA RIVER LAKES, AK.....	25350	-4800	20550	12
MCLELLAN-NERR ARKANSAS RIV NAV SYSTEM, LOCKS & DAMS, AR & OK.....	10400	-100	10500	1
JUACHITA & BLACK RIVERS, AR & LA (1960 ACT).....	18800	-340	18460	2
JUGAONGA CREEK, CA.....	19479	-300	19179	0
JAY CREEK (WASH SPRINGS) LAKE & CHANNEL, CA.....	32980	-4590	28390	0
WALNUT CREEK, CA.....	5150	-105	5045	0
BEAR CREEK LAKE, CO.....	760	-200	560	3
HATFIELD LAKE, CO.....	2200	-287	1913	0
CENTRAL & SOUTHERN FLORIDA, FL.....	10570	-30	10540	0
EAST ST. LOUIS & VICINITY, IL.....	2900	-500	2400	3
DIARANTA ISLAND DRAINAGE & LEVEE DISTRICT, IL.....	4000	-500	3500	3
CASHAUBA RIVER NAVIGATION, IL.....	6000	-500	5500	3
MISSOURI RIVER LEVEE SYSTEM, IA, NE, KS, & MO.....	7500	-171	7329	0
MISSOURI RIVER, SIOUX CITY TO MOUTH, IA, KS, MO & NE.....	615	-200	415	12
CLINTON LAKE, KS.....	1100	-112	988	0
EL DORADO LAKE, KS.....	5812	-900	4912	7
HILLSDALE LAKE, KS.....	7170	-200	6970	0
BIG SOUTH FORK NATIONAL RIVER & RECREATION AREA, KY & TN.....	22500	-1100	21400	0

REDUCTIONS TO PENDING 1981 REQUESTS  
 US ARMY CORPS OF ENGINEERS

PROJECT	1981 BUDGET REQ. PENDING	1981 PROPOSED AMENDMENT	1981 REVISED REQUEST	MONTHS OF DELAY
CAVE RUN LAKE, KY.....	7600	-3505	4095	12
CHERRY LAKE, KY.....	5200	-234	4966	12
PAITTSVILLE LAKE, KY.....	3650	-750	2900	12
TAYLORSVILLE LAKE, KY.....	31420	-2000	29420	12
LARGSE TO GOLDEN MEADOW, LA (HURRICANE * PROTECTION).....	6815	-600	6215	3
MISS. RIVER BATON ROUGE-GULF MEXICO-SM * PASS & BAR, LA.....	1800	-420	1380	2
NEW ORLEANS TO VENICE, LA (HURRICANE * PROTECTION).....	3300	-1050	2250	3
VERMILION LOCK, LA (REPLACEMENT).....	4100	-300	3800	2
BLOOMINGTON LAKE, MD & WV.....	19745	-125	19620	0
CHARLES RIVER NATURAL VALLEY STORAGE *** AREAS, PA.....	1810	-300	1510	3
BIG STONE LAKE - WHETSTONE RIVER, MN & * SD.....	1070	-500	570	4
YAZOO RIVER, BELZONI BRIDGE, MS ..... (ADVANCE PARTICIPATION).....	1000	-340	660	2
HARRY S. TRUMAN DAM & RESERVOIR, MO.....	17420	-750	16670	6
SMITHVILLE LAKE, MO.....	6035	-255	5780	0
LIEBRY DAM, LAKE KOCCANUSA, MT.....	3143	-50	3093	0
HANTED (SHALLOWBAG) BAY, NC.....	15900	-4000	11900	0
ALUM CREEK LAKE, OH.....	1820	-500	1320	6
CUYANOGA RIVER BASIN, OH.....	4400	-1500	2900	6
EAST FORK LAKE, OH.....	1879	-450	1429	6
CANDY LAKE, OK.....	4100	-700	3400	3

REDUCTIONS TO PENDING 1981 REQUESTS  
US ARMY CORPS OF ENGINEERS

PROJECT	1981 BUDGET REQ. PENDING AMENDMENT	1981 PROPOSED REVISION REQUEST	MONTHS OF DELAY
CLAYTON LAKE, OK.....	7825	-100	7725 1
WILLAMETTE RIVER BASIN BANK PROTECTION, OR.....	1900	-485	1435 0
WILLOW CREEK LAKE, OR.....	7700	-109	7591 0
TIUGA - HAMMOND LAKES, PA.....	1480	-325	1155 12
AQUILLA LAKE, TX.....	10125	-500	9675 3
EL PASO, TX.....	3250	-950	2300 2
LAKEVIEW LAKE, TX.....	32500	-950	31550 2
SAN GABRIEL RIVER, TX.....	2607	-700	1907 2
CHIEF JOSEPH DAM ADDITIONAL UNITS, WA...	6150	-1892	4258 0
ICE HARBOR ADDITIONAL UNITS, WA.....	848	-190	678 9
LITTLE GOOSE ADDITIONAL UNITS, WA.....	2000	-99	1901 0
LOWER GRANITE LOCK & DAM, WA.....	1145	-150	995 12
STONEWALL JACKSON LAKE, WV.....	16000	-115	15885 0
TOTALS	640803	-41598	599205 200
Reduction to Savings and Slippages		+ 3298	
Net BA Reduction		38,300	
Net SO Reduction		31,300	

REDUCTIONS TO RECREATION FACILITIES AT  
COMPLETED PROJECTS FY 1981 BUDGET REQUEST

STATE AND PROJECT	BUDGET REQUEST FY 1981	REDUCTION	REVISED REQUEST FY 1981
Alabama			
Black Warrior & Tombigbee L&D	100,000(s)	0	100,000(s)
Millers Ferry L&D-William "Bill" Dannelly Reservoir	160,000(s)	0	160,000(s)
Arkansas			
Beaver Lake	70,000(s)	70,000	0
Bull Shoals Lake, AR & MO	47,000(s)	47,000	0
Dardanelle L&D	16,000(s)	16,000	0
Greers Ferry Lake	101,000(s)	101,000	0
Lake Greason	425,000(s)	0	425,000(s)
Hillwood Lake	112,000(s)	112,000	0
Norfolk Lake, AR & MO	74,000(s)	74,000	0
Blakely Mt. Dam-Lake Ouachita	196,000(s)	0	196,000(s)
Ozark-Jeta Taylor L&D	23,000(s)	23,000	0
Murray Lock & Dam 7	552,000(c)	0	552,000(c)
California			
Prado Dam	72,000(c)	0	72,000(c)
LA River-Rio Hondo	550,000(c)	0	550,000(c)
Santa Fe Dam	1,180,000(c)	0	1,180,000(c)
Georgia			
Allatoona Lake	550,000(s)	0	550,000(s)
Clark Hill Lake, GA & SC	416,000(s)	0	416,000(s)
Hartwell Lake, GA & SC	1,442,000(c/s)	0	1,442,000(c/s)
Jim Woodruff L&D - Lake Seminole, GA & AL	102,000(s)	0	102,000(s)
Lake Sidney Lanier	1,015,000(s)	0	1,015,000(s)
W.F. George L&D, GA & AL	230,000(s)	0	230,000(s)

REDUCTIONS TO RECREATION FACILITIES AT  
COMPLETED PROJECTS FY 1981 BUDGET REQUEST

STATE AND PROJECT	BUDGET REQUEST FY 1981	REDUCTION	REVISED REQUEST FY 1981
<u>Iowa</u>			
Coraville Lake	544,000(s)	0	544,000(s)
Miss. R. Pool #13, IA & IL	180,000(s)	0	180,000(s)
Miss. R. Pool #16, IA & IL	165,000(s)	165,000	0
Rathbun Lake	635,000(s)	635,000	0
<u>Kansas</u>			
Council Grove	139,000(s)	139,000	0
Fall River Lake	28,000(s)	28,000	0
Marion Lake	16,000(s)	16,000	0
Pomona Lake	29,000(s)	29,000	0
Tuttle Creek Lake	247,000(s)	247,000	0
Wilson Lake	376,000(s)	376,000	0
<u>Kentucky</u>			
Barren River Lake	45,000(s)	45,000	0
Grayson Lake	313,000(c)	0	313,000(c)
Rough River Lake	838,000(s)	838,000	0
Wolf Creek Dam - Lake Cumberland	123,000(c)	0	123,000(c)
<u>Massachusetts</u>			
Cape Cod Canal	75,000(c)	0	75,000(c)
<u>Minnesota</u>			
Lac Qui Parle Reservoir	35,000(s)	0	35,000(s)
Miss. R. Pool #2, MN & WI	621,000(c)	0	621,000(c)
<u>Mississippi</u>			
Okatibbee Lake	100,000(s)	0	100,000(s)
<u>Missouri</u>			
Wappapehlo Lake	215,000(s)	0	215,000(s)

REDUCTIONS TO RECREATION FACILITIES AT  
COMPLETED PROJECTS FY 1981 BUDGET REQUEST

STATE AND PROJECT	BUDGET REQUEST FY 1981	REDUCTION	REVISED REQUEST FY 1981
Montana Fort Peck Lake	64,000(s)	64,000	0
North Carolina W. Kerr Scott Lake	110,000(s)	0	110,000(s)
North Dakota Baldhill Dam-Lake Ashtabula Garrison Dam-Lake Sakakawea	35,000(s) 76,000(s)	35,000 76,000	0 0
Ohio Berlin Lake Michael J. Kirwan Lake Mosquito Creek Lake	150,000(s) 300,000(s) 20,000(s)	150,000 0 20,000	0 300,000(s) 0
Oklahoma Canton Lake Denison Dam-Lake Texoma, OK & TX Eufaula Lake Fort Gibson Lake Heyburn Lake Hulah Lake, OK & KS Hugo Lake Kaw Lake Keystone Lake Oologah Lake Robert S. Kerr L&D and Reservoir Tenkiller Ferry Lake	22,000(s) 454,000(s) 146,000(s) 110,000(s) 3,000(s) 12,000(s) 30,000(s) 43,000(s) 176,000(s) 11,000(s) 195,000(s) 208,000(s)	16,000 404,000 146,000 110,000 3,000 12,000 0 43,000 176,000 11,000 195,000 196,000	6,000(s) 50,000(s) 0 0 0 30,000(s) 0 0 0 0 12,000(s)
Oregon Cottage Grove Lake Dexter Lake Dorena Lake	169,000(s) 10,000(c) 164,000(s)	20,000 0 0	149,000(s) 10,000(c) 164,000(s)

REDUCTIONS TO RECREATION FACILITIES AT  
COMPLETED PROJECTS FY 1981 BUDGET REQUEST

STATE AND PROJECT	BUDGET REQUEST FY 1981	REDUCTION	REVISED REQUEST FY 1981
<u>Pennsylvania</u>			
Conemaugh River Lake	250,000(\$)	0	250,000(\$)
Kinzua Dam & Allegheny Lake	25,000(\$)	0	25,000(\$)
Loyalhanna Lake	250,000(\$)	0	250,000(\$)
Tionesta Lake	250,000(\$)	0	250,000(\$)
<u>South Dakota</u>			
Big Bend Dam-Lake Sharpe	62,000(\$)	62,000	0
<u>Tennessee</u>			
Cordell Hull Dam & Reservoir	168,000(\$)	168,000	0
Dale Hollow Lake, TN & KY	168,000(\$)	168,000	0
J. Percy Priest Dam & Reservoir	36,000(c)	0	36,000(c)
Old Hickory Lake	89,000(\$)	89,000	0
<u>Texas</u>			
Lavon Lake	96,000(\$)	0	96,000(\$)
Pat Mayse Lake	171,000(\$)	171,000	0
Somerville Lake	454,000(\$)	0	454,000(\$)
Stillhouse Hollow Reservoir	290,000(\$)	290,000	0
Whitney Lake	108,000(\$)	0	108,000(\$)
<u>Virginia</u>			
John H. Kerr Dam & Res., VA & NC	136,000(\$)	0	136,000(\$)
Philpott Lake	68,000(\$)	0	68,000(\$)
<u>West Virginia</u>			
Bellsville L/D	52,000(c)	0	52,000(c)
Summersville Lake	155,000(\$)	155,000	0
Tygart Lake	250,000(\$)	0	250,000(\$)
Windfield L/D	45,000(c)	0	45,000(c)

REDUCTIONS TO RECREATION FACILITIES AT  
COMPLETED PROJECTS FY 1981 BUDGET REQUEST

<u>STATE AND PROJECT</u>	<u>BUDGET REQUEST FY 1981</u>	<u>REDUCTION</u>	<u>REVISED REQUEST FY 1981</u>
Planning, Design and Contingencies	212,000(c/s)	59,000	153,000(c/s)
TOTAL	\$18,000,000	\$5,800,000	\$12,200,000 1/

1/ Contains \$5,000,000 for cost sharing and \$7,200,000 for sanitation  
(c) Cost Sharing  
(s) Sanitation

PRESIDENT'S AMENDMENT OF THE FISCAL YEAR 1981 BUDGET  
CORPS OF ENGINEERS, CIVIL WORKS  
APPROPRIATION TITLE: OPERATION AND MAINTENANCE, GENERAL

The original FY 1981 Budget Request of \$950,729,000 for Operation and Maintenance, General is amended to \$878,379,000, a reduction of \$72,350,000.

Item	Amounts in thousands of dollars		
	FY 1981 Original Budget	FY 1981 Budget Amendment	Revised FY 1981 Budget Request
<u>1. Navigation</u>			
a. Channels and Harbors			
(1) Regular	338,175	-30,888	307,287
(2) Diked Disposal	27,797	-575	27,222
(3) Monitor Completed Coastal Projects	1,000	-500	500
b. Locks, Dams, and Canals	153,307	<u>-14,676</u>	138,631
		<u>Subtotal: -46,639</u>	
<u>2. Flood Control</u>			
a. Reservoirs	143,514	-6,552	136,962
b. Environmental and Water Quality Operational Studies	6,650	-1,750	4,900
d. Channel Improvements, Inspections, and Miscellaneous Maintenance	4,754	<u>-371</u>	4,383
		<u>Subtotal: -8,673</u>	
<u>3. Multiple Purpose Including Power</u>	208,166	<u>-14,938</u>	193,228
<u>4. Protection of Navigation</u>			
d. General Regulatory Functions	44,000	<u>-2,100</u>	41,900
		<u>Total: -72,350</u>	

OPERATION AND MAINTENANCE, GENERAL  
POTENTIAL REDUCTIONS IN FISCAL YEAR 1981

<u>Appropriation</u>	<u>Fiscal Year 1981 Budget</u>	<u>Potential For Selective Reductions</u>	<u>Impacts of Reduction</u>
OCM, General	\$950,729,000	\$28,000,000	Reduces this program activity by 25%, affecting 58 projects. Increases risk of failure and aggravates ongoing structural deterioration.
Structural Maintenance		\$18,000,000	Reduces this program activity by 7%, affecting 37 projects and impacting the Corps fleet and ICF.
Dredging		\$25,000,000	Defers road repairs and maintenance of buildings, grounds and services facilities. Reduces maintenance of visitor facilities and defers water quality and cost reduction studies. Approximately 100 projects affected. Deferral of this type work will require increased repair costs in the future due to more rapid deterioration rates.
Miscellaneous OCM		\$ 2,100,000	Reduces permit jurisdiction studies.
General Regulatory Functions		\$ 2,250,000	Reduces wetland impact studies on dam projects and reduces the performance review of completed coastal projects.
Remaining Items		\$72,350,000	
Total	\$950,729,000		

REDUCTIONS TO OPERATION AND MAINTENANCE,  
GENERAL PROJECTS  
(Dollars in Thousands)

<u>Project/State</u>	<u>Budget Request</u>	<u>Reduction</u>	<u>FY 1981 Revised Request</u>	<u>Remarks</u>
<u>Lower Mississippi Valley Division</u>				
Bend Lake, Illinois	2,084	598	1,486	Various OCM
Blakely Mountain Dam Lake Ouachita, Arkansas	2,840	933	1,907	52 structural repairs, 881 various OCM
Clarence Cannon Dam and Reservoir, Missouri	1,306	286	1,020	Various OCM
Deeray Lake, Arkansas	2,289	417	1,872	Various OCM
Narrows Dam Lake Greason, Arkansas	2,350	636	1,714	581 various OCM, 55 structural repairs
Caruthersville Harbor, Missouri	484	312	152	dredging
Gulf Intracoastal Waterway, Louisiana	8,520	553	7,967	dredging
Hickman Harbor, Kentucky	377	225	152	dredging
Mississippi River Between Ohio and Missouri Rivers, Illinois	9,865	1,174	8,691	structural repairs
Mississippi River Baton Rouge to Gulf, Louisiana	24,110	5,791	18,319	structural repairs
Mississippi River-Gulf Outlet, Louisiana	7,836	1,297	6,639	dredging
Osceola Harbor, Arkansas	594	350	244	dredging
Kaakaakia River Navigation, Illinois	1,504	456	1,048	360 dredging, 96 various OCM
Ouachita and Black Rivers, Arkansas and Louisiana	3,499	955	2,544	520 dredging, 32 structural repairs, 403 various OCM
Subtotal	67,738	13,983	53,755	
<u>Missouri River Division</u>				
Pomme De Terre Lake, Missouri	1,754	263	1,471	Various OCM
Fort Randall Dam, Lake Francis Case, South Dakota	5,416	532	4,884	403 structural repairs, 129 var OCM
Subtotal	7,170	815	6,355	

<u>Project/State</u>	<u>FY 1981 Budget Request</u>	<u>Reduction</u>	<u>FY 1981 Revised Request</u>	<u>Remarks</u>
<u>New England Division</u>				
None				
<u>North Atlantic Division</u>				
Alvin B. Bush Dam, Pennsylvania	164	24	140	structural repairs
Blue Marsh Lake, Pennsylvania	516	127	389	Various OCM
Francis E. Miller Dam, Pennsylvania	631	405	226	343 various OCM, 62 street repairs
Abasco Inlet, New Jersey	348	187	161	dredging
Cold Spring Inlet, New Jersey	761	609	152	structural repairs
Delaware River, Philadelphia, Pennsylvania to Frisium, New Jersey	1,819	53	1,766	Various OCM
Delaware River, Philadelphia to the Sea, Pennsylvania, New Jersey, Delaware	13,265	158	13,107	Various OCM
Flushing Bay and Creek, New York	1,361	1,361	0	dredging
Indian River, New York	1,692	354	1,338	structural repairs
Indian River Inlet and Bay, Delaware	233	233	0	dredging
JMW from Delaware River to Chesapeake Bay, Delaware and Maryland	8,620	2,156	6,464	870 structural repairs, 1,286 various OCM
Milton Harbor, New York	165	165	0	dredging
New Jersey Intra-coastal Waterway, New Jersey	825	31	794	Various OCM
Newark Bay, Hackensack and Passaic Rivers, New Jersey	1,828	877	951	dredging
Schoykill River, Pennsylvania	693	62	631	Various OCM
Wilmington Harbor, Delaware	1,149	12	1,137	Various OCM
Subtotal	34,090	6,790	27,300	
<u>North Central Division</u>				
Ashtabula Harbor, Ohio	436	42	394	structural repairs
Caseville Harbor, Michigan	472	340	132	300 dredging, 40 various OCM
Eric Harbor, Pennsylvania		162	310	structural repairs

Project/State	FY 1981 Budget Request	Reduction	FY 1981 Revised Request	Remarks
<u>North Central Division (Continued)</u>				
Grand Traverse Bay Harbor, Michigan	95	95	0	37 dredg, 46 struc repairs, 12 var OCM
Keweenaw Waterway, Michigan	453	287	166	dredging
Point Lookout Harbor, Michigan	576	576	0	dredging
South Haven Harbor, Michigan	280	260	0	200 structural repairs, 60 various OCM
St. Croix River, Minnesota and Wisconsin	177	50	127	Various OCM
St. Joseph Harbor (Diked Disposal), Michigan	575	575	0	Various OCM
Illinois Waterway, Illinois	13,886	896	12,990	396 various OCM, 500 structural repairs
Mississippi River Between Missouri River and Minnesota, Illinois (MID)	28,639	717	27,922	406 structural repairs, 311 various OCM
Subtotal	45,909	4,000	41,909	
<u>North Pacific Division</u>				
Cottage Grove Lake, Oregon	396	99	297	Various OCM
Lucky Peak Lake, Idaho	421	70	351	Various OCM
Mill Creek Lake, Washington	207	32	175	Various OCM
Mud Mountain Dam, Washington	1,240	42	1,198	Various OCM
Bonneville Lock and Dam-Lake Bonneville, Oregon and Washington	5,798	306	5,492	Various OCM
Cougar Lake, Oregon	510	32	478	29 structural repairs, 3 various OCM
Dworshak Dam and Reservoir, Idaho	3,994	76	3,918	86 structural repairs, 10 various OCM
Ice Harbor Lock and Dam, Washington	3,172	273	2,899	243 various OCM, 30 structural repairs
John Day Lock and Dam-Lake Umatilla, Oregon and Washington	5,902	943	4,959	175 structural repairs, 768 various OCM
Little Goose Lock and Dam, Washington	2,485	382	2,103	320 structural repairs, 62 various OCM
Lower Granite Lock and Dam, Washington	2,680	102	2,578	Various OCM
Lower Monumental Lock and Dam, Washington	2,350	221	2,129	107 structural repairs, 114 various OCM
McHarty Lock and Dam, Oregon and Washington	5,755	463	5,292	329 structural repairs, 134 various OCM
The Dalles Lock and Dam-Lake Celilo, Oregon and Washington	4,400	266	4,134	Various OCM
Billingham Harbor, Alaska	326	44	282	dredging
Grays Harbor and Chehalis River, Washington	3,280	219	3,061	structural repairs

Project/State	FY 1981 Budget Request	Reduction	FY 1981 Revised Request	Remarks
<u>North Pacific Division (Continued)</u>				
Ninilchik Harbor, Alaska	243	26	217	Various OCM
ogue River at Gold Beach, Oregon	1,396	460	936	dredging
Skipanon Channel, Oregon	206	139	77	dredging
Smith River, Oregon	179	179	0	dredging
Tillamook Bay and Harbor, Oregon	282	93	189	dredging
Yaquina Bay and Harbor, Oregon	1,119	529	590	dredging
Yaquina River, Oregon	574	574	0	dredging
Lake Washington Ship Canal, Washington	2,887	99	2,888	Various OCM
Willamette River at Willamette Falls, Oregon	907	486	411	426 structural repairs, 70 various OCM
Subtotal	50,509	6,155	44,354	
<u>Ohio River Division</u>				
Middlesboro, Kentucky	90	57	33	Various OCM
Nonsoutawany, Pennsylvania	319	314	5	structural repairs
lochhorn Lake, Kentucky	848	240	608	Various OCM
Deer Creek Lake, Ohio	531	107	424	structural repairs
East Branch Clarion River Lake, Pennsylvania	605	107	498	structural repairs
Fishtrap Lake, Kentucky	1,049	327	722	100 structural repairs, 24 various OCM
Muhoning River, Kentucky	535	124	411	structural repairs
Muskingum River Reservoirs, Ohio	4,390	106	4,284	structural repairs
Woodcock Creek Lake, Pennsylvania	622	131	491	structural repairs
Youghiogheny River Lake, Pennsylvania	1,138	152	986	dredging
Barkley Dam-Lake Barkley, Kentucky	4,085	170	3,895	Various OCM
Cordell Hull Dam and Reservoir, Tennessee	2,228	185	2,128	structural repairs
Dale Hollow Lake, Tennessee	1,773	116	2,112	structural repairs
J. Percy Priest Dam and Reservoir, Tennessee	3,517	87	3,477	Various OCM
Old Hickory Lock and Dam, Tennessee	1,238	383	1,686	Various OCM
Green and Barron Rivers, Kentucky	4,553	383	3,170	115 dredging, 268 structural repairs
Kanawha River, West Virginia	841	137	704	structural repairs
Kentucky River, Kentucky	27,920	7,010	20,920	4633 structural repairs, 2377 var OCM
Ohio River Locks and Dams, Illinois	6,158	766	5,392	493 dred, 135 struc repairs, 136 var OCM
Ohio River Open Channel Work, Illinois	5,223	208	5,015	structural repairs
Tennessee River, Tennessee	89,966	12,574	57,392	
Subtotal				

<u>Project/State</u>	<u>FY 1981 Budget Request</u>	<u>Reduction</u>	<u>FY 1981 Revised Request</u>	<u>Remarks</u>
<u>Pacific Ocean Division</u>				
Hilo Harbor, Hawaii	859	101	758	structural repairs
Subtotal	859	101	758	
<u>South Atlantic Division</u>				
Carters Lake, Georgia	3,203	790	2,413	290 structural repairs, 500 various OCM
Clark Hill Lake, Georgia	4,891	132	4,759	various OCM
Hartwell Lake, Georgia	4,930	511	4,419	various OCM
John H. Kerr Dam and Reservoir, Virginia and North Carolina	3,732	532	3,200	485 various OCM, 47 structural repairs
Ball and Dam Lock and Dam-William "Bill" Millers Ferry Lock, Virginia	5,891	940	4,951	various OCM
Phillipitt Lake, Virginia	3,154	24	3,130	various OCM
West Point Lake, Georgia	1,503	153	1,350	various OCM
Coopers Harbor, Florida	3,422	643	2,779	120 structural repairs, 523 various OCM
Charleston Harbor, South Carolina	1,459	249	1,210	structural repairs
Chillicothe Harbor, Mississippi	4,837	611	4,226	dredging
International Waterway, Caloohatchee River to Anclote River, Florida	1,577	109	1,468	various OCM
Mobile Harbor, Alabama	2,368	951	1,417	various OCM
Panama City Harbor, Florida	2,464	109	2,355	various OCM
Pascagoula Harbor, Mississippi	521	272	249	various OCM
Pensacola Harbor, Florida	1,980	109	1,871	various OCM
Port Royal Harbor	1,419	109	1,310	various OCM
Port Royal Harbor	345	35	310	Dredging
Port St. Joe Harbor, Florida	272	272	0	various OCM
St. Johns River, Jacksonville to Lake Harney, Florida	288	288	0	250 dredging, 38 various OCM
Stamps Harbor, Florida	1,461	156	1,305	dredging
Black Warrior and Tombigbee Rivers, Alabama	7,275	970	6,305	dredging
Savannah River Below Augusta, Georgia	1,174	740	434	dredging
Subtotal	58,166	8,705	49,461	

Project/State	FY 1981 Budget Request	Reduction	FY 1981 Revised Request	Remarks
<u>South Pacific Division</u>				
Los Angeles County Drainage Area, California				
Meredith County Stream Group, California	3,471	118	3,353	structural repairs
Pine Flat Lake, California	132	51	81	Various OCM
Wattson Ranch Dam, Arizona	1,265	218	1,047	structural repairs
Boss Landing Harbor, California	194	31	163	Various OCM
Redwood City Harbor, California	479	239	240	dredging
Santa Cruz Harbor, California	1,635	546	1,089	dredging
	675	322	353	dredging
Subtotal	7,851	1,525	6,326	
<u>Southwestern Division</u>				
Bellon Lake, Texas	770	138	632	11 structural repairs, 127 various OCM
Bonbrook Lake, Texas	709	37	672	Various OCM
Blue Mountain Lake, Arkansas	562	63	499	Various OCM
Canyon Lake, Texas	811	69	742	Various OCM
Clearwater Lake, Missouri	1,285	48	1,237	Various OCM
Council Grove Lake, Kansas	596	218	378	structural repairs
Fertella Bridge Dam-Lake O The Pines, Texas	1,226	32	1,194	Various OCM
Fort Supply Lake, Oklahoma	998	26	972	Various OCM
Granger Lake, Texas	578	106	472	Various OCM
Grapevine Lake, Texas	959	196	763	Various OCM
Horde Creek Lake, Texas	337	27	310	Various OCM
John Redmond Dam and Reservoir, Kansas	1,863	1,136	727	3000 structural repairs, 136 various OCM
Lavon Lake, Texas	568	83	485	Various OCM
Levinville Lake, Texas	1,759	67	1,692	Various OCM
Marion Lake, Kansas	651	355	296	structural repairs
Narvod Lake, Arkansas	86	36	50	Various OCM
North Fork Lake, Texas	652	146	506	Various OCM
Proctor Lake, Texas	621	64	557	Various OCM
Somerville Lake, Texas	830	55	775	Various OCM
Stillhouse Hollow Lake, Texas	924	126	798	84 various OCM, 44 structural repairs
Waco Lake, Texas	794	34	760	Various OCM
Wister Lake, Oklahoma	314	33	281	Various OCM
Wright Patman Dam and Lake, Texas	1,273	44	1,229	Various OCM

<u>Project/State</u>	<u>PY 1981</u>	<u>Reduction</u>	<u>Revised</u>	<u>Remarks</u>
	<u>Budget</u>		<u>Request</u>	
<u>Southwestern Division (Continued)</u>				
Buwer Lake, Arkansas	1,969	345	1,624	structural repairs
Bull Shoals Lake, Arkansas	3,049	463	2,586	structural repairs
Dardanelle Lock and Dam, Arkansas	3,274	372	3,002	structural repairs
Dustion Dam-Lake Texoma, Oklahoma and Texas	3,603	729	2,874	Various OCM
Kofaxia Lake, Oklahoma	2,044	158	1,886	Various OCM
Fort Gibson Lake, Oklahoma	1,953	64	1,889	32 structural repairs, 32 various OCM
Greers Ferry Lake, Arkansas	3,452	314	3,138	Various OCM
Keystone Lake, Oklahoma	1,594	27	1,567	Various OCM
Norfolk Lake, Arkansas	1,879	184	1,695	structural repairs
Ozark-Jeta Taylor Lock and Dam, Arkansas	3,220	1,160	2,060	Various OCM
Robert S. Kerr Lock and Dam and Reservoir, Oklahoma	1,945	98	1,847	445 structural repairs, 135 various OCM
Tankiller Ferry Lake, Oklahoma	2,048	570	1,478	Various OCM
Tom Bluff Dam B.A. Steinhagen Lake, Texas	413	11	402	Various OCM
Webbers Falls Lock and Dam, Oklahoma	1,633	66	1,567	Various OCM
Gulf Intracoastal Waterway, Texas	17,835	3,667	14,168	3350 dredging, 2317 structural repairs
McClellan-Kerr Arkansas River Navigation System, Arkansas and Oklahoma	13,447	83	13,364	Various OCM
<b>Subtotal</b>	<b>83,228</b>	<b>13,352</b>	<b>69,876</b>	
<b>National Total</b>	<b>425,486</b>	<b>68,000</b>	<b>357,486</b>	

PRESIDENT'S AMENDMENT OF THE FISCAL YEAR 1981 BUDGET  
 CORPS OF ENGINEERS, CIVIL WORKS  
APPROPRIATION TITLE: FLOOD CONTROL, MISSISSIPPI RIVER AND TRIBUTARIES

The original FY 1981 Budget Request of \$228,986,000 for Flood Control, Mississippi River and Tributaries, is amended to \$223,536,000, a reduction of \$5,450,000.

<u>Item</u>	<u>Amounts in thousands of dollars</u>		
	<u>FY 1981 Original Budget</u>	<u>FY 1981 Budget Amendment</u>	<u>Revised FY 1981 Budget Request</u>
1. General Investigations	4,065	-1,750	2,315
2. Construction	143,435	-3,700	139,735
		<u>Total:</u>	<u>-5,450</u>

BREAKDOWN OF SELECTED ITEMS - FLOOD CONTROL, MISSISSIPPI RIVER AND TRIBUTARIES

<u>Item</u>	<u>FY 1981 Original Budget</u>	<u>FY 1981 Budget Amendment</u>	<u>Revised FY 1981 Budget Request</u>
<u>1. General Investigations</u>			
<u>a. Surveys Deleted</u>			
Boeuf Tensas Basin South OR and North LA	785	- 785	0
Larto Lake-Sabine Lake Area, LA	200	- 200	0
Mayfield Creek and Tributaries, KY	200	- 200	0
Mississippi & Louisiana Estuarine Area, LA and MS	350	- 350	0
Mississippi River, East Branch Levees, KY and TN	150	- 150	0
	<u>Subtotal, Surveys:</u>	<u>-1,685</u>	
<u>b. Collection and Study of Basic Data</u>			
	220	- 65	155
	<u>Subtotal, General Investigations:</u>	<u>-1,750</u>	

REDUCTIONS TO PENDING 1981 REQUESTS  
US ARMY CORPS OF ENGINEERS

MISSISSIPPI RIVER AND TRIBUTARIES

PROJECT	1981 BUDGET REQ. PENDING AMENDMENT	1981 REVISED REQUEST	MONTHS OF DELAY
ST. FRANCIS BASIN, AR & MO.....	8300	7900	1
WEST KENTUCKY TRIBUTARIES, KY.....	2200	1900	6
ATCHAFALAYA BASIN, LA.....	24600	24350	2
CHANNEL IMPROVEMENT, AR, IL, KY, LA, MS, MO & TN.....	41800	40800	1
MISSISSIPPI RIVER LEVEES, AR, IL, KY, .. LA, MS, MO & TN.....	23200	20360	1
TECHE-VERMILION BASINS, LA (ADDITIONAL SURFACE WATER SUPPLY).....	7700	7500	1
YAZOO BASIN, MS.....	18900	18190	1
TOTALS	124700	121000	13

Reduction to Savings and Slippages

Net BA Reduction  
Net BD Reduction

0  
3,700  
3,700

PRESIDENT'S AMENDMENT OF THE FISCAL YEAR 1981 BUDGET  
CORPS OF ENGINEERS, CIVIL WORKS

APPROPRIATION TITLE: GENERAL EXPENSES

The original FY 1981 Budget Request of \$82,530,000 for General Expenses is amended to \$81,030,000, a reduction of \$1,500,000. This reduction is applicable to the Executive Direction and Management category.

PRESIDENT'S AMENDMENT OF THE FISCAL YEAR 1981 BUDGET  
CORPS OF ENGINEERS, CIVIL WORKS

APPROPRIATION TITLE: REVOLVING FUND

The original FY 1981 Budget Request of \$52,525,000 for the Revolving Fund is amended to \$34,725,000, a reduction of \$17,800,000, all in procurement of major ADP equipment.

## DECISION PROCESS

Mr. BEVILL. My first question is, who decided where to cut—the Corps or OMB?

Mr. BLUMENFELD. There were obviously negotiations, dollar targets were given. There were varying levels for dollar targets and alternatives.

I must say that within the dollar targets we had an enormous—albeit not complete—influence on where those cuts were going to be taken. General Heiberg may amplify or add whatever he may wish.

General HEIBERG. We did have our opportunity to get our views heard, sir, very clearly.

Mr. BEVILL. So your recommendations were taken into consideration.

General HEIBERG. Yes, sir.

Mr. BEVILL. By the Secretary, and then, of course, by OMB.

Mr. BLUMENFELD. Yes, sir.

General HEIBERG. Yes, sir.

## OPERATION AND MAINTENANCE

Mr. BEVILL. How much is the Corps short in the revised 1981 budget for operation and maintenance to keep a viable program going?

General HEIBERG. The O&M portion of the budget does, in fact, require us to defer things that we would like to do in 1981, sir. That is a fact of life. The program reduction is about 8 percent. As the manager of the program, I would like to have more. However, I think, all things considered, it allows us to do those things that are absolutely essential. It does provide for deferral of some activities we should be doing until 1982 or some other time though.

Mr. BEVILL. What will happen if the Congress appropriates only the revised level of funding for operation and maintenance and what will be hurt?

For the sake of getting information for our consideration, what would happen if this Subcommittee just took the budget as you have revised it, as you have recommended? What would be the result?

General HEIBERG. I can give you for the record the specific projects that would be—that we would have to defer; for example, under the O&M that we would not have had to under the original budget that Mr. Blumenfeld and myself and the Chief earlier testified to. I would be glad to give you that.

Mr. BEVILL. Yes, thank you.

[The information follows:]

REDUCTIONS TO OPERATION AND MAINTENANCE,  
GENERAL PROJECTS  
(Dollars in Thousands)

Project/State	FY 1981 Budget Request	Reduction	FY 1981 Revised Request	Remarks
<u>Lower Mississippi Valley Division</u>				
Rend Lake, Illinois	2,084	598	1,486	Various OCM
Blakely Mountain Dam Lake Ouchita, Arkansas	2,840	933	1,907	52 structural repairs, 881 various OCM
Clarence Cannon Dam and Reservoir, Missouri	1,306	286	1,020	Various OCM
DeGray Lake, Arkansas	2,289	417	1,872	Various OCM
Narrows Dam Lake Green, Arkansas	2,350	636	1,714	581 various OCM, 95 structural repairs
Caruthersville Harbor, Missouri	464	312	152	dredging
Gulf Intracoastal Waterway, Louisiana	8,520	553	7,967	dredging
Michigan Harbor, Kentucky	377	225	152	dredging
<u>Mississippi River Between Ohio and Missouri Rivers, Illinois</u>				
Mississippi River Baton Rouge to Gulf, Louisiana	9,865	1,174	8,691	structural repairs
Mississippi River-Gulf Outlet, Louisiana	24,110	5,791	18,319	structural repairs
Oscola Harbor, Arkansas	7,936	1,297	6,639	dredging
Kaskaskia River Navigation, Illinois	584	350	234	dredging
Ouchita and Black Rivers, Arkansas and Louisiana	1,504	456	1,048	360 dredging, 96 various OCM
	<u>3,499</u>	<u>955</u>	<u>2,544</u>	520 dredging, 32 structural repairs,
Subtotal	67,738	13,983	53,755	403 various OCM
<u>Missouri River Division</u>				
Pomme De Terre Lake, Missouri	1,754	283	1,471	Various OCM
Fort Randall Dam, Lake Francis Case, South Dakota	5,416	532	4,884	403 structural repairs, 129 var OCM
Subtotal	7,170	815	6,355	

<u>Project/State</u>	<u>FY 1981 Budget Request</u>	<u>Reduction</u>	<u>FY 1981 Revised Request</u>	<u>Remarks</u>
<u>New England Division</u>				
None				
<u>North Atlantic Division</u>				
Alvin B. Bush Dam, Pennsylvania,	164	24	140	structural repairs
Blue Marsh Lake, Pennsylvania	516	127	389	Various OCM
Francis E. Miller Dam, Pennsylvania	631	405	226	343 various OCM, 62 struct repairs
Abasco Inlet, New Jersey	348	167	181	dredging
Cold Spring Inlet, New Jersey	781	605	176	structural repairs
Delaware River, Philadelphia, Pennsylvania to Trenton, New Jersey	1,819	53	1,766	Various OCM
Delaware River, Philadelphia to the Sea, Pennsylvania, New Jersey, Delaware	13,265	158	13,107	Various OCM
Fishing Bay and Creek, New York	1,361	1,361	0	dredging
Hudson River, New York	1,692	354	1,338	structural repairs
Indian River Inlet and Bay, Delaware	233	233	0	dredging
Inn From Delaware River to Chesapeake Bay, Delaware and Maryland	8,680	2,156	6,464	870 structural repairs, 1,286 various OCM
Milton Harbor, New York	165	165	0	dredging
New Jersey Intracoastal Waterway, New Jersey Newark Bay, Hackensack and Passaic Rivers, New Jersey	855	31	794	Various OCM
Schuylkill River, Pennsylvania	1,828	877	951	dredging
Wilmington Harbor, Delaware	693	62	631	various OCM
	<u>1,149</u>	<u>12</u>	<u>1,137</u>	Various OCM
Subtotal	34,090	6,790	27,300	
<u>North Central Division</u>				
Ashtabula Harbor, Ohio	436	42	394	structural repairs
Caseville Harbor, Michigan	340	340	0	300 dredging, 40 various OCM
Eric Harbor, Pennsylvania	472	162	310	structural repairs

Project/State	FY 1981 Budget Request	Reduction	FY 1981 Revised Request	Remarks
<u>North Central Division (Continued)</u>				
Grand Traverse Bay Harbor, Michigan	85	95	0	37 dredg. 46 struc repairs, 12 var OCM
Keweenaw Waterway, Michigan	453	287	166	dredging
Point Lookout Harbor, Michigan	576	576	0	dredging
South Haven Harbor, Michigan	260	260	0	200 structural repairs, 60 various OCM
St. Croix River, Minnesota and Wisconsin	177	50	127	Various OCM
St. Joseph Harbor (Diked Disposal), Michigan	375	575	0	Various OCM
Illinois Waterway, Illinois	13,866	896	12,990	396 various OCM, 500 structural repairs
Mississippi River Between Missouri River and Minnesota, Illinois (RID)	28,639	717	27,922	406 structural repairs, 311 various OCM
Subtotal	45,909	4,000	41,909	
<u>North Pacific Division</u>				
Cottage Grove Lake, Oregon	386	99	297	Various OCM
Lucky Peak Lake, Idaho	421	70	351	Various OCM
Mill Creek Lake, Washington	207	32	175	Various OCM
Mud Mountain Dam, Washington	1,240	42	1,198	Various OCM
Bonneville Lock and Dam-Lake Bonneville, Oregon and Washington	5,798	306	5,492	Various OCM
Cougar Lake, Oregon	510	32	478	29 structural repairs, 3 various OCM
Deorshuk Dam and Reservoir, Idaho	3,994	76	3,918	66 structural repairs, 10 various OCM
Ice Harbor Lock and Dam, Washington	3,172	273	2,899	243 various OCM, 30 structural repairs
John Day Lock and Dam-Lake Umatilla, Oregon and Washington	5,902	843	4,959	175 structural repairs, 768 various OCM
Little Goose Lock and Dam, Washington	2,485	382	2,103	320 structural repairs, 62 various OCM
Lower Granite Lock and Dam, Washington	2,680	102	2,578	Various OCM
Lower Monumental Lock and Dam, Washington	2,350	221	2,129	107 structural repairs, 114 various OCM
Mchury Lock and Dam, Oregon and Washington	5,755	463	5,292	328 structural repairs, 134 various OCM
The Dalco Lock and Dam-Lake Celilo, Oregon and Washington	4,400	265	4,134	Various OCM
Billingham Harbor, Alaska	328	44	282	dredging
Grays Harbor and Chehalis River, Washington	3,260	219	3,061	structural repairs

Project/State	FY 1961 Budget Request	Reduction	FY 1961 Revised Request	Remarks
<b>North Pacific Division (Continued)</b>				
Mitchik Harbor, Alaska	243	26	217	Various OCM
Hogue River at Gold Beach, Oregon	1,396	460	936	dredging
Skpanon Channel, Oregon	206	139	77	dredging
Smith River, Oregon	179	179	0	dredging
Tillamook Bay and Bar, Oregon	282	93	189	dredging
Yaquina Bay and Harbor, Oregon	1,119	529	590	dredging
Yaquina River, Oregon	574	574	0	dredging
Lake Washington Ship Canal, Washington	2,687	99	2,588	Various OCM
Willamette River at Willamette Falls, Oregon	907	496	411	426 structural repairs, 70 various OCM
Subtotal	80,509	6,155	44,354	
<b>Ohio River Division</b>				
Middlesboro, Kentucky	90	57	33	Various OCM
Punxsutauney, Pennsylvania	319	314	5	Various OCM
Buckhorn Lake, Kentucky	848	240	608	structural repairs
Deer Creek Lake, Ohio	531	107	424	Various OCM
East Branch Clarion River Lake, Pennsylvania	605	107	498	structural repairs
Fishtrap Lake, Kentucky	1,049	327	722	structural repairs
Mahoning Creek Lake, Pennsylvania	535	124	411	100 structural repairs, 24 various OCM
Muskingum River Reservoir, Ohio	4,390	106	4,284	structural repairs
Woodcock Creek Lake, Pennsylvania	622	131	491	structural repairs
Youghiogheny River Lake, Pennsylvania	1,138	152	986	dredging
Barkley Dam-Lake Barkley, Kentucky	4,065	170	3,895	Various OCM
Old Hickory Lock and Dam, Tennessee	2,313	185	2,128	structural repairs
Cordell Hull Dam and Reservoir, Tennessee	2,228	116	2,112	Various OCM
Dale Hollow Lake, Tennessee	1,723	87	1,636	Various OCM
J. Percy Priest Dam and Reservoir, Tennessee	3,517	343	3,170	Various OCM
Old Hickory Lock and Dam, Tennessee	1,238	383	855	115 dredging, 268 structural repairs
Green and Warren Rivers, Kentucky	4,553	1,500	3,053	structural repairs
Kanawha River, West Virginia	841	137	704	dredging
Ohio River Locks and Dams, Illinois	27,930	7,010	20,920	4633 structural repairs, 2377 var OCM
Ohio River Open Channel Work, Illinois	6,158	766	5,392	4933 dred, 135 struc repairs, 136 var OCM
Tennessee River, Tennessee	5,223	298	5,015	structural repairs
Subtotal	69,986	12,574	57,392	

<u>Project/State</u>	<u>FY 1981 Budget Request</u>	<u>Reduction</u>	<u>FY 1981 Revised Request</u>	<u>Remarks</u>
<u>Pacific Ocean Division</u>				
Hilo Harbor, Hawaii	859	101	758	structural repairs
Subtotal	859	101	758	
<u>South Atlantic Division</u>				
Carters Lake, Georgia	3,203	790	2,413	280 structural repairs, 500 various O&M
Clark Hill Lake, Georgia	4,891	132	4,759	Various O&M
Hartwell Lake, Georgia	4,930	511	4,419	Various O&M
John H. Kerr Dam and Reservoir, Virginia and North Carolina	3,732	532	3,200	485 various O&M, 47 structural repairs
Buland Dam-Lake Sidney Lanier, Georgia	5,891	940	4,951	Various O&M
Millers Ferry Lock and Dam-William "Gill" Dannelly Reservoir, Alabama	3,154	24	3,130	Various O&M
Phillipott Lake, Virginia	1,503	153	1,350	Various O&M
West Point Lake, Georgia	3,422	643	2,779	120 structural repairs, 523 various O&M
Coahuavil Harbor, Florida	1,459	249	1,210	structural repairs
Charleston Harbor, South Carolina	4,837	611	4,226	dredging
Gulfport Harbor, Mississippi	1,577	109	1,468	Various O&M
Intraannual Waterway, Caloosahatchee River to Anclote River, Florida	2,368	951	1,417	Various O&M
Mobilic Harbor, Alabama	2,464	109	2,355	Various O&M
Panama City Harbor, Florida	521	272	249	Various O&M
Pensacola Harbor, Mississippi	1,960	109	1,851	Various O&M
Port Royal Harbor, Florida	1,419	109	1,310	Various O&M
Port St. Joe Harbor, Florida	345	35	310	Dredging
St. Johns River, Jacksonville to Lake Harney, Florida	272	272	0	Various O&M
Tampa Harbor, Florida	288	288	0	250 dredging, 38 various O&M
Tuspa Harbor, Florida	1,461	156	1,305	dredging
Black Warrior and Tombigbee Rivers, Alabama	7,275	970	6,305	dredging
Savannah River Below Augusta, Georgia	1,174	740	434	dredging
Subtotal	55,166	8,705	49,461	

Project/State	FY 1981 Budget Request	Reduction	FY 1981 Revised Request	Remarks
<u>South Pacific Division</u>				
Los Angeles County Drainage Area, California	3,471	118	3,353	structural repairs
Merced County Stream Group, California	332	51	81	Various OCM
Pine Flat Lake, California	1,265	218	1,047	structural repairs
Whitlow Ranch Dam, Arizona	194	31	163	Various OCM
Moss Landing Harbor, California	479	239	240	dredging
Redwood City Harbor, California	1,635	546	1,089	dredging
Santa Cruz Harbor, California	675	322	353	dredging
Subtotal	7,851	1,825	6,326	
<u>Southwestern Division</u>				
Bellon Lake, Texas	770	138	632	11 structural repairs, 127 various OCM
Benbrook Lake, Texas	709	37	672	Various OCM
Blue Mountain Lake, Arkansas	562	63	499	Various OCM
Canyon Lake, Texas	811	69	742	Various OCM
Clearwater Lake, Missouri	1,285	48	1,237	Various OCM
Council Grove Lake, Kansas	596	218	378	structural repairs
Ferrells Bridge Dam-Lake O The Pines, Texas	1,226	32	1,194	Various OCM
Fort Supply Lake, Oklahoma	998	26	972	Various OCM
Granger Lake, Texas	578	108	472	Various OCM
Grapevine Lake, Texas	959	196	763	Various OCM
Hovis Creek Lake, Texas	357	27	330	Various OCM
John Redmond Dam and Reservoir, Kansas	1,663	1,136	527	1000 structural repairs, 136 various OCM
Lavon Lake, Texas	860	83	777	Various OCM
Lewisville Lake, Texas	1,708	67	1,641	Various OCM
Marion Lake, Kansas	739	355	384	structural repairs
Nimrod Lake, Arkansas	651	96	555	Various OCM
North Fork Lake, Texas	642	108	536	Various OCM
Proctor Lake, Texas	621	64	557	Various OCM
Stoverville Lake, Texas	830	55	775	Various OCM
Stillhouse Hollow Lake, Texas	924	128	796	84 various OCM, 44 structural repairs
Waco Lake, Texas	794	34	760	Various OCM
Wister Lake, Oklahoma	314	33	281	Various OCM
Wright Putnam Dam and Lake, Texas	1,273	44	1,229	Various OCM

<u>Project/State</u>	<u>FY 1981 Budget Request</u>	<u>Reduction</u>	<u>FY 1981 Revised Request</u>	<u>Remarks</u>
<u>Southeastern Division (Continued)</u>				
Beaver Lake, Arkansas	1,989	345	1,624	structural repairs
Bull Shoals Lake, Arkansas	3,049	463	2,586	structural repairs
Dardanelle Lock and Dam, Arkansas	3,274	272	3,002	structural repairs
Daniou Dam-Lake Texoma, Oklahoma and Texas	3,603	729	2,874	Various OCM
Eufaula Lake, Oklahoma	2,044	156	1,888	Various OCM
Fort Gibson Lake, Oklahoma	1,953	64	1,889	32 structural repairs, 32 various OCM
Greens Ferry Lake, Arkansas	3,452	314	3,138	Various OCM
Keystone Lake, Oklahoma	1,594	27	1,567	Various OCM
Norfolk Lake, Arkansas	1,879	184	1,695	Various OCM
Ozark-Jeta Taylor Lock and Dam, Arkansas	3,220	1,140	2,080	structural repairs
Robert S. Kerr Lock and Dam and Reservoir, Oklahoma	1,945	98	1,847	445 structural repairs, 125 various OCM
Tonkiler Ferry Lake, Oklahoma	2,048	570	1,478	Various OCM
Town Bluff Dam B.A. Steinhagen Lake, Texas	413	11	402	Various OCM
Woburn Falls Lock and Dam, Oklahoma	1,633	66	1,567	Various OCM
Gulf Intracoastal Waterway, Texas	17,835	5,667	12,168	3350 dredging, 2317 structural repairs
McClouan-Serr Arkansas River Navigation System, Arkansas and Oklahoma	13,447	83	13,364	Various OCM
Subtotal	83,228	13,352	69,876	
National Total	425,486	68,000	357,486	

## CONSTRUCTION SLOWDOWN

Mr. BEVILL. What will the revision mean to your ongoing construction program? Will it slow it down? Will some projects be stopped?

Mr. BLUMENFELD. A delay of an average of 5 months on 41 projects, Mr. Chairman.

Mr. BEVILL. Would any be eliminated?

Mr. O'NEILL. No.

Mr. BEVILL. We have taken testimony this year from many Members of Congress and others that much needed flood control, hydro-power generation and other critical projects were either not provided for at all or were not sufficiently funded in your original 1981 request.

Do you feel that critical projects will not be funded at a sufficient level if we approve your revised request?

Mr. BLUMENFELD. Sir, we have attempted, in taking the cuts in continuing construction projects, to take those cuts that were not going to influence, delay unduly, the delivery of high priority benefits. So I think it would be fair to say that the revised budget will not be hamstringing critical projects.

There are clearly delays indicating that, as I said before, 41 projects will be affected. But the projects which are being delayed and the kinds of outputs on those projects which would be delayed as a result of the reductions could not be termed critical.

## REVOLVING FUND

Mr. BEVILL. Explain why you are not cutting buildings, equipment, vehicles, repairs, et cetera, provided for in the original budget request. These affect outlays also.

Mr. BLUMENFELD. General Heiberg will comment.

General HEIBERG. We do have \$17.8 million that we are taking out of the revolving fund that we were going to spend for ADP equipment.

Mr. BEVILL. Didn't we understand that these were critical items from your previous testimony?

General HEIBERG. The ADP equipment to my mind is critical. There is some question on whether we are actually at a point where we should go ahead. If I may, Mr. Secretary, I would like to ask a member of my staff to help me on this part, and he is Mr. Adkins.

Mr. BEVILL. I believe the recommended cut is \$17.8 million.

General HEIBERG. Yes.

Mr. BEVILL. That's for computers. Isn't this critical in your view?

General HEIBERG. May I ask Mr. Adkins to respond?

Mr. ADKINS. The \$17.8 million was for CE-80, to initiate the main frame change, and to replace CROHMS.

The CE-80 system is a multi-year requirement and the fiscal year 1981 reduction will delay the actual procurement by about 6 months, if its initiation were approved in fiscal year 1982. The purchase of the CROHMS system will also be delayed but it will probably go forward on a lease basis due to its importance in the operation of the Columbia River System.

General HEIBERG. It is replacing old equipment. For our stewardship of this tremendous nationwide program, we do badly need up to date computers. So it is critical to get this; but, it is in our judgment, being faced with the constraints we feel now, we felt we could defer that 6 months.

#### CORPS OF ENGINEERS MANAGEMENT INFORMATION SYSTEM

Mr. BEVILL. Regarding the Corps of Engineers Management Information System (COEMIS): Has the Corps considered immediately implementing the redesigned system in a standard language on an out-of-house computer and later bringing it in-house on the new equipment?

General HEIBERG. COEMIS has not yet been redesigned. Functional planning and some testing are currently being accomplished. To develop and install a redesigned COEMIS for application to an out-of-house service prior to CE-80 would require an intensive investment of funds and both ADP and functional area personnel. Upon CE-80 implementation, an additional conversion effort would then be required. We do not consider this a proper course of action at this time.

Mr. BEVILL. Wouldn't such an approach give the Corps an improved COEMIS earlier, as well as reduce the program conversion load related to the new equipment procurement?

General HEIBERG. Since we do not yet have a redesigned COEMIS, this would not be feasible at this time. When CE-80 equipment is identified, a conversion of the current COEMIS system will take place. Redesign to take advantage of the new capability will then be completed. This will allow for an orderly transfer of COEMIS to the new CE-80 configuration while completely redesigning COEMIS according to newly defined OCE functional element requirements.

#### INLAND WATERWAYS TRUST FUND

Mr. BEVILL. We are informed that it would be illegal to use the \$30 million for the Inland Waterways Trust Fund to finance the construction program as proposed in the 1981 budget. In these budget amendments, this issue has not been addressed.

Is it proposed by the Administration that this is a further reduction to the Corps program?

Mr. BLUMENFELD. No, sir, it is not. We would like to continue to work, as I think we have begun to work, with the committee staff here and in the other body, to develop the necessary legislation to permit use of the anticipated revenues from the Waterways Trust Fund. We would like to continue that work. This is not an attempt by the Administration to impose, by failure to get legislation, an additional \$30 million cut.

Mr. BEVILL. The Chair recognizes Mr. Myers.

#### QUESTIONS FOR COLLEAGUES

Mr. MYERS. Thank you, Mr. Chairman.

I apologize for being gone when the hearing started and I don't know whether this was asked, but Congressman Lott of Mississippi

has a question relative to the Louisiana Estuarine Study which has been deleted entirely as I understand it.

I will submit that question for your response, and he has a couple of other questions that I will put in the record for you to answer if you would.

And Mr. Clausen, also has some questions relative to the Dry Creek, Warm Springs Lake in California, and the Northern California Streams study. So I will put those in the record also as well as Mr. Bethune of Arkansas who has some question.

[Questions of Mr. Lott, Mr. Clausen, and Mr. Bethune follow:]

#### QUESTIONS FROM CONGRESSMAN LOTT

##### MISSISSIPPI AND LOUISIANA ESTUARINE AREAS STUDY

*Question.* The Mississippi and Louisiana Estuarine Areas Study has been funded the last three years. It is a study that, potentially, could lead to significantly improved productivity of existing fish and wildlife resources. Why did the President cut this study from his fiscal year 1981 budget?

*Answer.* In formulating the budget for the Corps of Engineers General Investigations Program, consideration was given to studies from which it appeared there would be a reasonable chance that, ultimately, implementable measures with certain high-priority outputs might result. The favored outputs were: hydroelectric power; commercial navigation; urban flood damage prevention; municipal and industrial water supply; and preservation and enhancement of valuable environmental resources. The Mississippi and Louisiana Estuarine Areas Study, of course is relevant to the latter. When it was determined that, in the national fiscal interest, cuts in the budget were required, some reduction in the Corps' General Investigations, Program—as in all Federal programs—was necessary. This meant that some worthwhile studies would have to be removed from the budget. The Mississippi and Louisiana Estuarine Areas Study was one of those affected—as one of the last included in the budget, it was in the bracket chosen for deletion.

*Question.* To date, \$515,000 out of an estimated total study cost of \$2,000,000 have been appropriated. What will happen to the \$515,000 worth of work and information collected if the study is not continued?

*Answer.* Of the \$515,000 appropriated, only \$385,000 have currently been allocated to the study because of adjustments when anticipated progress on the study failed to materialize. Currently, \$165,000 is still available for continuation of study efforts through fiscal year 1980 and into fiscal year 1981. U.S. Fish and Wildlife Service's preliminary report on proposed project purposes and needs, and potential adverse and beneficial impacts, has just been received. Without additional funding in fiscal year 1981 we will propose to continue working with the Service, on a more limited schedule, to complete the reconnaissance phase of the study—with available funds and, if needed, some transfers of funds back to the study. The utility of information so far collected will not be lost.

*Question.* If the survey is not funded this year, do you expect to request funding for fiscal year 1982? If so, would you anticipate being able to complete the survey on time (by 1983) by increased funding over the next two years?

*Answer.* I cannot say whether funding for the study might be requested for fiscal year 1982. It will depend on the constraints imposed upon formulation of the budget for that year based on the fiscal situation at that time. I would anticipate that some limitations will continue to exist and we will be faced with the same hard choices. The study schedule, assuming appropriation of an amount for fiscal year 1981 as originally included in the budget, and continuing appropriations in the succeeding years, indicated that an appropriation would be required in fiscal year 1985 to complete. This reflected our expected maximum capabilities to pursue the study over that period. Consequently, if study funding were resumed in fiscal year 1982, after a lapse in fiscal year 1981, increased funding is unlikely to be helpful, and expected study completion would be one year later.

QUESTIONS FROM CONGRESSMAN DON CLAUSEN

DRY CREEK (WARM SPRINGS) LAKE AND CHANNEL, CALIF.

*Question.* With respect to the Dry Creek (Warm Springs) Lake and Channel project in California, what is the Corps' capability for construction in Fiscal Year 1981?

*Answer.* Subject to the usual qualifications, our capability is \$34,200,000, an increase of \$5,810,000 over the amended request of \$28,390,000. This amount would be used to restore the \$4,590,000 deleted from this project in the amended Fiscal Year 1981 Budget and would permit award of one utility relocation contract, one reservoir fertilization contract, two fish and wildlife contracts, and one recreation facility contract. An additional amount of \$1,220,000 would permit advancing completion of fire service roads one year, construction of recreational boat ramps and fertilization and seeding of the reservoir area.

*Question.* How was it determined that the proposed cut of \$4,590,000 would not cause any delay in completion of the project.

*Answer.* The project is currently scheduled for completion in September 1984. The reduction of \$4,590,000 in Fiscal Year 1981 would delay award of five separate minor contracts, each of which vary in time required for actual construction from one to ten months and which involve work on separate items at different project locations. These contracts could be delayed one year and still be accomplished prior to the currently programmed completion date.

*Question.* Are you aware of a six-month shortfall in funding during Fiscal year 1980 for this project? What will be the effect on the project and its cost if the shortfall is not remedied, and if funds are further cut for Fiscal Year 1981?

*Answer.* A recent reanalysis of current year work effort indicates that the previously reported shortfall of \$6,000,000 can be significantly reduced by deferral of three contract awards and their associated design costs and by a recent adjustment made by the contractor in his estimated Fiscal Year 1980 earnings on the main dam and fish hatchery contracts. The current funding shortage is now estimated to be about \$1,500,000, which represents less than two weeks of work effort. During the upcoming peak construction period, contractor earnings are scheduled to be about \$1,000,000 per week. Work on the project is expected to continue without disruption to the contractor's schedules for the remainder of Fiscal Year 1980. Further cuts in the Fiscal Year 1981 revised budget request of \$28,390,000 for the project would result in a delay in the bank stabilization work, which could significantly increase project cost and delay project completion one year.

NORTHERN CALIFORNIA STREAMS STUDY

*Question.* With respect to the Northern California Streams study, what is the Corps' capability for this project, including a study of the Russian River area?

*Answer.* Subject to the usual qualifications, our Fiscal Year 1981 capability for the Northern California Streams study is \$425,000. Included in this capability amount is \$25,000 for completion of the Russian River Interim Report; \$150,000 to initiate and complete a special study on bank erosion and associated problems on the Russian River; and \$75,000 to initiate an Interim Report on coastal streams in Northern California. The remaining \$175,000 of the capability amount would be used to complete preliminary assessments of the Colusa Basin and Garden Bar Reservoir.

*Question.* How did the Corps or the Office of Management and Budget select this study for elimination?

*Answer.* Elimination of the study was evaluated on the criterion that while the study had better than a 50 percent chance of resulting in a Federal or non-Federal plan addressing some high priority needs being implemented, such a plan would not produce sufficient high-priority benefits so that 75 percent of the benefits needed to reach a 1:0 B/C ratio would be from high-priority outputs alone.

QUESTIONS FROM CONGRESSMAN ED BETHUNE

McCLELLAN-KERR PROJECT

*Question.* The Corps showed a surplus of funds, as of March, of \$370,000 on the McClellan-Kerr project in Arkansas, Southwestern Division. The surplus was a result of a wage dispute which delayed contracting. When the problem was resolved, the Corps had, in the meantime, suspended contracting all over the country. Why

was the contracting for this project also included in the suspension, when the funds were apparently available for it?

Answer. It was necessary to postpone bid opening and contract award for relocation of the Conway Water Supply on the McClellan-Kerr Navigation project because of our nationwide funding shortfall in the current year. As you know, we have temporarily suspended advertisings, bid openings, and contract awards nationwide on all but absolutely essential activities which cannot be postponed. This was done in order to reduce the possibility of severe disruption of ongoing contracts.

Question. Will the Corps reconsider its suspension with respect to this project?

Answer. This work will be released for further action as soon as the Corps-wide shortage of funds is resolved.

#### FISCAL YEAR 1981 REDUCTIONS

Mr. BEVILL. All right, do you have further questions?

Mr. MYERS. General, as I look through the Administration's recommendations, they are fragmentary and confusing. The cuts in construction total about \$54 million, and about \$72 million in O&M. Then in General Investigations the reduction is \$14 million, bringing your revised request for general investigations to \$127 million.

Now, my question is, is it wise for us to continue these General Investigations? Couldn't we cut the GI program more and put that money over into O&M? If we are not going to build these projects, why continue the investigations at a time when we are already in a tight budget situation? We are all concerned about balancing the budget, but do we have the right priorities in this case?

Mr. BLUMENFELD. I am not sure where the \$127 million comes from.

Mr. O'NEILL. It is the amount remaining after the budget amendment. The budget goes from \$141 to \$127 million.

Mr. MYERS. A \$14 million reduction. The program will be at \$127 but the \$14 million is the reduction. I am saying couldn't we cut more of that out and put it in O&M, for example? You are \$72 million short in that program. Why don't you take it out of GI, and you won't be hurting any program. Why do we continue to put more money into the investigations if we don't plan on building these projects? The President has said we are not going to build until his new water policy is implemented.

Mr. BLUMENFELD. That's not what the President is saying at all. That is, he is not saying we won't build them.

Mr. MYERS. Until we get a water policy, as I remember his statement. So that means we won't build them because I don't think this Congress is about to give you the water policy you want. Why do we stretch out these construction and operation and maintenance items when we know we are going to have to pay more in the future. Wouldn't we be much wiser in keeping our operation and maintenance on current basis, and letting the investigations stretch out?

#### BUDGET TRADE OFFS

Mr. BLUMENFELD. There is always a trade-off to consider.

Mr. MYERS. Are we making the right trade-off though?

Mr. BLUMENFELD. I have heard you talk earlier about the interest of our children and grandchildren. Well, those are the individuals who will be most affected in a favorable way by the successful

conclusion of the studies that are now underway. Sure, you can cut General Investigations more but is it the right trade-off to make? It was not so in our judgment. We cut out of General Investigations those studies which did not show a very good chance of payoff, which didn't have a lot of high priority outputs and we cut some \$14 million out of there under that philosophy.

That was about as far as they should be cut in our view. General Heiberg may want to comment, too.

#### GENERAL INVESTIGATIONS OUTPUT

General HEIBERG. I would put it this way, if we were going to critique, I would be concerned about cutting out the General Investigations for the reasons Mr. Blumenfeld gave. There are studies underway that will produce a number of projects. We don't know which ones will be finally productive until we bring them to the Congress, get them through the administration and bring them to the Congress. But we don't get that far unless we have done the appropriate investigations. We have studies that will produce projects for hydropower that have to be built for energy independence reasons. We know that is coming, and we will have to do those projects.

There are also lots of flood control projects, I believe, that have to be done.

Mr. MYERS. I agree with you, but the last two years I haven't seen any evidence of serious consideration of doing something like that.

General HEIBERG. Unless we are working on getting to the point we can prove to the world, to the administration and to the Congress, that those flood control and hydro projects and water supply projects must be built, without the General Investigations to get to tomorrow, we won't be leaving our children projects that meet the needs for the future. That is a very important part of our program. I am concerned that the amount we cut out was not well received. I agreed with the balance that we struck but that is cutting it down to the \$127 million. That is bare bones as far as I am concerned.

#### OPERATION AND MAINTENANCE, GENERAL, REDUCTIONS

Mr. MYERS. What about the reduction in O&M?

General HEIBERG. That bothers me.

Mr. MYERS. What is the inflationary impact on that one? What will it cost us in the future to do the same maintenance that would have been done here and now?

General HEIBERG. There are two problems of deferring maintenance to the future. For example, one is the inflationary problem that Mr. Blumenfeld talked to, that if we can do the same thing that might be costing us \$13 in the future for what we could do for \$10, \$10 versus \$13, 2 or 3 years from now, that is not a clear savings. That is a dollar savings but not a clear savings. The problem is, when we defer maintenance projects, that progressive deteriorations are likely to cause more problems. If we don't fix the door, then you may have a bigger problem.

That is the very close balance on this, on whether we are over the line or not. I think we made a reasonable judgment on trying to

strike a program balance, to get our mark, in sharing the budgetary problems that we have.

#### BUDGET ALTERNATIVES

Mr. MYERS. In stretchouts of those projects under construction, the delays ultimately mean you add years to them. That is going to cost more money, too, and I don't disagree with what you are saying. I accept your analogy here and your statement. I don't accept the Administration's because they have not shown me evidence on the other side that they are really interested in the future. But I share your concern about these investigations. When they are not going to build them anyway and all the evidence says that is the case, why spend the money on the investigations? When you are faced with three alternatives here of either do what needs to be done today, and don't put off to tomorrow; or, continue something you have started; or, worry about something you may start or may not start—I think they are choices that when we are limited this year we ought to be doing what is necessary today and, personally, I think that is operation and maintenance and then get to construction already underway, and then get those completed. The next Administration can catch up, I think. I have faith in them being able to do that. But I think, personally, it is unwise to spend so much money on GI's and leaving our maintenance for the future.

General HEIBERG. There is one more additional problem on a large dip, say, if we said let's save \$50 million in GI and put it in O&M. Immediately that would give us O&M relief and I would be comfortable on fixing the locks and the walls and the levees and so on. In the real world what would happen, though, is those valuable relationships and cooperation established with local people in conducting those studies would have to be terminated.

Mr. MYERS. This administration is terminating them over in the small watershed program. They have terminated them this year. They have a lot of people, expert people out in the field and they are quitting in the small watershed business. They are quite inconsistent.

You can't comment on that.

General HEIBERG. I would say, though, that this Administration agrees with me at this point—that \$127 million in GI is something that we can come over and say that it is important, and we need it.

Mr. MYERS. But you agree with them, they didn't agree with you. You were told to cut so much, and you recommended cuts—you shouldn't open that door. They told you to make cuts and you came down to these figures, right?

Mr. BLUMENFELD. Well, Mr. Myers, I am afraid I will never be able to satisfy you on all your dissatisfactions with the action of the current Administration in programs other than my own or in my own actions.

Mr. MYERS. You're right on that.

Mr. BLUMENFELD. I think the argument can—

Mr. MYERS. I have been consistent anyway.

Mr. BLUMENFELD. Yes, sir, you have been. There is virtue in consistency.

Mr. MYERS. I have been persistent, too, but not very successfully so.

#### ADMINISTRATION'S POSITION ON NEW STARTS

Mr. BLUMENFELD. I think the argument that cutting GI because this Administration—if there is to be a second Administration—isn't going to build anything just isn't the case. We had new start recommendations in 1979. We had them in fiscal 1980. We don't have them for reasons that we all know in 1981 but that is clear, too, and this is not a no-new-starts long term situation. So that pipeline of studies ought to be continued, ought to go on.

Mr. MYERS. Would you define what "long-term" is? What kind of terms are we talking about here?

Mr. BLUMENFELD. Well, I am saying that the next fiscal year I would hope there are going to be new starts.

#### PROGRAM REDUCTIONS

General HEIBERG. Let me add one point on the conversation on the General Investigations. That the cut in General Investigations is almost 10 percent, which is larger than the overall cuts that we have. From that standpoint, we did recognize that we felt we could do a little more saving in GI.

Mr. MYERS. What was the cut in Operation and Maintenance? The percentage?

General HEIBERG. About 7 percent.

Mr. MYERS. You have almost 200 studies underway now? I am worried about the Administration's priorities.

#### STUDIES

Mr. BLUMENFELD. It is at 231 in the January budget, I believe.

Mr. MYERS. How many are you considering to cut out and to not fund?

Mr. BLUMENFELD. We are deleting 42 of those, we are reducing 5 of them. So we are talking of leaving unaffected about 184 out of 231.

Mr. MYERS. How many of those studies would be completed within the next two years? Could you provide it for the record,

General HEIBERG. Yes, we can supply a list of the year they would be completed, each one of them, the 189.

Mr. MYERS. Yes, would you supply a list of the year they would be completed, the 189, when the study will be completed.

General HEIBERG. You are talking about the 42 being deleted?

Mr. MYERS. I mean the remainder.

General HEIBERG. Some will be completed in the next two years, yes, but we will give it to you.

Mr. MYERS. Give us a list so the committee will know how soon they will be completed.

General HEIBERG. Yes, we can do that.

Mr. MYERS. Thank you.

[The information follows:]

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PREAUTHORIZATION STUDIES INCLUDED  
IN PRESIDENT'S FY 1981 AMENDED  
BUDGET REQUEST  
(\$000)

STUDY NAME	TYPE	TOTAL ALLOCATIONS		BALANCE TO COMPLETE AFTER 1981 REQUEST	COMPLETION DATE MO. YR.
		ESTIMATED FED. COST	THRU FY 1980		
IWR NATIONAL HYDROELECTRIC POWER RESOURCES STUDY.....	SPE	7750	6150	1600	0 SEP1981
NATIONAL WATERWAYS STUDY.....	SPE	6250	5495	755	0 SEP1981

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(\$000)

STUDY NAME	TYPE	TOTAL ALLOCATIONS		AMENDED COMPLETE FY 1981 AFTER 1981 REQUEST	BALANCE TO COMPLETE REQUEST	COMPLETION DATE MO, YR.
		ESTIMATED FED. COST	THRU FY 1980			
LHV						
RED RIVER BELOW DENISON DAM AUTH RPT, ..	CDM	1062	687	50	325	SEP1983
AR, LA, OK & TX.....						
CAPE GIRARDEAU-JACKSON METROPOLITAN .....	FDP	1070	1010	60	0	OCT1981
AREA, MO.....						
DEGONIA & FOUNTAIN BLUFF L & DD & .....	FDP	730	637	93	0	MAY1981
GRAND TOWER D&LD, IL.....						
MEMPHIS METROPOLITAN AREA, TN.....	FDP	1555	1181	374	0	OCT1981
QUACHITA RIVER BASIN, AR.....	FDP	5160	2445	1250	1465	JUL1985
RICHLAND CREEK, IL.....	FDP	890	324	300	266	OCT1982
ST. LOUIS METROPOLITAN AREA, MO & IL.....	FDP	4660	3758	350	552	SEP1984
GULF INW LA-TX SECTION, LA & TX.....	N	3340	1047	440	1853	JUN1985
MISS. RIV NAV SYS-ADEQUATE MOORING .....	N	1000	260	300	440	JAN1983
FACILITIES FOR WATERCRAFT, AL.....						
ST. LOUIS HARBOR, MO & IL.....	N	2200	1640	285	275	MAR1982
CARLYLE LAKE & LAKE SHELBYVILLE, IL.....	SPE	800	50	300	450	SEP1983

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PREAUTHORIZATION STUDIES INCLUDED  
IN PRESIDENT'S FY 1981 AMENDED  
BUDGET REQUEST  
(\$000)

STUDY NAME	TYPE	TOTAL ALLOCATIONS		BALANCE TO		COMPLETION DATE
		ESTIMATED THRU FY 1980	ESTIMATED THRU FY 1980	AMENDED, COMPLETE FY 1981 AFTER 1981 REQUEST	REQUEST	
MRT						
ATCHAFALAYA BASIN (WATER & LAND RESOURCES), LA.....	FDP	4900	4401	300	199	MAR1982
HELENA & VICINITY, AR.....	FDP	540	395	100	45	SEP1982
MISSISSIPPI RIVER, EAST BANK, .....	FDP	230	150	50	30	OCT1982
VICKSBURG-YAZOO AREA, MS (PHASE I).....	FDP	1900	974	454	472	JUL1985
ST. FRANCIS RIVER BASIN BELOW MAPPAPELLO LAKE, AR & MO.....	FDP	420	25	175	220	DEC1983
ST. FRANCIS RIVER, MO & AR (FISH & WILDLIFE).....	FDP	870	517	200	153	MAR1983
WEST MEMPHIS, AR.....	FDP	1567	1341	100	126	JUN1983
WOLF & LODSAHATCHIE RIVERS & NUNCONNAH CREEK, TN & MS.....	FDP	6220	3638	781	1801	DEC1984
YAZOO RIVER BASIN, MS.....	FDP					

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PREAUTHORIZATION STUDIES INCLUDED  
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BUDGET REQUEST  
(\$000)

HRD	STUDY NAME	TYPE	TOTAL ALLOCATIONS		BALANCE TO		COMPLETION
			ESTIMATED FY 1980	THRU FY 1981	AMENDED REQUEST	COMPLETE AFTER 1981 REQUEST	
	KANSAS & OSAGE RIVERS, KS.....	FDP	4500	2275	1000	1225	SEP-1983
	MISSOURI RIVER, SD, NE, ND & MT.....	FDP	3141	2297	580	264	SEP-1983

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PREAUTHORIZATION STUDIES INCLUDED  
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BUDGET REQUEST  
(\$000)

STUDY NAME	TYPE	TOTAL ALLOCATIONS		BALANCE TO		COMPLETION DATE
		ESTIMATED FED. COST	THRU FY 1980	AMENDED FY 1981 REQUEST	COMPLETE AFTER 1981 REQUEST	
CONNECTICUT RIVER BASIN AUTH REPORT, CT, MA, NH, & VT.....	COM	2608	1428	480	700	SEP1983
SOUTHEASTERN NEW ENGLAND AUTH RPT, MA, * RI & CT.....	COM	966	255	250	461	APR1982
HOUSATONIC RIVER BASIN, MA & CT.....	FDP	915	389	325	201	SEP1982
PAMCATUCK RIV & NARRAGANSETT BAY DRAIN.. BASIN, RI, MA & CT.....	FDP	4350	4200	150	0	OCT1981
SOUTHEASTERN NEW HAMPSHIRE, NH.....	FDP	750	413	256	81	SEP1982
WINNIPESAUKEE RIVER, NH.....	FDP	470	235	200	35	JUL1982
BRIDGEPORT HARBOR, CT.....	N	600	197	300	103	SEP1982
LYNN HARBOR, MA.....	N	380	166	155	59	SEP1982
FORTSMOUTH HARBOR & PISCATAQUA RIVER, * NH & ME.....	N	280	225	55	0	SEP1981
SEARSPURT HARBOR, ME.....	N	200	30	120	50	SEP1982
LONG ISLAND SOUND-DREDGED MATERIAL .....	SPE	1413	564	400	449	MAR1984
CONTAINMENT STUDY, CT.....						

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PREAUTHORIZATION STUDIES INCLUDED  
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(\$000)

STUDY NAME	TYPE	TOTAL ALLOCATIONS		BALANCE TO		COMPLETION DATE
		ESTIMATED THRU FED. COST FY 1980	AMENDED FY 1981 REQUEST	COMPLETE AFTER 1981 REQUEST	MO. YR.	
NAD						
SUSQUEHANNA RIVER BASIN AUTH REPORT, NY, PA & MD.....	COM	8608	7868	425	315	SEP1982
CHOMAN RIVER, VA & NC.....	FDP	1185	1035	150	0	SEP1981
DELAWARE RIVER TRIBUTARIES IN NY STATE, NY.....	FDP	1250	631	175	444	SEP1984
DELAWARE RIVER BASIN, PA, NJ, NY & DE.....	FDP	1450	415	400	635	MAR1984
HACKENSACK RIVER, NJ & NY.....	FDP	1376	695	306	375	MAR1983
LEHIGH RIVER BASIN, PA.....	FDP	350	50	175	125	SEP1982
PASSAIC RIVER BASIN, NJ & NY (PHASE I).....	FDP	14000	5847	2700	5453	MAR1985
ROSIER RIVER BASIN, NJ.....	FDP	4163	2005	560	1598	SEP1984
THIRD RIVER, NJ.....	FDP	498	399	99	0	SEP1981
VIRGINIA BEACH, VA (PHASE I).....	FDP	1040	400	352	288	SEP1983
WALKILL RIVER, (BLACK DIKT AREA), NJ & NY (PHASE I).....	FDP	520	363	155	0	SEP1981
WALKILL RIVER, NY & NJ.....	FDP	504	278	86	140	MAY1983
WYOMING VALLEY, PA (PHASE I).....	FDP	1400	1195	205	0	MAY1981
ARTHUR KILL CHANNEL, HOWLAND HOOK, TERMINAL, NY.....	N	370	50	100	220	FEB1984
BARNEGAT INLET, NJ (PHASE I).....	N	350	300	50	0	APR1981
CHESAPEAKE CITY BRIDGE, MD.....	N	300	277	23	0	JUN1981
CRISFIELD HARBOR, MD.....	N	300	5	50	245	SEP1983
DELAWARE RIVER ESTUARY, SALINITY, INTRUSION, DE.....	N	420	257	120	43	SEP1982
DELAWARE RIVER DREDGING DISPOSAL STUDY, PA, NJ & DE.....	N	1355	375	250	730	MAR1985
HAMPTON ROADS DRIFT REMOVAL, VA.....	N	530	375	100	55	APR1982
JONES INLET AND FREEPORT, LONG ISLAND, NY.....	N	950	40	150	760	JAN1986
SMITH ISLAND, MD.....	N	340	295	45	0	JUN1981
NORFOLK VICINITY WILLOUGHBY SPIT, VA.....	SP	500	500	78	0	OCT1981
CHESAPEAKE BAY STUDY, MD & VA.....	SPE	30254	25448	2497	2309	OCT1983
METROPOLITAN WASHINGTON WATER SUPPLY, DC.....	SPE	4050	2888	600	562	SEP1982

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PRE-AUTHORIZATION STUDIES INCLUDED  
IN PRESIDENT'S 1981 BUDGET  
BUDGET REQUEST

STUDY NAME	TYPE	TOTAL ALLOCATIONS		BUDGET REQUEST		COMPLETION DATE
		FED. COST	THRD	FY 1981 REQUEST	FY 1981 BUDGET	
CHICAGO-SOUTH END OF LAKE MICHIGAN, IL	FDP	5400	1172	220	2014	NOV1987
CHICAGO AND UNDERFLOW PLANT, II (PHASE I)	FDP	8100	2350	2500	3250	SEP1983
FOX RIVER & TRIBUTARIES, IL & MI	FDP	2017	1445	355	222	MAR1984
GRAFTON-FORN RIVER SUBBASIN, MD (PHASE I)	FDP	785	200	345	240	APR1982
GREAT LAKES, PARTICULARLY LAKES ONTARIO & ERIE, MI	FDP	8472	2141	860	371	APR1983
IOWA & CEDAR RIVERS, IA & MN	FDP	1260	1043	166	51	JUN1982
IRONHOOBIT CREEK, NY	FDP	605	530	65	0	SEP1981
LITTLE CALUMET RIVER, IN (PHASE I)	FDP	2337	1725	440	122	SEP1982
MISS. RIV. COON RAPIDS DAM TO OHIO	FDP	3070	1236	550	1284	JUL1984
RIEGER IL, IN, MD & WI	FDP	3089	1749	520	820	OCT1983
OSWEGO RIVER WATERSHED, NY	FDP	1040	986	54	0	APR1981
QUAB-CITIES URBAN STUDY, IL	FDP	5250	3657	635	958	SEP1984
RED RIVER OF THE NORTH, ND & MN	FDP	1101	1031	70	0	APR1981
ROCK RIVER AT ROCKFORD, IL	FDP	1132	410	250	472	MAY1983
WESTERN LAKE ERIE SHOBE, OH	FDP	682	392	150	140	JAN1983
WISCONSIN RIVER AT PORTAGE, WI	FDP	2000	100	400	1500	SEP1984
BUFFALO HARBOR, NY	N	910	608	130	172	OCT1982
CLEVELAND HARBOR, OH (PHASE I)	N	4494	1550	1100	1844	SEP1984
GREAT LAKES CONNECTING CHANNEL & HARBOR, MI	N	1362	539	340	483	NOV1983
LORAIN HARBOR, OH	N	2400	963	400	1037	SEP1984
MISSISSIPPI RIVER, YEAR-ROUND NAVIGATION, IL, IA, MN, MO & WI	N	2571	1781	500	290	SEP1983
ST. LAWRENCE SEAWAY, ADDITIONAL LOCKS, NY	N	1100	950	150	0	SEP1981
PRESQUE ISLE PENINSULA, PA (PHASE I)	SP	1884	1354	300	230	JUL1982
DIVERSION OF LAKE MICHIGAN WATER AT CHICAGO, IL	SPE	4458	3803	575	80	NOV1983
GREAT RIVER RESOURCES MANAGEMENT STUDY, MI, IA & WI	SPE	5000	3852	800	348	OCT1982
LAKE ERIE-WASTEWATER MGMT, OH, MI, NY, PA & IN	SPE	5590	5190	400	0	JUN1981
WATER LEVELS OF THE GRT LAKES, MI, IL, IN, MN, NY, OH, PA & WI	SPE					

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PREAUTHORIZATION STUDIES INCLUDED  
IN PRESIDENT'S FY 1981 AMENDED  
BUDGET REQUEST  
(\$000)

STUDY NAME	TYPE	FED. COST	FY 1980	TOTAL ALLOCATIONS ESTIMATED THRU FY 1981	AMENDED REQUEST	COMPLETE FY 1981	BALANCE TO COMPLETE REQUEST	COMPLETION DATE	MO. YR.
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PREAUTHORIZATION STUDIES INCLUDED  
IN PRESIDENT'S FY 1981 AMENDED  
BUDGET REQUEST  
(\$000)

STUDY NAME	TYPE	TOTAL ALLOCATIONS		AMENDED COMPLETE	BALANCE TO	COMPLETION
		ESTIMATED	THRU			
		FEB, COST	FY 1980	REQUEST	REQUEST	MO. YR.
NPD						
PUGET SOUND & ADJACENT WATERS, WA.....	COM	5000	4218	646	136	SEP-1982
CHEHALIS RIVER & TRIBUTARIES, WA.....	FDP	2216	1335	455	426	NOV-1983
COLUMBIA RIVER & TRIBUTARIES, ID.....	FDP	12975	9636	700	2639	JAN-1985
SMALL HYDROELECTRIC PLANTS, AK.....	FDP	1830	490	500	840	NOV-1983
SOUTHCENTRAL RAILBELT AREA, AK.....	FDP	5334	4678	533	123	APR-1982
UPPER SNAKE RIVER & TRIBS, ID & WY.....	FDP	3529	2714	330	485	NOV-1983
COLUMBIA RIVER AT THE MOUTH, OR & WA.....	N	537	279	130	128	MAY-1983
GRAYS HARBOR & CHEHALIS RIVER, HOQUIAM, WA.....	N	3020	2539	481	0	MAY-1981

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ORD	STUDY NAME	TYPE	TOTAL ALLOCATIONS		AMENDED COMPLETE	BALANCE TO	COMPLETION
			ESTIMATED	THRU			
			FED. COST	FY 1980	REQUEST	REQUEST	MO. YR.
	KANAWHA RIVER BASIN AUTH REPORT, WV, NC, & VA.....	CDM	2906	1858	400	648	JAN1984
	WABASH RIVER BASIN AUTH REPORT, IN & IL.....	CDM	2750	782	400	1568	SEP1985
	BEAVER RIVER BASIN, PA.....	FDP	1500	870	250	380	SEP1983
	CAMP GROUND LAKE, KY (PHASE I).....	FDP	1100	439	250	411	MAY1983
	CENTRAL OHIO SURVEY, OH.....	FDP	2858	1708	300	850	SEP1984
	GRAND LAKE ST. MARYS, OH.....	FDP	300	260	40	0	DEC1981
	GUYANDOTTE RIVER BASIN, IC OF LOGAN & MULLENS, WV.....	FDP	1135	685	300	150	SEP1982
	KENTUCKY RIVER & TRIBUTARIES, KY.....	FDP	1550	335	300	915	APR1984
	NISKIMITAS RIVER BASIN, PA.....	FDP	1700	135	150	1415	JUL1984
	METROPOLITAN REGION OF NASHVILLE, TN .....	FDP	2525	1719	425	381	JUL1984
	(URBAN STUDY).....						
	MIAMI RIVER, LITTLE MIAMI RIVER & MILL CREEK, OH.....	FDP	3500	1939	350	1211	SEP1985
	HONONGAHELA-YOUGHIOGHENY RIVER BASIN, MD, PA & WV.....	FDP	3150	2173	450	527	JUN1984
	HUSKINGUM RIVER BASIN, OH.....	FDP	2175	975	200	1000	JUL1984
	OHIO RIVER MAIN STEM, IL, IN, KY, OH, PA & WV.....	FDP	4000	0	600	3400	SEP1985
	UPPER ALLEGHENY RIVER BASIN, NY & PA.....	FDP	1000	412	75	513	SEP1982
	UPPER CUMBERLAND RIVER BASIN, KY & TN.....	FDP	1136	659	200	277	SEP1983
	BIG SANDY RIVER, WV, KY & VA.....	N	2420	1270	500	650	SEP1983
	LOWER CUMBERLAND & TENN. RIVERS BELOW BARKLEY CANAL, KY & TN.....	N	900	580	100	220	JUL1982

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STUDY NAME	TYPE	TOTAL ALLOCATIONS ESTIMATED THRU		AMENDED FY 1981 REQUEST	BALANCE TO COMPLETE		COMPLETION DATE
		FY 1980	FY 1981		AFTER REQUEST	REQUEST	
FDD							
HARBORS & RIVERS IN HAWAII, HI.....	FDP	2000	1447	265	288	288	SEP1983
KITAEI DISTRICT, HI.....	FDP	510	300	160	50	50	AUG1982
HARBORS & RIVERS IN THE TERRITORY OF GUAM, GU.....	N	3200	1532	325	1343	1343	SEP1985
HARBORS & RIVERS IN AMERICAN SAMOA, AS.....	N	1900	742	225	933	933	JUL1985
MILD AREA COMPREHENSIVE STUDY, HI.....	N	1300	535	325	440	440	SEP1983

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STUDY NAME	TYPE	TOTAL ALLOCATIONS		AMENDED FY 1981 REQUEST	BALANCE TO COMPLETE FY 1981 AFTER 1981 REQUEST	COMPLETION DATE MO, YR.
		ESTIMATED FED. COST	THRU FY 1980			
SAD BREVARD COUNTY, FL (WATER RESOURCES STUDY)	FDP	818	115	405	298	DEC1983
CANAL 18-JUPIITER INLET-LOXAHATCHEE RIV., CENTRAL & SOUTHERN FLORIDA WATER SUPPLY, FL	FDP	636	356	150	130	SEP1982
KISSIMMEE RIVER - LAKE ONECHOBEE, FL	FDP	1602	375	446	781	OCT1983
LUMBER RIVER BASIN, NC & SC	FDP	1800	1098	555	147	SEP1982
METROPOLITAN ATLANTA AREA, GA	FDP	3735	424	215	96	SEP1982
METROPOLITAN SAVANNAH AREA, GA	FDP	3408	3308	100	0	DEC1980
PASCAGOULA RIVER BASIN, MS	FDP	1407	943	325	139	SEP1982
PEARL RIVER BASIN, MS	FDP	1147	840	335	72	SEP1982
PUERTO RICO - VIRGIN ISLANDS PIPELINE STUDY, VI & PR	FDP	2938	804	500	1634	SEP1984
ROANOKE RIVER UPPER BASIN, VA	FDP	1600	648	710	242	SEP1983
ROANOKE RIVER (SOUTH BOSTON & VICINITY), NC & VA	FDP	1460	865	262	333	NOV1983
SHARK RIVER SLOUGH AREA, FL	FDP	1623	1106	487	30	AUG1982
SOMASHEE CREEK, MS (PHASE I)	FDP	369	121	150	98	SEP1982
BILDXI BAY, E. HARRISON CTY, MS	N	633	407	148	78	SEP1982
CHARLESTON HARBOR, SC	N	105	70	35	0	JUL1981
CHOCTAWHATCHEE RIVER, FL	N	1287	1070	180	37	MAR1982
GEORGETOWN HARBOR, SC	N	471	149	252	70	SEP1982
JACKSONVILLE HARBOR, FL	N	615	515	100	0	NOV1981
MISSISSIPPI SOUND & ADJACENT AREAS, MS	N	543	315	333	-5	OCT1981
SAVANNAH HARBOR COMPREHENSIVE STUDY, GA	N	1665	786	368	294	SEP1983
TAMPA HARBOR, ALAFIA RIVER & BIG BEN, FL	N	1300	100	110	1090	SEP1984
WARRIOR-TOMBIGBEE RIVERS, AL & MS	N	250	30	120	100	FEB1983
BOQUE BANKS & BOQUE INLET, NC	SP	2607	673	391	1543	SEP1984
PINELLAS COUNTY, FL	SP	593	535	48	0	APR1981
WRIGHTSVILLE BEACH, NC	SP	194	150	44	0	NOV1981
TENNESSEE-TOMBIGBEE WATERWAY, AL	SPE	430	361	69	0	NOV1981
		4546	1714	1500	1332	MAR1984

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SPD	STUDY NAME	TYPE	TOTAL ALLOCATIONS		AMENDED FY 1981 REQUEST	BALANCE TO COMPLETE AFTER 1981 REQUEST	COMPLETION DATE MO., YR.
			ESTIMATED FED. COST	THRU FY 1980			
	COLO. RIV & TRIBS, ABOVE LEE'S FERRY, ..	FDP	725	582	100	43	SEP1982
	UT, AZ, CO, NM & WY.....	FDP	2040	1020	440	580	SEP1985
	GILA RIVER & TRIBUTARIES, AZ & NM.....	FDP	1480	1035	170	275	SEP1983
	JORDAN RIVER BASIN, UT.....	FDP	3050	1236	457	1357	OCT1985
	LOS ANGELES COUNTY DRAINAGE AREA REVIEW, CA.....	FDP	1390	831	559	0	DEC1981
	METROPOLITAN AREA OF TUCSON, AZ.....	FDP	1441	1266	175	0	DEC1981
	SACRAMENTO-SAN JOAQUIN DELTA, CA.....	FDP	1889	1589	300	0	NOV1981
	SAN DIEGO COUNTY STREAMS, CA.....	FDP	4050	3873	1000	1477	SEP1984
	SAN JOAQUIN RIVER BASIN, CA.....	FDP	6320	5177	350	793	SEP1985
	SANTA ANA RIVER & ORANGE COUNTY, CA.....	FDP	990	840	150	0	MAR1982
	TRUCKEE HEADWATS, NV.....	FDP	2270	2040	230	0	MAY1981
	WYOMING RIVERS, CA.....	FDP	680	85	220	355	AUG1983
	CRESCENT CITY HARBOR, CA.....	N	6151	6028	125	0	DEC1981
	LOS ANGELES=LONG BEACH HARBORS(INCL SAN, PEDRO BAY, MODEL STUDY), CA.....	N	420	100	200	120	MAY1982
	OAKLAND INNER HARBOR, CA.....	N	2495	2251	110	134	AUG1983
	SAN FRANCISCO BAY AREA (IN DEPTH), CA...	N	1070	505	200	365	SEP1982
	SAN PEDRO BAY PORTS, CA.....	N	830	385	100	345	NOV1983
	SUNSET HARBOR, CA.....	N	250	195	55	0	AUG1981
	CITY OF ALAMEDA SHORELINE, CA.....	SP					

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STUDY NAME	TYPE	TOTAL ALLOCATIONS ESTIMATED		AMOUNT COMPLETED FY 1981	PERCENT COMPLETED	COMPLETION DATE
		FY 1980	FY 1981			
<b>SMD</b>						
WHITE RIVER BASIN AUTH RPT, AR & MO.....	CON	1365	763	242	36.0	OCT1982
ARKANSAS RIVER ABOVE JOHN MARTIN DAM, **	FDP	3500	1581	200	17.1	SEP1985
CO (PHASE I).....						
ARKANSAS RIVER FROM GREAT BEND, KS TO ..	FDP	2520	1529	275	71.6	SEP1984
JOHN MARTIN DAM, CO.....						
ARKANSAS RIVER & TRIBS, GREAT BEND, KS .	FDP	4680	2917	400	13.6	SEP1985
TO TULSA, OK.....						
ARKANSAS RIVER IN THE VICINITY OF FORT ..	FDP	990	140	310	54.0	SEP1984
SMITH-VAN BUREN, AR.....						
BRAZOS NATURAL SALT POLLUTION CONTROL ..	FDP	1500	808	450	24.2	APR1983
TX (PHASE I).....						
BRAZOS RIVER & TRIBUTARIES, TX.....	FDP	6970	5046	250	16.7	NOV1987
BUFFALO BAYOU & TRIBUTARIES, TX.....	FDP	4800	1547	660	23.9	MAR1985
CANADIAN RIVER & TRIBUTARIES, OK, TX & ..	FDP	2510	987	200	13.4	SEP1986
NM.....						
COLORADO RIVER & TRIBUTARIES, TX.....	FDP	3690	3318	260	11.2	NOV1982
DENISON DAM-LAKE TEXOMA, TX & OK.....	FDP	760	736	24	0	JUN1980
GUADALUPE & SAN ANTONIO RIVERS & .....	FDP	4030	184	100	37.4	SEP1983
TRIBUTARIES, TX.....						
LAKE TEXOMA WATER SUPPLY FACILITIES, TX, ..	FDP	770	350	228	19.2	SEP1982
& OK.....						
PALO BLANCO & CIBOLO CREEKS, TX.....	FDP	825	503	250	7.2	MAY1982
PROSPERITY LAKE, MO (PHASE I).....	FDP	805	722	83	0	SEP1981
RIO GRANDE & TRIBUTARIES, NM & CO.....	FDP	4630	2978	450	12.0	SEP1984
RIO GRANDE & TRIBUTARIES (RIO .....	FDP	1760	1313	447	0	SEP1981
FUENCO/RIO SALADO), NM (PHASE I).....						
TENKILLER FERRY LAKE, OK.....	FDP	732	586	110	5.6	NOV1982
TULSA URBAN STUDY, OK.....	FDP	2116	1615	400	10.1	JUN1982
VERDIGRIS RIVER, KS & OK (INCLUDING .....	FDP	2340	1627	440	27.3	SEP1983
NAVIGATION).....						
WALNUT BRANCH IN VICINITY OF SEQUIN, TX, ..	FDP	180	50	80	5.0	MAR1982
WHITE RIVER BASIN, COUNTY LINE LAKE, MO, ..	FDP	650	250	150	25.0	SEP1983
WHITE RIVER BASIN RESERVOIRS, AR & MO...	FDP	1980	1213	400	36.7	OCT1982
ARKANSAS RIVER & TRIBS, HYDROPOWER & .....	N	1500	350	800	35.0	SEP1983
OTHER PURPOSES, AR.....						
GALVESTON BAY AREA NAVIGATION STUDY, TX, ..	N	3310	1752	610	94.8	FEB1984

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SMD	STUDY NAME	TYPE	TOTAL ALLOCATIONS ESTIMATED THRU		AMOUNT REQUESTED	AMOUNT REQUESTED	PERCENT COMPLETE	COMPLETION DATE
			FY 1980	FY 1981				
	GUADALUPE RIVER CHANNEL TO VICTORIA, TX.....	N	410	270	100	46	SEP1982	
	SABINE RIVER NAVIGATION, TX.....	N	3480	1000	400	2080	OCT1985	
	GALVESTON COUNTY SHORE EROSION STUDY, TX.....	SP	1287	1208	79	0	AUG1981	

Mr. BEVILL. Mrs. Boggs.  
Mrs. BOGGS. Thank you, Mr. Chairman.

#### COMMENDATION FOR EMERGENCY WORK

General, I would like first to thank the Corps and congratulate the Corps on the way that Colonel Sands and the others of your organization in the current difficulties of flooding in Louisiana have conducted their operations. I was very pleased with the prompt action. They set up an emergency command post and, in conjunction with that, have performed a remarkable task in a short amount of time.

It will be ongoing, of course.

One of the real problems was that, in addition to torrential rains, we had a high tide and southerly winds, and this caused breakage along some of the levees at Westwego. The Bayou Barataria Levee, on the Harvey Canal Project and other instances. It is very difficult to try to explain to the people the difference between the Corps' responsibilities and the responsibilities of the local government, et cetera.

#### NEW ORLEANS PROJECTS CUT

And in view of that, I was very distressed that—unless there is some good answer for it—that within the suggested recommendations for cutting the hurricane protection in two major projects in the metropolitan New Orleans, Larose to Golden Meadow and New Orleans to Venice Levee system, were part of your recommended budget reductions.

Could you please estimate the impact of this reduction on the quality of hurricane protection received by the people living in this area.

Could you please tell us how these two projects were selected?

General HEIBERG. We do have an estimate on the months of delay that would be associated with the Larose to Golden Meadow project. It is three months. I should point out that what we did was to take advantage of an estimated three months' planning delay.

With respect to the New Orleans project, which is an important one, the situation is basically the same. Our reduction takes advantage of an estimated three months' planning delay.

I would just have to say and I will need some help from the Assistant Secretary, since we participated in this together—we did make judgments that were difficult on those projects. We are facing a delay of three months, but those projects are still intended to be continued. There is an associated amount of risk taking—longer to finish the projects, but in these two cases we will have these delays in any event.

#### MISSISSIPPI RIVER LEVEES

Mrs. BOGGS. The risks involved seem to become more difficult with the type of flooding that we have had, the saturation of ground and so on in recent weeks, and I assume that all of these cuts were predicated before the recent difficulties. That brings me to another situation.

For the first time in several years, the Mississippi River was not very high, and we were hoping to get by because of the absence of snows and so on.

Now, we know that the river is very high. I was very concerned that the Corps had to take three emergency pumping stations away from Voltaire and bring them over to Westwego for that situation during the heights of the difficulties last week.

If these predictions were cause for reductions, but were made prior to the river being as high as it is, do you really think that reductions in the levee work and so on that you propose are still valid?

General HEIBERG. If I were king, I would not like to see delay on any of those projects. I am very well aware of the safety aspects. They will exist tomorrow, they will exist next year, until we have the population down there protected. They are going to continue to cause us concern that we are not ready for the next large flood that comes along.

As I say, we did make some judgments. If we had made the judgments after the current flooding down there, I can't tell you whether we would have made any different judgment on that, Mrs. Boggs.

I can assure you that I am very well aware of the safety aspect problems of the lower Mississippi, and I did have those in mind when I participated in the recommendations.

Mr. BLUMENFELD. Let me just add, obviously, that we are concerned, there are risks, we want to get the projects completed in order to minimize those risks, and we formulated our 1981 cuts so as not to increase them. I think we would have to look in more detail than we probably have here today, at precisely which contracts or activities are being delayed and, therefore, what feature of the project is being delayed that three months. We will furnish a detailed response for the record.

[The information follows:]

STATUS OF HURRICANE PROTECTION PROJECTS IN LOUISIANA\*

<u>Project</u>	<u>January Budget Amount (\$ 000)</u>	<u>Amendment (\$ 000)</u>	<u>FY 1981 Revised Request (\$ 000)</u>	<u>Remarks</u>
Larose to Golden Meadow (Hurricane Protection)	18,800	340	18,460	Delay construction of the Golden Meadow Flood Gate three months due to delays in project planning. The flood gate would not provide interim protection until completion of the first lift for the east levee which is not yet underway and is scheduled for completion in Fiscal Year 1982. Completion date for the entire project is Fiscal Year 1994.
New Orleans to Venice (Hurricane Protection)	3,300	2,250	1,050	Defer construction of the project reach on the west side of the river three months pending completion of planning for alternative solutions. Protection for this reach is not scheduled for completion until October 1988.

\*The reduction to the projects shown above were the result of planning delays. In each instance, the three months delay is essentially unavoidable; safety has not been compromised due to the reductions.

## SAFETY ASPECTS

Mrs. BOGGS. The reductions and the delays indicated by the list that I have would seem to be having a very serious impact upon what I would consider the safety of the people, and therefore of the agriculture, the business community and industry, trade, and commerce, balance of payments of the United States, and I was concerned that there would be reductions, but I was appalled when I discovered that there were some reductions, particularly in the levee and floodwall type of work.

Is there any possibility that these could be reconsidered in the new decision?

General HEIBERG. I would have to discuss that with Mr. Blumenfeld. But, my feeling is we made those judgments knowing the status of the projects and would not be compromising safety in those projects that we had to cut back on.

Mr. BLUMENFELD. Obviously very difficult choices had to be made. We have made them and support them. If the committee feels strongly that substitute cuts ought to be made, that is obviously the committee's prerogative.

## OPERATION &amp; MAINTENANCE, GENERAL, REDUCTIONS

Mrs. BOGGS. You are proposing a 24 percent reduction in the O&M account for one very important navigation problem, the Mississippi River, Baton Rouge to the Gulf, and Southwest Pass.

Further, I understand that this project has a capability level of some \$15 million above the initial budget request. Could you please tell us what impact these cuts would have on the safe navigation of the river, what effect they would have on the value of commerce that moves on the river, and if we don't dredge the river, won't the resulting siltation have a negative impact on our international balance of trade?

General HEIBERG. I think we can furnish a complete answer to you better for the record, which I would like to do to make sure we have answered your question fully. The comment that I have here is that our delay on the project, which compares to the reduction from \$24 million to \$18,319,000, is a delay in structural items. That goes back to my conversation with Mr. Myers, that we are taking some risks and deferring some structural maintenance that needs to be done rather than deferring the dredging at the reaches that we would see, probably, being required, depending on what the river does next year.

So we are taking risks with the structural work delay, but it is one I think we can do in good conscience.

[The information follows:]

MISSISSIPPI RIVER—BATON ROUGE TO THE GULF—OPERATION AND MAINTENANCE,  
GENERAL

The Mississippi River, Baton Rouge to the Gulf, O&M project, fiscal year 1981 budget amount was reduced from \$24,110,000 to \$18,319,000. This reduction of \$5,791,000 will defer construction of timber pile groins intended to reduce future dredging requirements. The reduction does not affect maintenance dredging scheduled for fiscal year 1981 to maintain channel depths; therefore, there would be no effect on the value of commerce that moves on the river and no resultant negative impact on the international balance of trade. The additional capability of

\$14,900,000 above the January budget amount provides for advance hopper dredging and other dredging to lengthen the period before maintenance dredging would be required. It also provides for some foreshore protection and for restoration of the East and West Bulkheads. Although the advance maintenance dredging and structural repairs are desirable for a long-term cost effective maintenance program, there would be no navigation delays if the work was not accomplished in the budget year.

#### MISSISSIPPI RIVER, BATON ROUGE TO THE GULF

Mrs. BOGGS. In addition to the O&M reduction, you are proposing almost a similar reduction, 23 percent reduction, in construction parts of the project. In light of the fact that the Corps has the capability on this project of more than double the initial budget request, what will be the impact on the completion of this project if we do not provide the additional capability and if we do accept the proposed reduction?

If we do not do this construction and maintenance now, are we not going to have to pay a higher price for it in the future?

General HEIBERG. Yes. Well, we will have to pay a higher price for it and it does incur some long-term problems with respect to navigation, almost surely. But, again, this is the balancing that we did. We tried to do so considering all the various navigation projects nationwide.

There is a real long-term problem with navigation that is with us today, and it will continue to be with us in the future. There will be increasing demands on getting our goods out of the ports; the coal demand is growing, and grain exports will probably continue to grow.

All of these will be affected by our ability to quickly get these goods out of the country, and into the export market. This is a continuing concern of ours.

Mrs. BOGGS. Yes. Do you think that concern is reflected in the 23 percent reduction?

General HEIBERG. As the manager of the program, I would also like to have more. But we must participate with the Administration in making difficult judgments on cuts across our program.

#### ECONOMIC IMPACTS

Mrs. BOGGS. The last time there was this high concentration of siltation, as you remember, in the South and Southwest Passes, the adverse economic impact was estimated at \$500 million.

General HEIBERG. Yes, Madame.

Mrs. BOGGS. I do not think that we can afford, I do not think the Nation can afford, that type of impact on our export market.

General HEIBERG. I have to agree with you. Of course, at that time when we had the 14 or 12 dredges in operation at one point in the Southwest Pass, we had to make some extraordinary balancing to be sure we got that silt and that dredged material out of there to get the problem solved.

If we were facing that kind of a problem again, I am sure we would take mammoth management actions, to keep those important ports open.

## OTHER REDUCTIONS

Mrs. BOGGS. Could you please explain for the record why the following projects were selected for reduction? Mississippi River, Baton Rouge to the Gulf; Ouachita and Black Rivers; Vermilion Lock; Gulf Intracoastal Waterway (O&M); Mississippi River/Gulf Outlet; Atchafalaya Basin; Teche-Vermilion Basins; Boeuf-Tensas; Larto Lake-Sabine Lake Area; and Mississippi and Louisiana Estuarine Areas.

[The information follows:]

MISSISSIPPI RIVER AND TRIBUTARIES ITEMS IN THE  
STATE OF LOUISIANA THAT WERE REDUCED IN THE  
FISCAL YEAR 1981 BUDGET REVISION

<u>Study or Project</u>	<u>January Budget Amount (\$ 000)</u>	<u>Revised Budget Amount (\$ 000)</u>	<u>Amount of Reduction (\$ 000)</u>	<u>Remarks</u>
Boeuf-Tensas Basin, South Arkansas & North Louisiana (Study)	785	0	785	Continuing studies deleted from the budget, while addressing some high priority needs and having at least a 50% chance of implementation, were not expected to result in plans which would have sufficient high priority outputs to produce 75% of the benefits necessary to reach a B/C ratio of 1.0 from high priority outputs. High priority outputs consist of hydropower, urban flood damages prevention, commercial navigation, M&I water supply and preservation or enhancement of valuable environmental resources.
Larto Lake-Saline Lake Area (Study)	785	0	785	Same as above.
Mississippi and Louisiana Estuarine Areas, Louisiana and Mississippi (Study)	350	0	350	Same as above.
Atchafalaya Basin (Construction)	24,600	24,350	250	Delays in accomplishing relocations of powerlines and pipelines by utility owners has delayed contract award of item E-36 levee enlargement.
Teche-Vermilion Basins (Construction)	7,700	7,500	200	Local interests unable to furnish rights-of-way for Loreauville Canal Control Structure.

PROJECTS IN THE STATE OF LOUISIANA THAT WERE REDUCED  
IN THE FISCAL YEAR 1981 BUDGET REVISION

<u>Project</u>	<u>January Budget Amount (\$ 000)</u>	<u>Revised Budget Amount (\$ 000)</u>	<u>Amount of Reduction (\$ 000)</u>	<u>Remarks</u>
<u>Construction, General</u>				
Mississippi River, Baton Rouge to the Gulf of Mexico	1,800	1,380	420	Construction of pile dikes delayed by additional planning requirements.
Ouachita and Black Rivers, Arkansas and Louisiana	18,800	18,460	340	Delay construction of closure and cut-off at Felsenthal. This would not affect "open to navigation" schedules due to current completion schedules for other navigation channel improvements for this reach of the river.
Vermilion Lock (Replacement)	4,100	3,800	300	Lock appurtenance contract award delayed by additional planning requirements.
<u>Operation and Maintenance</u>				
Gulf Intracoastal Waterway	8,520	7,967	553	Defer advance dredging. Although advance dredging would extend the time until future maintenance dredging would be required it is not currently needed to maintain project depths.
Mississippi River - Gulf Outlet	7,936	6,639	1,297	Defer dredging Michoud Canal and Turning Basin. Reduction does not affect through traffic.
Ouachita and Black Rivers, Arkansas and Louisiana	3,499	2,544	955	Defers maintenance and replacements on recreation items not critical to health and safety of visitors. Also defers dredging of the low end of the project and pools 6 and 8 where work is not required within the next fiscal year to assure continued realization of project benefits.

## ENVIRONMENTAL IMPACT STATEMENTS FOR OCEAN DUMPING

Mrs. BOGGS. I would like to go back to something I should have touched upon at an earlier session. The Corps does a great deal of O&M dredging for the Nation's ports and harbors. This is, of course, very important because it keeps our ports in shape competitively so that our trade moves as rapidly as possible. This has a very positive impact on our Nation's balance of trade and our GNP.

Frequently this O&M dredging activity for our ports requires the preparation of an environmental impact statement. Generally, how are EIS's for ocean dumping financed and prepared?

General HEIBERG. An Environmental Impact Statement or EIS is prepared for each separate O&M dredging project. If the EIS concludes that it is environmentally permissible to dispose of the dredged material in the ocean, and the Corps of Engineers studies conclude that it is economically feasible, the material for a given project is then designated for ocean disposal.

The Environmental Protection Agency has approved some 131 ocean sites as available on an interim basis for the reception of dredged material. Before these sites can be designated for continuing use or a decision made that any given site is not environmentally acceptable, an EIS is usually prepared. In a small percentage of cases the project can proceed, based on an environmental assessment, in which an EIS is not needed. The EPA is the agency responsible for the preparation of the EIS's for ocean dumping. The task of performing the site investigation work, which is a necessary prelude to the initiation of an EIS, is the responsibility of the Corps.

The EPA has under contract a firm which is currently conducting site investigations for the Corps and for the preparation of the related EIS's. The Corps has funded that portion of the contract dealing with site investigation in order to utilize a research vessel under contract to EPA and to get the program off to an early start. This contract will provide the background information relative to 25 EIS's. This represents about one-half the number of EIS's required. Therefore, considerable investigation work remains to be accomplished on the remaining sites not covered by the contract.

Mrs. BOGGS. Could you please estimate how much the Corps might spend in fiscal year 1981 on the preparation of environmental impact statements for ocean dumping sites?

General HEIBERG. A severe shortage of O&M funds exists in fiscal year 1980. This shortage is due to the 100 percent increase in fuel costs over fiscal year 1979, a rising inflation rate and the high interest rates on loans. Therefore, we are proceeding as rapidly as possible with the available funds. It appears that fiscal year 1981 will probably be an austere budget year also. The funds to perform the site investigation work are provided from the O&M appropriation. Based on the current and forecasted budget constraints and the limited amount of O&M funds, we estimate that about \$2 million can be provided for this program in fiscal year 1981.

Mrs. BOGGS. Would additional funding assist or expedite the preparation of these documents? If so, how much?

General HEIBERG. Considering the critical nature of this work, both from an environmental and economic viewpoint and the usage of contractors to perform a large percentage of the work, we estimate that additional funding in the amount of \$4 million in fiscal year 1981 would expedite the completion of the site investigation work.

Mrs. BOGGS. Thank you, Mr. Chairman.

Mr. BEVILL. Mr. Secretary and gentlemen, we appreciate your time here. It has been called to my attention that it is about lunchtime. [Laughter.]

Mrs. BOGGS. Mr. Chairman, in line with the balance of payments and the dredging situation, I would like to submit some questions for the record about the Tampa Harbor that fit into this whole conversation.

[The questions and responses follow:]

#### QUESTIONS SUBMITTED BY CONGRESSWOMAN BOGGS

##### TAMPA HARBOR, FLA.

*Question.* You have recommended a reduction of \$156,000 in the Tampa Harbor dredging activities. What will be the effect of the reduction in this O&M activity and why was this particular activity selected?

*Answer.* The effect of the \$156,000 reduction will be to limit our ability to maintain adequate project dimensions in the Tampa Harbor project. When the budget is assembled, each particular activity is ranked according to its priority in relation to all other O&M activities. When a budget cut occurs, we must eliminate those items of lesser priority beginning with the lowest ranked item and proceed up the ranking list until the value sum of those activities eliminated equals the amount of the budget cut. The activity in question was one of those projects ranked in the lower portion of the priority tabulation.

*Question.* What is the Corps fiscal year 1981 capability for this project? If these funds were to be made available, what could be accomplished with them?

*Answer.* The Corps fiscal year 1981 capability, subject to the usual qualifications, for the entrance channel portion of the Tampa project is \$1,461,000. The availability of these funds would enable us to provide an improved level of maintenance in section 3 and the entrance channel section of the Tampa Bay project. These funds would not provide for improved maintenance of the Sparkman Channel and Cut D of the Hillsborough Bay Channel.

*Question.* What is the current project depth for the Sparkman Channel in Tampa Harbor and what is the actual depth?

*Answer.* The current authorized project depth for the Sparkman Channel is 34 feet while the controlling or actual depth is 28 feet. Cut D of the Hillsborough Bay Channel, which must be traversed before entering Sparkman Channel, has an authorized project depth of 34 feet and a controlling depth of 25 feet.

*Question.* What type of industries depend on access to the Sparkman Channel?

*Answer.* There are many industries which depend on the Sparkman Channel for their existence. In terms of tonnage being shipped through this channel, sulfur, petroleum, phosphate and fuel oil are the most prominent products.

*Question.* What is the impact on reduced channel depth on the users of the channel?

*Answer.* Reduced channel depths have an adverse economic impact on maritime traffic. Under this circumstance, the deep draft vessels using the channels must be light-loaded in order to proceed without scraping bottom or going aground. Therefore, more vessel trips must be taken if the amount of tonnage shipped through the channel is to equal or exceed the tonnage carried through the normally maintained channel. The increased number of vessel trips also increases the risk of collisions.

*Question.* I understand the last time this channel was dredged for maintenance purposes was in 1974. At what point does the Corps plan to schedule O&M dredging activities for the Sparkman Channel?

*Answer.* Neither the fiscal year 1980 nor the fiscal year 1981 budgets contain funds for dredging of Sparkman Channel or Cut D of the Hillsborough Bay Channel. Additional funding of about \$5 million would be needed to bring both of these channels to the authorized 34-foot depth. We will schedule dredging activities on

these segments of the Tampa project when the necessary engineering and design and justification is completed and funds provided.

Mr. BEVILL. We appreciate your fine testimony.  
Thank you very much.

Mr. BLUMENFELD. Thank you very much.

Mr. BEVILL. The committee will stand adjourned until further call of the Chair.

[Whereupon, at 2:54 p.m., the subcommittee adjourned, to reconvene subject to the call of the Chair.]

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THURSDAY, APRIL 17, 1980.

U.S. NUCLEAR REGULATORY COMMISSION

WITNESSES

JOHN F. AHEARNE, CHAIRMAN  
VICTOR GILINSKY, COMMISSIONER  
RICHARD T. KENNEDY, COMMISSIONER  
JOSEPH M. HENDRIE, COMMISSIONER  
PETER A BRADFORD, COMMISSIONER  
HAROLD R. DENTON, DIRECTOR, NUCLEAR REACTOR REGULATION  
LEN BICKWIT, GENERAL COUNSEL

Mr. BEVILL. The committee will come to order.

Chairman Ahearne and members of the Nuclear Regulatory Commission, we have your prepared statement, and if there is no objection, we will just put your statement in the record and then open it up for questions because of our delay in getting started this morning.

Mr. AHEARNE. Fine, thank you, Mr. Chairman.

[The statement follows:]

(241)

STATEMENT OF JOHN F. AHEARNE, CHAIRMAN, U.S. NUCLEAR REGULATORY  
COMMISSION

Mr. Chairman and Members of the Subcommittee. My fellow Commissioners and I are pleased to have another opportunity to meet with you and to discuss the status of nuclear power plant licensing activities at the Commission and the other subjects identified in your March 6 letter confirming your earlier invitation.

Your March 6 letter requested that my prepared remarks address in detail three subjects:

- (1) the status of the work necessary for the Commission to consider operating licenses for the 40 nuclear plants that are seeking or are expected to be seeking operating licenses in the next three years;
- (2) the status of the Commission's action plan for implementing the recommendations of the various Three Mile Island-related studies;
- (3) and the Commission's views on the President's reorganization plan for NRC.

These three subjects are addressed in the attachments to this statement. Attachment 1 includes five tables covering various licensing activities of the Commission. Table 1 responds to your first request by providing a detailed breakdown of completed and projected milestone dates - the licensing steps you requested - for the 40 operating license (OL) applications specified in your letter.

At the present time the NRC staff has under active review operating license applications for 36 nuclear power reactors. The staff expects to receive another 20 applications representing 38 reactors by the end of 1982.

for a total of 74. The 40 identified in your letter are dealt with in Table 1.

In order to provide some historical perspective for our discussion, I have asked the staff to prepare some additional tables, which are also included in Attachment 1. Table 2 summarizes all reactor licensing actions for new plants since the establishment of the NRC five years ago. Table 3 lists the 19 reactors licensed to operate during the same period. Table 4 lists the 48 construction permits granted and Table 5 the major non-reactor licenses issued during that period.

The status of work related to the TMI Action Plan is set out in Attachment 2. The Action Plan is a comprehensive and integrated plan for all actions judged by the staff as necessary or desirable to correct or improve the regulation and operation of nuclear power plants based on the experience gained from the accident at Three Mile Island Unit 2 and the findings and recommendations of various official studies and investigations. Only those NRC activities and programs that relate to the accident at TMI-2 are described in the Action Plan. The Commission's objective is to incorporate these TMI-related objectives into the overall NRC Operating Plan by the end of May. Once this is done, the TMI Action Plan, as such, will no longer exist.

Three Mile Island revealed a number of deficiencies in the regulatory process. Obviously, there are many changes that could be made. The real problem is to identify those that should be made to provide

the greatest assurance that the public health and safety will be adequately protected. We expect to make the necessary decisions on the prerequisites for authorizing full-power operation of new plants before the first of these - TVA's Sequoyah Unit 1 - completes its low-power testing and is ready to go to full-power.

The Commission's collective comments on the President's Reorganization Plan are set out in Attachment 3. My own views are in disagreement with those of my colleagues. Commissioner Hendrie was out of town and did not participate in the preparation of Attachment 3. The Commission's view is that the Plan will worsen, rather than improve, the Commission's organization and structure. It will not lead to better nuclear regulation or safer nuclear power plants. It will, however, lead to friction and distrust within the Commission and may well direct the Commission's attention away from nuclear safety and enmesh it in time-consuming debates about the prerogatives of the Chairman and the full Commission and the right of individual members to have access to information to which the Chairman has access.

With me today are Commissioners Gilinsky, Kennedy, Hendrie and Bradford. We would be happy to answer any questions the Subcommittee may have concerning these or other subjects.

## ATTACHMENT 1

TABLE 1  
TARGET DATES OF LICENSING STEPS FOR PLANTS SEEKING  
OPERATING LICENSES IN THE NEXT THREE YEARS

Plant	FSM		ER		SER	ACRS	SER * Suppl.	DES	FES*	Hearing* Start Comp.	Const. Comp.*** App. Est. NRC Est.	ASLD** Decision	OL Issued	
	Tendered	Docketed	Tendered	Docketed										
EAST CENTRAL AREA RELIABILITY COORDINATION AGREEMENT														
Zimmer 1	5/75	9/75	6/75	9/75	1/79	3/79	10/80E	10/76	6/77	6/79	12/80E	8/80E	2/81E	2/81E
Fern 2	10/74	4/75	10/74	4/75	3/81E	4/81E	6/81E	12/80E	5/81E	7/81E	9/81E	6/81E	11/81E	11/81E
Midland 2	8/77	11/77	3/78	4/78	10/82E	11/82E	1/83E	6/80E	11/80E	2/83E	8/83E	4/84E	10/83E	4/84E (1)
Midland 1	8/77	11/77	3/78	4/78	10/82E	11/82E	1/83E	6/80E	11/80E	2/83E	8/83E	9/84E	10/83E	9/84E (1)
Marble Hill	6/79	3/82E	6/79	4/83E	1/84E	2/84E	4/84E	11/83E	4/84E	8/84E	1/85E	4/85E	3/85E	4/85E (2)
ELECTRIC RELIABILITY COUNCIL OF TEXAS														
Comanche Peak 1	3/78	5/78	3/78	1/79	3/81E	4/81E	6/81E	9/80E	2/81E	9/81E	12/81E	3/81E	2/82E	2/82E
South Texas 1	5/78	7/78	5/78	7/78	11/82E	12/82E	3/83E	4/82E	9/82E	4/83E	7/83E	9/83E	9/83E	9/83E
MID-ATLANTIC AREA COUNCIL														
Salton 2	8/71	8/71	7/71	7/71	10/71	2/79	4/80E(LP) 10/80E(FP)	10/72	4/73	None	Req'd	2/80	4/80E	MA 4/80E (LP) 10/80E (FP)
Susque- hanna 1	4/78	7/78	5/78	6/78	2/81E	3/81E	5/81E	6/79	11/80E	6/81E	8/81E	4/81	10/81E	10/81E 3/81E
Susque- hanna 2	4/78	7/78	5/78	6/78	2/81E	3/81E	5/81E	6/79	11/80E	6/81E	8/81E	4/82E	4/83E	10/81E 4/83E 3/81E

Plant	FSM		ER		SER	AGRS	SFR* Supply	UES	FCS*	Hearting** Start Comp.	Const. App. Est.	Comp.*** BWC Est.	ASL** Dec 13/81	UL Issued
	Tendered	Docketed	Tendered	Docketed										
MID-AMERICA INTERPOOL NETWORK														
LaSalle 1	9/76	5/77	10/76	5/77	9/80E	10/80E	12/80E	3/78	11/78	None	6/80E	12/80E	NA	12/80E
LaSalle 2	9/76	5/77	10/76	5/77	9/80E	10/80E	12/80E	3/78	11/78	None	6/81E	2/82E	NA	2/82E
Byron 1	6/78	11/78	6/78	11/78	10/81E	11/81E	1/82E	2/81E	7/81E	2/82E 8/80E	4/82E 10/81E	7/82E	6/82E 12/81E	7/82E
Byron 2	6/78	11/78	6/78	11/78	10/81E	11/81E	1/82E	2/81E	7/81E	2/82E 6/81E	4/82E 10/81E	7/83E	6/82E 12/81E	1/83E
Braidwood 1	6/78	11/78	6/78	11/78	10/81E	11/81E	1/82E	1/83E	6/83E	2/82E 7/83E	4/82E 10/83E	6/84E	6/82E 12/83E	6/84E
Braidwood 2	6/78	11/78	6/78	11/78	10/81E	11/81E	1/82E	1/83E	6/83E	2/82E 7/83E	4/82E 10/83E	6/85E	6/82E 12/83E	6/85E
Callaway 1	10/79	8/80E	10/79	12/80E	6/82E	7/82E	8/82E	7/81E	12/81E	9/82E	10/82E	12/82E	12/82E	12/82E
Clinton 1	12/79	10/80E	12/79	3/81E	9/82E	10/82E	11/82E	10/81E	3/82E	12/82E	1/83E	4/82E	3/83E	3/83E
NORTHEAST POWER COORDINATING COUNCIL														
Shoreham	9/75	1/76	9/75	1/76	9/80E	10/80E	12/80E	3/77	10/77	1/81E	8/81E	11/80E	10/81E	10/81E
SOUTHEASTERN ELECTRIC RELIABILITY COUNCIL														
North Anna 2	5/73	5/73	6/70	6/70	6/76	1/77	4/80 (LP) 10/80E (FP)	12/72	4/73	11/76 9/75	6/77 9/75	4/80	11/77 12/75	4/80 (LP) 10/80E (FP)
Sequoyah 1	12/73	1/74	(3)	(3)	3/79	5/79	2/80 (LP) 9/80E (FP)	10/71	7/74	None 7/74	Req'd 7/74	2/80	NA 2/75	2/80 (LP) 9/80E (FP)
Sequoyah 2	12/73	1/74	(3)	(3)	3/79	5/79	5/81E	10/71	7/74	None 7/74	Req'd 7/74	8/80E	NA 2/75	5/81E

Plant	FSAR		ER		SER	ACRS	SER* SUPPL.	DES	FES*	Hearing** Start Comp.	Const. Comp.*** App. Est. NRC Est.	ASL B** Decision	UL Issued
	Tendered	Docketed	Tendered	Docketed									
<u>SOUTHEASTERN ELECTRIC RELIABILITY COUNCIL (CON'T)</u>													
<u>McGuire 1</u>	4/74	5/74	4/74	5/74	3/78	4/78	7/80E	10/75	4/76	8/78 3/77	5/80E 11/80E	4/79	11/80E (4)
<u>McGuire 2</u>	4/74	5/74	4/74	5/74	3/78	4/78	7/80E	10/75	4/76	8/78 3/77	1/82E 2/82E	4/79	2/82E (4)
<u>Matts Bar 1</u>	6/76	10/76	(5)	(5)	1/81E	2/81E	4/81E	6/78	12/78	None	9/80E	NA	5/81E
<u>Matts Bar 2</u>	6/76	10/76	(5)	(5)	1/81E	2/81E	4/81E	6/78	12/78	None	6/81E	NA	3/82E
<u>Summer 1</u>	12/76	2/77	12/76	2/77	8/80E	9/80E	11/80E	6/79	9/80E	12/80E 10/80E	12/80E	4/81E 2/81E	4/81E
<u>Farley 2</u>	8/73	8/73	8/73	8/73	5/75	6/75	7/80E(LP) 12/80E(FP)	7/74	12/74	None	6/80E	NA	7/80E(LP) 12/80E(FP)
<u>Bellefonte 1</u>	2/78	6/78	2/78	6/78	2/82E	3/82E	6/82E	2/81E	7/81E	None	7/82E	NA	7/82E
<u>Bellefonte 2</u>	2/78	6/78	2/78	6/78	2/82E	3/82E	6/82E	2/81E	7/81E	None	6/83E	NA	6/83E
<u>Catawba 1</u>	3/79	10/80E	3/79	10/80E	8/82E	9/82E	10/82E	5/82E	9/82E	12/82E	4/83E	4/83E	4/83E
<u>SOUTHWEST POWER POOL</u>													
<u>Grand Gulf 1</u>	4/78	6/78	4/78	6/78	5/81E	6/81E	8/81E	2/81E	7/81E	None	9/81E	NA	9/81E
<u>Waterford 3</u>	9/78	12/78	9/78	12/78	5/81E	6/81E	8/81E	3/81E	8/81E	9/81E	10/81E	2/82E	2/82E
<u>Wolf Creek</u>	2/80	3/81E	2/80	10/81E	1/83E	2/83E	4/83E	5/82E	10/82E	7/83E	10/83E	10/83E	10/83E
<u>WESTERN SYSTEMS COORDINATING COUNCIL</u>													
<u>Diablo Canyon 1</u>	10/73	10/73	8/71	8/71	10/74	7/78	5/80E(LP) 1/81 (FP)	12/72	5/73	10/77 12/76	5/80E	10/80E	10/80E(LP) 1/81E(FP)
<u>Diablo Canyon 2</u>	10/73	10/73	8/71	8/71	10/74	7/78	1/81 (FP)	12/72	5/73	10/77 12/76	3/81E	10/80E	3/81E

Plant	FSAN		ER		SCR	ACRS	SER * Suppl.	DES	FES*	Hearing**		Const. Comp.*** App. Est.	ASLP** Decision	OI Issued
	Tenured	Docketed	Tendered	Docketed						Start	Comp.			
<u>San Onofre 2</u>	11/76	3/77	11/76	3/77	8/80E	9/80E	12/80E	11/78	10/80E	1/81E 10/80E	4/81E 11/80E	11/80E	6/81E 1/81E	6/81E
<u>San Onofre 3</u>	11/76	3/77	11/76	3/77	8/80E	9/80E	12/80E	11/78	10/80E	1/81E 10/80E	4/81E 11/80E	1/81E	6/81E 1/81E	5/82E
<u>Washington Nuclear 2</u>	3/78	6/78	12/76	4/77	3/82E	4/82E	7/82E	1/81E	6/81E	None	Req'd	7/82E	NA	7/82E
<u>Palo Verde</u>	10/79	12/80E	12/79	12/80E	5/82E	6/82E	7/82E	7/81E	12/81E	8/82E	10/82E	11/82E	12/82E	12/82E

WESTERN SYSTEMS COORDINATING COUNCIL (COH\*1)

FOOTNOTES FOR TABLE 1

- E Denotes estimated date
- \* Date entered is for last supplement to SER/FES issued.
- \*\* Where two entries are made, first entry concerns radiological safety matters and second concerns environmental matters. A single entry indicates Hearing and/or ASLB decision considered both radiological and safety matters.
- \*\*\* The difference in estimates for construction completion, between the applicant and NRC, is attributable to an independent assessment by the NRC staff of factors affecting construction completion. Generally, the NRC staff estimates are more conservative (i.e., later completion dates) and are based upon actual experience in constructing similar plants. Second unit of a dual unit facility is usually completed about 18 months after first unit.
- (LP) denotes low power
- (FP) denotes full power
- (1) Applicant construction schedule slipped from 11/80 to 4/84 due to foundation problems with auxiliary building and financial considerations.
- (2) Work stoppage order issued by NRC in August 1979 for QA-related problems on safety portions of facility. NRC estimates about 18 months before full-scale construction will resume. Thus, the large difference in construction complete dates.
- (3) Environmental reviews for Sequoyah 1 and 2 were conducted under a lead agency agreement with TVA. TVA's final environmental statements (FES) incorporated and addressed the AEC's comments on the respective draft statements. The FES's were then accepted as the NEPA statements for the project.
- (4) Schedule shown assumes hearing record will not be reopened for TMI-2 issues. If ASLB reopens record, full power OL issuance may be delayed.
- (5) TVA's FES for Watts Bar 1 and 2 were considered to be the environmental report submitted to NRC. NRC then issued its own DES and FES for project.

ASSUMPTIONS USED FOR PROJECTING TARGET SCHEDULES

Commission decision on full-power NTOL requirements made in June 1980.

Commission decision on treatment of Class 9 accidents in NEPA statements adopts staff recommendation in SECY 80-131 and is made in June 1980.

Projected safety reviews are generally scheduled to start 33 months prior to construction completion dates including time for ACRS review and hearings.

Projected environmental reviews are generally scheduled to start 24 months prior to construction completion dates including time for hearing.

For plants with construction completion dates before the end of 1982 the target schedules for OL review were developed, based on the NRC construction completion dates, on a plant specific basis to minimize delays in OL issuance.

Table 2  
 NRC REACTOR LICENSING ACTIONS SINCE JANUARY 1975\*

	FY 75 (1/75-6/75)	FY 76 (7/75-9/76)	FY 77 (10/76-9/77)	FY 78 (10/77-9/78)	FY 79 (10/78-9/79)	FY 80 (10/79--)	TOTAL
CPS Docketed	2	12	4	2	2	--	22
CPs Issued	--	18	11	15	4	--	48
LWAs Issued	1	9	3	3	--	--	16
OLs Docketed	1	3	7	13	5	--	29
OLs Issued	--	9	4	4	--	2**	19

\* All figures are units (reactors). Actions are for new plants, do not include licensing actions taken as part of the oversight of operating plants.

\*\* Low-power operation.

Table 3

OPERATING LICENSES ISSUED SINCE JANUARY 1975

<u>Plant</u>	<u>Initial License</u>	<u>Full Power License*</u>
Millstone 2	8-01-75	9-30-75
Trojan	11-21-75	11-21-75
Indian Point 3	12-12-75	4-05-76
Beaver Valley 1	1-30-76	7-02-76
St Lucie 1	3-01-76	3-01-76
Browns Ferry 3	7-02-76	8-18-76
Calvert Cliffs 2	8-13-76	11-30-76
Salem 1	8-13-76	12-01-76
Brunswick 1	9-08-76	11-12-76
North Anna 1	11-26-76	4-01-78
Crystal River 3	12-03-76	1-28-77
Davis-Besse 1	4-22-77	4-22-77
Farley 1	6-25-77	6-25-77
Cook 2	12-23-77	12-23-77
Three Mile Island 2	2-08-78	2-08-78
Hatch 2	6-13-78	6-13-78
Arkansas 2	7-18-78	12-14-78
Sequoyah 1	2-29-80**	N/A
North Anna 2	4-11-80**	N/A

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\* Over 50% of rated power level

\*\* Low-power license

Table 4

CONSTRUCTION PERMITS ISSUED  
SINCE JANUARY 1975

Facility	CP Issuance Date	Number of Units
Catawba 1 & 2	8-7-75	2
South Texas 1 & 2	12-22-75	2
Washington Nuclear 1	12-23-75	1
Braidwood 1 & 2	12-31-75	2
Byron 1 & 2	12-31-75	2
Clinton 1 & 2	2-24-76	2
Callaway 1 & 2	4-16-76	2
Palo Verde 1-3	5-24-76	3
Seabrook 1 & 2	7-7-76	2
River Bend 1 & 2	3-25-77	2
St. Lucie 2	5-2-77	1
Perry 1 & 2	5-3-77	2
Hartsville 1-4	5-9-77	4
Wolf Creek 1	5-17-77	1
Sterling 1*	9-1-77	1
Tyrone 1**	12-27-77	1
Cherokee 1-3	12-30-77	3
Phipps Bend 1 & 2	1-16-78	2
Harris 1-4	1-27-78	4
Washington Nuclear 4	2-21-78	1
Marble Hill 1 & 2	4-4-78	2
Washington Nuclear 3 & 5	4-11-78	2
Yellow Creek 1 & 2	11-29-78	2
Jamesport 1 & 2**	1-4-79	<u>2</u>
TOTAL		48

\* Denied certification by New York State Siting Board.

\*\* Project cancelled.

Table 5  
 NRC MAJOR CASE LICENSING ACTIONS SINCE JANUARY 1975

	FY 75 (1/75-6/75)	FY 76 (7/75-9/76)	FY 77 (10/76-9/77)	FY 78 (10/77-9/78)	FY 79 (10/78-9/79)	FY 80 (10/79-3/80)	TOTAL
Uranium Fuel Fab							
New Licenses	0	2	0	0	1	0	3
Renewals	1	4	6	3	1	0	15
Amendments	4	1	1	2	6	3	17
							<u>35</u>
Uranium Mills							
New Licenses	0	0	2	0	4	1	7
Renewals	0	1	3	2	1	0	7
Amendments	0	0	4	3	-2	1	10
							<u>24</u>
In-Situ							
New Licenses	0	1	2	6	7	2	18
Renewals	0	0	1	0	0	0	1
Amendments	0	0	0	1	1	0	2
							<u>21</u>
Uranium Hexafluoride							
New Licenses	0	0	0	0	0	0	0
Renewals	0	0	1	0	0	0	1
Amendments	0	0	1	0	0	0	2
Maste Burial							
New Licenses	0	0	0	0	0	0	0
Renewals	0	0	0	0	0	1	1
Amendments	0	0	0	0	0	0	0

(CONTINUED)

Table 5. NRC MAJOR CASE LICENSING ACTIONS SINCE JANUARY 1975 (concluded)

	FY 75 (1/75-6/75)	FY 76 (7/75-9/76)	FY 77 (10/76-9/77)	FY 78 (10/77-9/78)	FY 79 (10/78-9/79)	FY 80 (10/79-3/80)	TOTAL
Plutonium Fuel Fab							
New Licenses	0	0	1	0	0	0	1
Renewals	0	0	1	0	1	0	2
Amendments	1	0	0	1	0	1	<u>3</u>
							6
Fuel Storage							
New Licenses	0	0	0	3	1	0	4
Renewals	0	0	0	0	0	0	0
Amendments	0	1	0	0	0	0	<u>1</u>
							5
Transportation (All)	1	2	8	3	1	2	17
Radioisotope Licenses							
New Licenses	227	522	537	842*	858	351	3,337
Renewals	316	740	641	1477*	1474	358	5,006
Amendments	2060	3255	3304	2983*	2788	1577	15,967

Data not available for 10/77 or 11/77; FY totals extrapolated on a linear basis from ten months' data.

## ATTACHMENT 2

STATUS OF ACTION PLAN WORK

Almost immediately after the accident at Three Mile Island Unit 2 the NRC began taking steps to improve the safety of nuclear power reactors based on lessons learned from the experience. These efforts have continued throughout the past year. Following issuance of the report of the President's Commission in November, the Commission provided preliminary views and analysis of the Presidential Commission's recommendations. It also instructed the NRC staff to develop a comprehensive plan of action addressing all of the recommendations and proposals originating out of the various investigations and studies of the TMI accident.

A first draft of the TMI Action Plan was completed in December. A second draft, which incorporated initial comments of the Commissioners, the Advisory Committee on Reactor Safeguards and industry, was completed in January. In February a subset of the Plan, which listed the specific additional requirements to be applied to pending applications for operating licenses, was developed by the staff and given preliminary approval by the Commission. A third draft, completed in March, took into account further comments of the Commission and the recommendations of the NRC Special Inquiry Group, headed by Washington attorney Mitchell Rogovin.

The Action Plan is now undergoing final revisions to incorporate, where appropriate, industry suggestions of priorities and estimates of

costs and further comments of the ACRS. In addition, the staff is making estimates of the resources necessary to accomplish the Action Plan's objectives and setting priorities relative to the other activities of the NRC. This work is expected to be completed shortly, at about the same time as the ACRS completes a final review of the Plan. The revised Plan and its impact on the agency operating plan will be considered by the Commission in the next several weeks. The objective is to incorporate the TMI Action Plan into the NRC Operating Plan for all activities. The TMI Action Plan, as such, will not exist after May.

For each element of the Plan there is a description of the separate tasks, their objectives, the relative priorities, the NRC organizational elements responsible for carrying out its tasks, the estimates of resources and schedules for both NRC and industry, and the references to identify the sources that led to the inclusion of the task. Although a large number of the tasks included in the TMI Action Plan are already underway, many will not be initiated this year or next, and some are not expected to be completed for several years. Completion of these long-term tasks will not be a prerequisite for resumption of issuance of full-power operating licenses. However, a number of the short-term tasks will have to be completed before issuance of a full-power operating license for any new plant. The Commission has been considering the staff's proposals on this issue and expects to reach a final decision on the list of prerequisites to authorizing full-power operation in advance of the time that the first of the new plants completes low-power testing and is ready to go on to full-power.

PRESIDENT'S AMENDMENT OF THE FISCAL YEAR 1981 BUDGET  
CORPS OF ENGINEERS, CIVIL WORKS  
APPROPRIATION TITLE: OPERATION AND MAINTENANCE, GENERAL

The original FY 1981 Budget Request of \$950,729,000 for Operation and Maintenance, General is amended to \$878,379,000, a reduction of \$72,350,000.

Item	Amounts in thousands of dollars		
	FY 1981 Original Budget	FY 1981 Budget Amendment	Revised FY 1981 Budget Request
1. <u>Navigation</u>			
a. Channels and Harbors			
(1) Regular	338,175	-30,888	307,287
(2) Diked Disposal	27,797	-375	27,222
(3) Monitor Completed Coastal Projects	1,000	-500	500
b. Locks, Dams, and Canals	153,307	-14,676	138,631
		<u>Subtotal:</u>	<u>-46,639</u>
2. <u>Flood Control</u>			
a. Reservoirs	143,514	-6,552	136,962
b. Environmental and Water Quality Operational Studies	6,650	-1,750	4,900
d. Channel Improvements, Inspections, and Miscellaneous Maintenance	4,754	-371	4,383
		<u>Subtotal:</u>	<u>-8,673</u>
3. <u>Multiple Purpose Including Power</u>	208,166	-14,938	193,228
4. <u>Protection of Navigation</u>			
d. General Regulatory Functions	44,000	-2,100	41,900
		<u>Total:</u>	<u>-72,350</u>

## ATTACHMENT 3

NOTE: This discussion reflects the position of the Commission. Chairman Ahearne disagrees with the positions taken. Commissioner Hendrie was unavailable and did not participate in the preparation of the Commission's views.

The Commission's fundamental evaluation of the Reorganization Plan is this: The Plan will worsen, rather than improve, the Commission's organization and structure. It will not lead to better nuclear regulation or safer nuclear power plants. It will, however, lead to friction and distrust within the Commission and may well direct the Commission's attention away from nuclear safety and enmesh the Commission in time consuming debates about the prerogatives of the Chairman and the full Commission and the right of individual members to have access to information to which the Chairman has access.

We strongly believe that the Commission format is worth retaining because of the benefits associated with the diversity of views of its members in the formulation of nuclear safety policy. Yet, the real price for this Plan that the Congress has been asked to approve, and the unstated consequence of concentrating power in the Chairman, is a severe curtailment of the Commission process.

It is desirable for the Chairman of this or any Commission to have a larger administrative role than the other members of the Commission. However, the Chairman's larger role should be built, and should depend for its continued existence, on the understanding and acceptance of the other members. This relationship between the Chairman and the other Commissioners can serve as a mechanism for accountability and can make the Chairman's larger role a positive feature of the agency's discharge of its responsibilities. However, it is precisely this relationship between the Chairman and the other members which the Reorganization Plan would curtail. The Plan's provisions on appointment of Staff, staff reporting requirements, and access of Commissioners to information can only exacerbate any divisive environment within the Commission.

Under the Plan, the Chairman's role will no longer depend on the acceptance of the other members; his preeminent powers will often enable him to act without regard to their wishes.

- ° The Chairman will appoint all but two of the key NRC Staff personnel. Staff appointments are important because the Staff provides basic support functions for the full Commission in safety policy development and enforcement. The Commission would continue to appoint only the Directors of Nuclear Reactor Regulation and Nuclear Materials Safety and Safeguards.

There is no rational explanation for this division of Staff appoint powers in the Plan. This illogical appointment system could well become a source of conflict within the Staff. The two officials appointed by the Commission will report to and be supervised by the Chairman or his appointee, the Executive Director for Operations; both directors will be surrounded in the Staff by officials whom the Chairman alone appoints.

The Chairman has a veto over all other key appointments, including the General Counsel, the Director of Policy Evaluation, the heads and members of the adjudicatory panels, and the members of the Advisory Committee on Reactor Safeguards.

In the case of the Advisory Committee, whose function it is to advise the Commission on nuclear safety issues and whose members sit for four-year fixed terms, the potential influence on nuclear safety of the Chairman's veto is graphically illustrated by the fact that the Chairman will be able to prevent the reappointment of a member, without cause.

The Chairman will be the sole supervisory and reporting authority for the Staff, unless he chooses to delegate that authority.

This authority opens a broad avenue for the Chairman to exercise substantial control in nuclear safety policy, in addition to his role as a voting member of the Commission. The Chairman's control will be most evident early in the critical stage of policy development by the Staff, and late at the equally critical stage of policy enforcement. This role for the Chairman will hinder, rather than foster, increased Commission involvement in nuclear safety policy.

Concentration of power over Staff in the Chairman is not an academic or hypothetical matter. It creates the real possibility of a minority Chairman who can frustrate the will of the Commission majority through his power to appoint and supervise the Staff. A majority Chairman does not need such a battery of authority because he can expect to win Commission acceptance of his appointments and actions. Thus, the dangers associated with a minority Chairman under the Plan are not only serious but unnecessary.

At the same time that the Plan would strip the Chairman's strengthened role from its connection to Commission acceptance, it would reduce the role of the Commission to make it very much dependent upon the Chairman. By and large, Commissioners will be permitted to be informed about agency operations only to the extent the Chairman wants them to be informed.

- The Chairman could withhold information relating to the administration and management of the agency. This means, for example, that the Commission will likely not know the true nature or extent of the Chairman's control over Staff policy papers which are forwarded to the Commission. The Plan also provides an arguable basis for withholding other information. A Chairman might attempt to withhold significant material, such as inspection information, on that basis.
- The Chairman will largely control the extent to which individual Commissioners may receive answers to their questions from the Staff. Many of these questions can be expected to raise, or relate to nuclear safety issues.

No matter how often it is said that ultimate authority will continue to reside in the full Commission under the Plan, this is simply not so. The Plan provides no means for the Commission to hold the Chairman accountable with respect to a large number of his actions. Nor does the Plan give the Commission any means of requiring the Staff to comply with the Commission's policies.

- The authority of the Commission extends to rulemaking, adjudication and policymaking, but not to any other matter of agency business even though it may bear upon nuclear safety. The Commission is not free to take up

a particular matter outside this sphere of activity even though a majority believes the Chairman has abused his power.

- While the Chairman is to be governed by the general policies and decisions of the Commission in his actions, he will have the power to restrict access to information and leave the Commission in the dark about what he is doing, or whether it is consistent with Commission safety policy.

In sum, the Plan will adversely alter the structure by which nuclear safety is regulated. Moreover, a very real practical consequence of a strong Chairman and a weak Commission will be increased Executive Branch control over nuclear regulation. The President's power to appoint and remove the Chairman makes the Chairman's accountability to the President very clear. Under the Plan, a Chairman with allegiances to the Executive Branch would have extensive powers over NRC organization and considerable control over the shape of nuclear regulation. Because of the limitation on access to information, individual Commissioners will not be informed or able to exercise a meaningful check on the Chairman's actions which have substantive import for nuclear safety. Thus, the Plan contains the worst features of the single administrator and collegial agency proposals. Because the Executive Branch influence will be in secret, there will be no accountability,

but at the same time, the independence, openness and diversity that justify a Commission may be undermined. The public's scepticism about the adequacy of nuclear safety regulation is hardly likely to be dispelled by this effort to reduce the independence and effectiveness of the regulators. If public confidence is to be restored in the government's determination to place the public health and safety first, that will come through strengthening, not weakening, regulatory independence and through insistence on strict, tough nuclear regulation.

Changes in the Plan are necessary if effective regulation of nuclear safety is to continue under an independent Commission.

- o The right and power of the Commission, by majority vote, to take up any matter of agency business must be explicitly recognized if the Commission is to act as a useful check on the powers of the Chairman. This change would leave the Chairman free to act unless a majority voted otherwise in a particular situation. Of course, the Chairman would remain able to deal with emergencies as necessary.
- o The principle of full access to information for each Commissioner, which has been a part of nuclear regulation since 1955, should not be curtailed.
- o The list of Staff officers appointed by the Commission should be enlarged to include the Executive Director

for Operations, the Executive Legal Director, and the Directors of Research, Standards Development and Inspection and Enforcement.

The role of the Executive Director for Operations should be defined in the Plan as the Chief Staff Officer, to whom the Staff reports, who acts as the Commission's agent, under the general supervision of the Chairman on behalf of the Commission, in managing the day-to-day operations of the agency.

The Chairman should not have the power to veto appointments to the ACRS and adjudicatory boards.

No review of the causes of management difficulties of the NRC should overlook the urgent need for the agency to be housed at a single location. The Administration has been supportive of that goal.

## OPERATING LICENSE DECISIONS

Mr. BEVILL. You will recall that in our February 26 hearing, I, along with other members of the subcommittee expressed our dissatisfaction with the performance of the Commission. Since that time, the Commission has been able to make some decisions on Sequoyah 1 and North Anna 2, and on Salem 2. The fact that you have been able to return to the performance of your principal statutory duty is commendable.

In my March 6 letter I requested that you provide a detailed schedule of the work necessary for the Commission to consider operating licenses for these nuclear plants that are seeking or are expected to be seeking operating licenses in the next three years.

In reviewing your prepared statement I notice that you provide estimates for both low power and full power operating license decisions for the Salem, Farley, and Diablo Canyon nuclear plants. For the other plants you show only one estimated date for decision on the operating license. Do you plan to use the low power-full power license procedure on any other operating applications?

Mr. AHEARNE. Mr. Chairman, we have not really reached that conclusion. I have asked the Director of NRR to submit to us his proposal for requirements for the full power operating license and I expect to get that sometime later in this month at which time the Commission will consider whether we now have a clear enough picture to say, "Here is what is required for full power operating licenses."

Mr. BEVILL. Are you saying that the low power licenses are something that you are experimenting with at this point?

Mr. AHEARNE. The low power license—what we have done is to recognize that there are a number of steps that all plants have to go through after they get an operating license so there is a period of time in which they are at zero power after fuel load and then at low power. In order for those plants to get on with that kind of a process, we recognize that we are not yet through our review to the point of being able to say what is necessary for full power, so we established this low power aspect in order to let those plants get started.

Mr. BEVILL. Would you elaborate on the rationale for using this low power-full power procedure?

Mr. AHEARNE. I will, all right.

Mr. BEVILL. I've got another point here, these are tied together. Would you contrast it with the procedure used to grant operating licenses in the past?

Mr. AHEARNE. In the past, once a plant had received—well, after it either finished construction or if it had been a contested case and that they had received a licensing Board Decision for their operating license, then the Director of Nuclear Reactor Regulation held the authority to issue an operating license which he would do once it had finished construction. After the plant received its operating license it would then go through a number of steps which included loading the fuel, do zero power testing, then low power testing, and then gradually ramping up and building up to full power.

In our review of the Three Mile Island accident, and in our review of the recommendations of all the review groups that have

examined that whole matter all through the period of the accident, we have as you know gone through a fairly detailed examination of what additional requirements are going to have to be laid on to the plants.

We have not yet finished our review and we are waiting for the ACRS at one stage to finish their review of whether or not the staffs' proposals were adequate. We recognized that there were a number of plants in a situation of having construction being completed, and in the normal process they would have been given a full power license.

We recognized that we did have enough in hand to, with confidence, say that they could load fuel and go through these low power regimes and we did not see any reason for holding up that stage for us to reach our final decision.

So that's why we established this low power operating regime. In addition, I think it was the TVA who was the initial applicant who came in and pointed out that there are some tests that could be gone through on how does the plant behave under natural circulation cooling that normally one would not have had an opportunity to go through in the kind of test regime prior to now. TVA pointed out that this would be a valuable set of things to do. Our Advisory Committee on Reactor Safeguards agreed that that would be a very valuable thing to do.

So that was incorporated into the low power regime. That is sort of the difference in things from the previous regime to the current.

After we address the recommendations on what are required for full power operating licenses, the Commission may reach the conclusion that we now have enough information in hand and again in the future do away with this double type of a licensing. But since we have not reached that point, I can not estimate when we will, so I am unable to answer.

Mr. BEVILL. Do you have any judgment as to how long it would take to go from the low power license to the full power license?

Mr. AHEARNE. I think the estimate that—

Mr. BEVILL. Assuming there are no problems.

Mr. AHEARNE. I think the estimate is approximately 4 to 5 months to do that.

Mr. BEVILL. Is the Sequoyah plant the first one that you issued a low power license for?

Mr. AHEARNE. Yes, that's correct.

#### FUTURE OPERATING LICENSE DECISIONS

Mr. BEVILL. There are three plants where, according to your own estimates, you will not be able to make an operating license decision when the plant is ready to load fuel. They are Summer 1, 5 months; Diablo Canyon 1, 5 months; and San Onofre 2, one month. In the case of Summer 1 and San Onofre 2 the safety evaluation report and the final environmental report have not yet been completed by the NRC staff. In the case of Diablo Canyon 1, the supplement to the safety evaluation report has not been completed. What is being done to insure that these staff reports are being completed expeditiously so that perhaps the hearings can be com-

pleted earlier and the licensing boards can accelerate their consideration of the cases?

Mr. AHEARNE. May I ask Mr. Denton to provide that. He is the Director of Nuclear Reactor Regulation.

Mr. DENTON. As the Chairman mentioned, there were four plants which we really put in the highest priority category. They were North Anna, Salem, Sequoyah, and the next was Diablo Canyon. We will be sending the Licensing Board within the next week or ten days the same information that we provided to the Commission previously on the other plants. That will enable the Licensing Board on Diablo Canyon to come to a decision after they have gone through the process and that will take some period of time. I expect that might take four months to adjudicate those. I would hope to start reviewing plants such as McGuire against full power requirements, and I would anticipate that by the time I am able to provide safety evaluation of plants like San Onofre or McGuire, that the commission will have approved a full power list.

So those plants will be up for full power licensing to be decided by the board. So we are putting all available manpower that are not used in backfitting the operating plants on to meeting these schedules. We are making every effort to meet the completion dates for the plants in 1980 and 1981.

#### THREE MILE ISLAND ACTION PLAN

Mr. BEVILL. With respect to your Three Mile Island action plan in Attachment 2, you indicate the third draft of the report was completed in March, and is now undergoing final revisions with the objective of being incorporated into the overall Commission operating plan.

In the view of the commissioners, is this work proceeding in an orderly and systematic manner? What are the most important elements of the action plan?

Mr. AHEARNE. Let me first answer for myself, and since you asked all the commissioners, they can answer.

I think that the work is proceeding in an orderly fashion. It was a very major effort to complete all of the sets of recommendations that have been made, examine them for their soundness and then try to establish schedules for putting them in place and then go through the review process which included getting extensive comments from outside, getting extensive comments from our Advisory Committee on Reactor Safeguards, getting extensive comments from the commissioners, and the reason there is a third draft—we have reviewed two drafts and have made modifications—this last cycle, the third draft, will be coming to us with a final set of recommendations having incorporated the final views of the ACRS at which time the staff is also proposing elements of our current program that they would recommend be deferred in order to take up some of the items of the action plan.

I think it has proceeded about as rapidly as could be done while keeping in mind that you don't want to take precipitous action and put in a set of requirements that are just wrong.

I think the most important elements of it were to start to set up, as we did when we originally addressed this, trying to set up our

near term operating license list. The next set of important items are those sets of rulemakings and longer term reviews that, for example, occur on degraded core cooling, which would be a fundamental re-examination requirement, but I am reasonably satisfied with the approach that was taken.

That would be just speaking for myself. Mr. Gilinsky would probably wish to comment.

Mr. GILINSKY. I would say that, considering the amount of work there was to do and the circumstances following the accident, I think it's proceeding in reasonable fashion.

Mr. KENNEDY. Mr. Bevill, I am never satisfied with things that take this long. Nonetheless, I don't see any practical way of making it any shorter and I don't think throwing more people at it is going to help.

What concerns me most is that there are side effects from the work that has gone on with respect to the action plan and the near term operating license questions. The Committee should understand that other things are having to be set aside and in due time—as is always the case in such matters—those effects will have their manifestation too. They will be downstream, and things will be held back.

For example, it is my understanding that the staff believes that, in order to carry forward, all work on CP applications through fiscal year 1981—except those CP applications for which the safety evaluation report is already completed—will have to be stopped. Now, whether that is going to have a serious effect downstream, it is a little hard to say, but I think it needs to be watched very carefully because once you have lost that time it is very, very difficult to ever make it up again.

So a year from now questions as to where we stand on early site review considerations and where we stand on reviewing generic issues will come up. The answer will have to be, at that point, that we simply couldn't get to them because we had to divert the personnel who would otherwise have been working on them—those who had been planning to work on those things—were instead working on the action plan.

Mr. BEVILL. Commissioner Bradford.

Mr. BRADFORD. I think if you start with the point at the Three Mile Island accident and the investigations that took several months after that which raised pretty profound questions about the licensing and inspection and enforcement regimen that had been 20 years in developing, it becomes clear that the work done by the NRC staff and by the agency as a whole in digesting those lessons, and in blending them with the agency's other safety priorities and at the same time trying to make sure that specific fixes were applied in the 60 or 70 operating plants during that year, that quite a lot has been accomplished.

I think it is a mistake to focus on the action plan alone as though it were the only thing that the agency had been doing or attaching a priority to in the last year. If you take the development of the action plan together with the reorientating of NRC priorities and programs then we will be doing very well indeed if blending of that plan into the agency's normal priorities and processes is accomplished this spring.

Mr. BEVILL. Commissioner Hendrie.

Mr. HENDRIE. I think we are making reasonable progress on the action plan, Mr. Chairman. We still have a fair amount of sorting out and putting priorities to things to do but I think it is coming along about as well as you could have hoped.

#### NUCLEAR PLANT CONSTRUCTION AND LICENSING

Mr. BEVILL. Considering the action plan that you have, how much time in your judgment will it take in the future for a nuclear power plant to be started and be put online in this country? It's taking, I believe, about 14 years now compared to about 4 years in Japan.

How much improvement is going to be achieved in the time element in your judgment, Mr. Chairman?

Mr. AHEARNE. Well, since the—the 14 years is from initial utility decision to start the process, and going on through the construction permit application, reviews, construction, operating license—I don't think at the moment I have a clear enough picture to know whether this as we go through all these and shake out the agency, whether it is going to decrease it, keep it the same, or increase it.

Potentially it could decrease it if the challenges that have been made for better reviews, looking at the larger scope as opposed to the detailed tiny pieces, making sure that issues get addressed early, all that could decrease it.

On the other hand, if we approach it inefficiently, it could very well increase it. The effects as related to a new plant won't show up, unfortunately, as you say, for at least a decade.

Now, as far as the comparison to other countries, Mr. Chairman, I think one finds that in most other countries their times have increased substantially over the last several years, particularly if you look at them in the same kind of an approach from when does the utility start its planning to when the plant gets operational. Different countries have different systems on when and how a license gets issued. Some countries do it in pieces, as you go along; other countries, for example in Japan, the utility works extensively and in some cases for as I recall a recent number I saw, works eight years with the local groups to reach agreement on where the plant will be located and what conditions will be assumed before it puts in its application.

#### FOREIGN NUCLEAR EXPERIENCE

Mr. BEVILL. Well, take Japan, Mr. Chairman. As you say they take eight years before the application is submitted, but our problem seems to be after the application is submitted. We will agree that no one wants to sacrifice safety, and the Commission's efforts in the name of safety are admirable. But there is a limit, isn't there, as to how much time can be consumed in, as you say, even extending it beyond 14 years it takes now to put a power unit online?

Let me ask it this way: Isn't their safety record actually superior to ours? Isn't Japan's safety record superior to ours?

Mr. AHEARNE. Since they have not had something like Three Mile Island, that is certainly true.

Mr. BEVILL. Yes, it is. So doesn't that tell us something?

Mr. AHEARNE. We have had a lot more operating years, Mr. Bevill.

Mr. BEVILL. Yes, but the time for getting these power plants online is increasing every year, as I see it. Isn't that correct? Hasn't it increased every year since we started issuing licenses?

Mr. AHEARNE. I think that is true.

#### NUCLEAR ENERGY POLICY

Mr. BEVILL. We all agree that we will be depending on coal fired and nuclear power plants to get us away from the foreign oil, which has us in so much trouble now?

Mr. MYERS. We're not doing that today, but we're going to have to do something on it.

Mr. BEVILL. Yes, that's right. Isn't this something we all agree on, that we have to use this nuclear power? Nobody questions that, do they?

Mr. AHEARNE. Well, Mr. Chairman, I think—

Mr. GILINSKY. Could I comment on this, Mr. Chairman?

Mr. BEVILL. Sure.

Mr. GILINSKY. I think what our Chairman was saying earlier about the Japanese situation was that in effect the utility has the site nailed down when they start that clock that you were referring to. If a utility in this country had a site nailed down and had it approved before it came in with its application for the specific reactor then I think the time that that plant could be licensed and built in, could be well below ten years.

Mr. AHEARNE. And it's more than just the site being nailed down.

Mr. GILINSKY. Yes, the site is approved

Mr. AHEARNE. And the contentions are worked out with the various community groups beforehand.

Mr. BEVILL. Are you satisfied that the Commission is doing the best that it can do in licensing these nuclear power plants?

Mr. GILINSKY. If you put it that way, are we doing the best we can do—well, I'm sure we can do better. But we do have a track for utilities to separately, at an earlier time, acquire a site and get it approved and put on that site a plant which has also been approved separately, one where the basic design has been approved separately. If you go at it that way, then you can attain comparable results to those obtained, say, even in France which is often cited as a case where things are moving rather smoothly. They seem to take about eight years for licensing and approving an individual plant, but they have already approved the site for that plant beforehand.

We generally conduct the whole process sequentially and first of all, after the application is received, the site has to be approved and the reactor has to be approved. It's all done together. That has in part to do with the practices of this agency, but also with the practices of the industry.

Mr. BEVILL. Are you saying that we are doing as well as Japan in issuing licenses? We admit their safety record is better than ours.

Are you saying that our situation compares favorably with Japan in that regard?

Mr. GILINSKY. I am not sufficiently familiar with the details of their licensing process to make that sort of a comparison. I will say I think they are more cautious. Their load factors I am confident are below ours in terms of the fraction of the time that their plant is running.

Mr. AHEARNE. They do shut down most of their plants for extensive periods, yes.

Mr. KENNEDY. It is my understanding, Mr. Chairman, that their load factors are less.

Mr. BEVILL. Excuse me?

Mr. KENNEDY. Their load factors are less; in fact, they do shut down for extended periods. The number of operating days for a given plant on the average is less. They may well be reflected in the safety picture. But to go back to something that Commissioner Gilinsky was saying, I think it is quite right that there is a track which conceivably could be followed that would be helpful.

#### EARLY SITE REVIEW

We have always proposed this in the past and have tried to pursue it as best we could within the existing law and regulations and in fact in the proposed changes in the licensing process that was put before the Congress a couple of years ago and again last year. We were trying to further develop that with the early site review. But remember, sir, that the early site review is one of these things which is being deferred right now through 1981. No manpower is available to it, or at best a substantially reduced manpower is available to do that work, in order that we can go ahead with the action plan.

That is the point I was trying to make earlier. We may wind up here with a Catch-22. We can't assert that we are going to do one thing and take the manpower off it and put it on something else. One has to understand very clearly what is happening. I think that there is no question in our minds that we have to do that, but neither should there be any misunderstanding on the part of the Committee that in doing it, there are other things that are going to happen that maybe the Committee would not like.

#### COMMISSION DECISIONS ON LICENSES

Mr. BEVILL. In issuing these licenses—and you may have touched on this—but do the five Commissioners pass on the licenses of each plant after the licensing Board and the staff submit information to you?

Mr. AHEARNE. As of last fall, the Commission made a decision that any licenses that would issue from the Commission, operating or construction permit, would be done by the Commission.

Mr. BEVILL. How often does the Commission meet?

Mr. AHEARNE. We meet as often as is necessary, Mr. Chairman.

Mr. KENNEDY. The word would probably be "incessantly", Mr. Chairman.

Mr. BEVILL. Do you have any difficulties getting a quorum?

Mr. CHAPPELL. Too many meetings.

Mr. AHEARNE. It has never been a major problem, Mr. Chairman.

Mr. BEVILL. Have you had any occasions when you wanted to have a Commission meeting and there were too many absences to get a quorum?

Mr. AHEARNE. There are certainly times when a Commission meeting would have been useful and or one reason or another pre-arranged schedules had led to an absence of a quorum. But I can't think of any time where it was a critical item. The Commission meets, there are many issues on which the Commission meets, sometimes for discussion purposes, other times just to keep abreast of where the staff is, hearing briefings from the staff.

I wouldn't view those as critical meetings, and if we don't happen to have all the Commissioners there, or in some cases a particular Commissioner will have in the past have expressed a unique interest in that particular area at which time that briefing might be postponed. But I can't recall any critical item that has not been handled because we did not have a quorum.

Mr. BEVILL. Mr. Kennedy?

Mr. KENNEDY. I do not recall, Mr. Chairman—and I would agree with the Chairman here—I don't recall a case in which—certainly not a licensing matter—that has been held up because a quorum was not available to decide it. I don't recall any.

Mr. BEVILL. You do have to have a quorum in order to transact business? Is that the rules of the Commission?

Mr. AHEARNE. Yes.

Mr. BEVILL. And that would be 3 members?

Mr. AHEARNE. Three members.

#### COMMISSION MEETINGS

Mr. BEVILL. And you do keep records of all your Commission meetings?

Mr. AHEARNE. Yes.

Mr. BEVILL. Would you supply for the record the dates when the Commission has met?

Mr. AHEARNE. Of course.

Mr. BEVILL. And those dates that efforts were made to have meetings and you did not have a quorum. Would you supply that for the record?

Mr. AHEARNE. Mr. Bevill, I can easily supply for the record the former, when we met. I am not sure whether the Secretary's office keeps track of the second part of your request. If they do, we will supply it.

Mr. BEVILL. Surely they would have a record of when one of the Members of the Commission had requested a meeting?

Mr. AHEARNE. Yes, certainly any time a request has been made we would have a report of it, and if the Commission was unable to meet, I would assume we would have a record of that.

Mr. BEVILL. We would like that for the record, and I think the history of the Nuclear Regulatory Commission's meetings back to 1975 would be useful.

Mr. AHEARNE. All right.

[CLERK'S NOTE.—The information was supplied to the committee.]

Mr. KENNEDY. Mr. Chairman, in that connection, it should be recalled that in 1976 there was a vacancy that occurred on the Commission which was not filled. So we were down to 4. By 1977 a second vacancy had occurred and we were down to 3. Then on June 30, 1977 a third vacancy occurred through the expiration of then-Chairman Rowden's term, and we were down to 2, at which point we had no quorum at all.

We could not conduct business.

Mr. Gilinsky and I enjoyed each other's company, and we discussed various matters from time to time, but we were in fact at that time required—in order that the NRC could continue to do its business as an agency created by law—we were required on the last day of the existence of a quorum to actually delegate all the responsibilities and functions of the Commission to the Executive Director. This situation continued for 2 or 3 months.

Mr. BEVILL. Thank you, Commissioner Kennedy. I think that is a very important point and that should be shown in the report as to why you did not have a quorum on the day that a quorum was needed. That is pertinent and should be shown in the record.

Mr. BRADFORD. Mr. Bevill, may I?

Mr. BEVILL. Commissioner Bradford.

Mr. BRADFORD. Not having been present in that time, my memory only goes back 2½ years but certainly in the year and a half that there have been 5 commissioners that I have been there, I would be very surprised if this review shows there have been more than 10 days on which there was not a quorum present—just to give some perspective to the situation.

#### REORGANIZATION

Mr. BEVILL. Yes, thank you. That leads to the next question.

The Kemeny Commission's report, the Rogovin report and GAO have all concluded that the Commission lacks leadership, is ineffective and that the staff lacks necessary policy guidance.

I think the Congress feels the same way about the Commission, and certainly the President must feel these problems exist or he wouldn't have submitted his proposed reorganization.

Now, how the Commission, in view of all these findings and conclusions, could develop attachment 3 is beyond me. It is apparent that Commissioners Gilinsky, Kennedy, and Bradford believe the President's March 27 reorganization plan will worsen rather than improve the Commission's organization and structure. Would each of you gentlemen state your reasons for this conclusion?

The studies show that the Commission is ineffective under its present organization and that the system is not working. Yet you gentlemen feel that we don't need to change the system, as I understand from attachment 3.

Mr. KENNEDY. That is not my view precisely.

Mr. BEVILL. Go ahead, sir.

Mr. KENNEDY. It is my view, Mr. Chairman, and attachment 3 I would subscribe to essentially, but it is my view that what has happened here is all too often something that happens, someone tries very hard to correct things and in the process of doing so winds up with the worst of all worlds.

What this seems to be is an effort to get all of the benefits of a single administrator and retain all the benefits of having a Commission.

These two things are inconsistent.

Let me just say that, as to that Commission statement, two things concern me the most. First, the ability of individual commissioners—who under the law are individually and severally responsible for all of the decisions, all of the actions of the Commission—to obtain information and have access to information without which that responsibility cannot be discharged.

Second, and I think equally importantly, the Commission form by the terms of the Sunshine Law demands that—and I believe appropriately so—that the public have full and complete access to the way we do our business.

I think in nuclear regulation that is absolutely essential, but let me suggest that one has only to look at certain of the administration activities—and I am not talking about the political administration, I am talking about administrative organizations in this town—to know that where there is an opportunity to foreclose or to at least limit public access and public knowledge of what's going on. It is taken and I am concerned, deeply concerned, that the proposals here would afford greater opportunity for that.

Reorganization, Mr. Chairman, is all too often, I believe, a palliative that is administered to avoid taking the action necessary to address the real problem and frantic action is substituted and used as a cover for lack of accomplishment.

Mr. BEVILL. Commissioner Kennedy, suppose we stop right here. Congressman Myers and some other Members will be back in just a moment to continue. We have a vote in progress on the Floor of the House.

[Brief recess.]

Mr. MYERS [presiding]. The Committee will come to order. We apologize for having to leave temporarily to respond to a call of the House.

I believe that at the time of the recess, Commissioner Kennedy was responding to a question.

Mr. KENNEDY. Yes.

Mr. MYERS. You may continue.

#### REORGANIZATION AS A PALLIATIVE

Mr. KENNEDY. The question, Mr. Myers, was how could three of us have conceivably agreed to any such proposition as is put forward in the appendix to this letter concerning the President's proposal for reorganization.

I was about to say that from my own view, reorganization is all too often just a palliative to avoid taking the actions that are necessary to address real problems and frantic action is substituted for and used as a cover for lack of any kind of real accomplishment.

The hard problems need to be addressed in substance, not just in form, and all too often the reorganization tack is the one that is taken to evidence great movement but with no clear notion of where the movement is taking you.

I think that is exactly what's happening here. The reorganization plan that is before you, in my view, is not the answer to the Commission's organizational problems or indeed to an improvement in the safe regulation of nuclear power.

Whether it will aggravate matters to the extent which that Commission statement suggests is somewhat less obvious, I believe. But inasmuch as the plan clearly can be—may be the source of very much heightened tension and distrust within the Commission, it has at least the potential to aggravate regulatory problems and not help in their resolution.

Let me with that backdrop just discuss a few things that I think need to be taken into account as the reorganization plan is considered and what has led me to those basic conclusions.

This is a licensing agency. It is not a non-licensing agency.

Its purpose is to issue and administer licenses in the interest of the public health and safety, and the environment. The agency's purpose is to assure that acceptable safety and environmental criteria have been thoroughly drawn and considered and that these criteria have been met by a potential licensee. We are not—and I believe should not be—commissioned by the Congress to debate the issue of the wisdom and desirability of nuclear power. As early as 1976, in June of that year, I first expressed concern on this matter, a concern from the viewpoint of one who had not been a member of the nuclear establishment, so-called, prior to my appointment to the Commission. Thus, I had no background in or any concern for vigorous advocacy of nuclear power.

Nor, indeed, did I have any close association with those who build and operate nuclear power plants.

I tried at that time to warn that all too often the debate on the broad questions of the viability and desirability of nuclear power were entering into the licensing process. That was true. I believe it remains true. Indeed, in my view, consideration of those issues underlies much of the Commission's decisionmaking today.

Vigorous advocacy of strongly-held views from outside increasingly seems to color the Commission's discussions and decisionmaking. In this regard, one must recognize that all regulatory bodies are, after all, inherently political instruments. It is foolish to think of them as otherwise. But that does not mean that they should be allowed freely to extend beyond the mandate given them by the Congress to reach the questions for which the Congress gave them no authority.

#### REAFFIRMATION OF NATIONAL POLICY ON NUCLEAR POWER

I would be hard-pressed, I would admit, without careful research, this morning to give you a specific example of what I am talking about. It's more a tone, a tenor of the way in which we conduct our affairs that I am referring to. An unequivocal affirmation on the part of the Congress and on the part of the President as to the fundamental national policy on nuclear power, even if it's couched as a reaffirmation and updating of expressions of earlier days, I believe, would be extremely helpful. Reorganization will not be.

There is also a tendency in this agency, my own agency, which I believe is the way to its ultimate destruction—a tendency best

described I think as self-flagellation. Now self-analysis and self-criticism are healthy and indeed representative of a level of maturity which one ought to expect of an agency as vital to the national goals as our own. But when that criticism becomes an all but paranoid expression of a feeling of inadequacy or inability to do the public's business in accord with the law, it suggests the ultimate demise of the agency, not progress towards better and more effective regulatory programs.

Moreover, a continuing dialogue of criticism, unaccompanied by a recognition of true worth—worth of a staff devoted to the public interest and incomparable, in my view, in its qualifications—can eventually lead to nothing but destroyed morale and destroyed organization.

Reorganization won't deal with those questions, sir, but those questions are fundamental.

It's one thing, too, to be skeptical. The definition of "skepticism"—an attitude of disposition towards doubt—suggests more than just a deep and abiding concern with safety. Rather, it suggests a question of whether safety is even achievable, and, thus, whether effective regulation is possible, and, therefore, whether nuclear power should be pursued.

Skepticism about the wisdom of nuclear power leads to a very different kind of conclusion and concern than skepticism about specific criteria or standards and their efficacy. I have heard it said that skepticism is the thing that drives us to more effective regulation. I am suggesting only that that may not be the case, rather it would seem to me that the true skeptic is likely to reach a conclusion ultimately favoring his own doubts and I am not sure in my mind that this necessarily means safer nuclear power.

It may mean just less nuclear power.

Again, in the last analysis it is perfectly clear that in a world of risk-taking—in which we live—the most risk-free nuclear plant, after all, is the one that's never been built; and the one just next to that is the one, having been built, that is not operating.

Now, the implications of these thoughts run pretty far but they reach the real organizational questions because, after all, organization is just a means of categorizing responsibility in recognizable and effective patterns to get the job done. Those responsibilities must be accompanied by appropriate authority if that job is to be done. The Congress wisely considered that fundamental premise in its passage of the Energy Reorganization Act and provided this agency with what is at least in some measure a very unusual structure by establishing four specific positions in the agency structure as executive level 4 positions. Now, in my limited experience, I have come to believe that an executive level 4 was a very high level official of the United States Government. Indeed, I believe he is.

In my view it is clear that Congress had in mind that the incumbents in those positions would have great responsibility and commensurate authority. Yet, as a result of the understandable desire on the part of the Commission to involve itself more fully and fundamentally in the licensing process—you have heard us discuss that earlier today—and in the myriad of matters that are associated with the issuance of licenses, there has been inevitably a

commensurate reduction in the responsibility and authority of those officials.

Mr. MYERS. Commissioner, may I interrupt you to suggest that what you are saying is that while you favor realignment and redirection, this reorganization plan is not in the best interests of responding to a need for your agency to orient itself towards the country's needs; is that correct?

Mr. KENNEDY. That is my view.

Mr. MYERS. You might want to expand on this question further but in view of our time constraints, could you do that for the record?

Mr. KENNEDY. I will submit the rest of this to the Committee at a later date.

Mr. MYERS. We would appreciate that, thank you. You have made a very good statement, and your points are well-taken.

Commissioner Gilinsky, I understand you have a response. Hopefully you will be as brief as you can and still get your point across.

Mr. GILINSKY. I would be happy to state it briefly, yes. I agree with everything that Mr. Kennedy has said about the plan and how it might affect us.

#### PRESIDENTIAL CONSIDERATION OF COMMISSION VIEWS

Mr. MYERS. Let me ask you a question, if I may. Did the Commission have any input into the reorganization plan? Were your views given to the President?

Mr. GILINSKY. Yes, we had input to some extent. It was discussed with us by—

Mr. MYERS. Was it with him personally, or someone in the White House?

Mr. AHEARNE. No, the people working on the plan discussed it with us.

Mr. MYERS. And I think that's part of the problem.

Mr. KENNEDY. May I add a point to that, Mr. Myers? The last version of this plan of which I was aware—and on which the Commission so far as I am aware had been asked to comment and discuss—was quite different in character from the one which is before you. I never saw that one before it was sent here.

Mr. MYERS. Commissioner Gilinsky, if you would like to continue.

Mr. GILINSKY. I didn't see it (the last version) and I don't think Congress did either before it was sent up. The plan went through several versions the last of which bypassed us and ended up here. I don't know that I have to go into any great lengths on this.

I want to make the point that one thing in here is not at issue, the part of the plan that deals with clarifying authority within the Commission for dealing with emergencies. What we are talking about is changing the way the Commission functions in conducting its normal business. I would agree with Commissioner Kennedy on the question of the organization of the Commission as proposed and the potential harmful effects it might have on public access to information about the agency and the ability for the public to scrutinize our activities.

## HYBRID PROPOSAL

I also agree with what he said about this being in effect a hybrid proposal to have a single administrator and yet to have a Commission. The fact is you really can't put the two together. You have to decide whether you are going to have a single administrator or a commission and while I am not in favor of the single administrator proposal, at least it's internally self-consistent. It is a workable proposition, and it is quite clear how it would work. And the Commission is also a workable proposition. When you start putting these two together you get something which I think is not workable and I believe the effect of it is going to be to complicate the management of this agency and the functioning of this agency.

You know, we work largely on the basis of delegating authority to the staff for functions such as licensing and even rulemaking. At least certain aspects of it. Not adoption of the final rules I would add. But even there, I think it is important to note that this agency to a lesser extent than most regulatory agencies works on the basis of formal rules. We work on the basis of more informal regulations and standards and regulatory guides and so on. To restrict the Commission to a rather narrower scope than it has and to further say, as the plan does, that when it delegates its authority it also relinquishes its right to information over those functions, strikes me as an utterly unworkable proposition.

Mr. MYERS. Lindy is here now. Commissioner Bradford is next.

Mrs. BOGGS [presiding]. Go ahead.

Mr. BRADFORD. It seems to me that no one would assert after Three Mile Island that changes weren't needed at the Nuclear Regulatory Commission, but the changes in the reorganization plan are for the most part simply the wrong ones.

Insofar as the plan speaks to emergency management, I have no difficulty with it and that isn't the part of the plan that I am concerned about.

## CHAIRMAN'S POWERS

I share the views that are in the attachment 3 and with what Commissioner Kennedy and Commissioner Gilinsky have already addressed. The only point I would add is that there is no showing anywhere in any of the studies that have been done that the problems revealed by the Three Mile Island accident come from the fact that the NRC or AEC before it, had chairmen who were unable to accomplish safety goals. The causes were very different. In fact the chairman in the NRC has more power under the law today than either the chairman under the AEC or TVA—and I spoke with Dick Freeman of TVA on this—more than the Chairman of the TVA has. The authority of the chairmen of most agencies comes from their ability—or from the President having appointed a coherent and predictable majority. It does not come from statutes that give the chairman the power to override, ignore, or go around the outlook of the majority of the Commission, and that's the problem with this reorganization plan

Mr. BEVILL. Chairman Ahearne, go right ahead.

## SINGLE ADMINISTRATOR

Mr. AHEARNE. I will make it very short. As I mentioned in the lead into attachment 3, I am in disagreement with the Commission's position on it. I would have, as I have said in many other places, preferred the single administrator approach. I think the issue here is whether there is such a thing as a strong chairman approach. I think the reorganization plan attempts to go that direction and on balance I support it.

Mr. BEVILL. You are supporting it?

Mr. AHEARNE. Yes.

Mr. BEVILL. Commissioner Hendrie, I would like to get your views on this.

Mr. HENDRIE. Yes, Mr. Chairman.

I agree with the general thrust of the reorganization plan which I take to be to retain the NRC to be an independent regulatory agency with a commission at the head of it.

Mr. MYERS. You wouldn't need reorganization for that though, would you?

Mr. HENDRIE. No, but the issue had been raised by a number of recent reports and recommendations—the President's commission, Rogovin and so on.

Second, I agree with the general thrust of the plan which is a clarification of the areas in which the collegial commission ought to work normally on the one hand and the chairman ought to work on the other hand as the chief executive officer, that that clarification is useful and is needed.

The particular plan which is before us right now I think goes a little too far towards creating a single administrator concept and there are a couple of changes that I think ought to be made in it. I would be glad to supply those for the record if that would be useful and I think with those changes it is a workable scheme.

I think some further setting out of what areas the collegial body deals in, what the chairman ought to do, that really that is needed. I think the optimum version of the plan is one which has been prepared by the general counsel which very much resembles the reorganization plan number 1 but has a couple of useful differences that I think preserve a better, more optimum balance between the chairman and the commission.

I would be glad to submit that as well as the changes I would recommend in reorganization plan number 1, I would submit all of that for the record.

I think it would be the desirable thing to do rather than detailing it all out here at a time when you are pressed for time.

Mr. BEVILL. Yes, we would like very much to have your views. You served as Chairman of the Commission for a number of years and you have a distinguished record in this area. It would be very helpful to the committee.

Commissioner Kennedy, we would like to say that we appreciate the great service you have rendered on this Commission. I understand this will likely be your last appearance before the committee.

Mr. KENNEDY. Yes, sir.

Mr. BEVILL. We appreciate your efforts very much. You have made a great contribution. We certainly will be missing you and hope you come back soon.

Mr. KENNEDY. Thank you. May I add one thought, sir?

Mr. BEVILL. Yes, sir.

#### CONGRESSIONAL OVERSIGHT

Mr. KENNEDY. While you and your colleagues on the Hill are giving careful consideration to the future of this agency, I suggest to you that it would be helpful—from my perspective at least of five years on this Commission—if the Congress were to give a little bit more careful surveillance, and I suggest this committee in particular, to how this agency conducts its business and spends the money which you in your helpful ways have been able to make available to us through the Congress. I am suggesting that simply because if you tell us that you want something done, I suggest if you could make that as explicit as possible it will help us avoid debate incessantly either among ourselves or more importantly with all kinds of pressure groups from outside some of which even come from this end of Pennsylvania Avenue.

Mr. MYERS. I wish you had said that five years ago when you came in as Commissioner.

Mrs. BOGGS. He didn't have the same perspective at that time.

Mr. KENNEDY. I am only doing my best, sir.

Mr. MYERS. And you are doing a good job. I appreciate it.

Mr. KENNEDY. Let me say, also, if you want us to do something, fine. If you do not want us to do something, I think the Congress ought to be very explicit—that would also be helpful. As you well know, this city is full of word merchants who are able to define anything away by a simple examination of the record, and the way to deal with that, of course, as lawyers know better than I, is to be explicit as possible. It would be very helpful to the Commission, sir.

Mr. BEVILL. Thank you.

Mrs. BOGGS. Mr. Chairman.

Mr. BEVILL. Yes, Lindy.

Mrs. BOGGS. Of course, I would like to join you in saying au revoir to Mr. Kennedy, and thanking him for his service.

Mr. KENNEDY. Thank you.

Mrs. BOGGS. At this point, too, I would like to thank all of you for the very explicit answers that have been provided to my questions submitted to you to answer for the record. They concerned the upgrading and hiring practices and recruitment practices in the hiring of women in the agency. I would like to explicitly say that we would be very interested in having you follow through on the plans that you seem to have for increasing your performance in this regard.

Mr. AHEARNE. As best we can we will, yes. Thank you.

Mrs. BOGGS. Thank you very much.

Mr. BEVILL. Mr. Myers.

Mr. MYERS. Thank you, Mr. Chairman.

I join my colleagues in the appreciation we have for the service of Commissioner Kennedy and his candor today. As for being explicit, I think the Committee hasn't really lacked that trait, or

candor for that matter. I don't believe any Member here has recoiled from this issue. I think it has been clear, but it has not always been appreciated or followed by not only the NRC but a great many other agencies in the Executive Branch.

So I can sympathize and I completely agree with you. I think you have to understand that the elected officials, elected by the people, must make the final decisions. Of course, we must delegate. There is no question about that. We can't anticipate every contingency that may develop nor can you. But you are available, on the spot, to make those decisions and that is what I think this reorganization plan does. I read the plan for the first time here, and I don't see really any reorganization about it. It is a redefinition maybe of responsibility which is probably needed, but I am not sure whether there is any reorganization in it. I would want to go back and read it again as well as your testimony, Commissioner Kennedy, and the others. But I wonder whether this is really a reorganization under the guise of the reorganization provisions of the law?

It doesn't really change the Commission except the responsibilities and the decisionmaking of the Chairman.

Maybe I would have to agree somewhat that we must have a Chairman—we have a Chairman—and I think every group has to have someone who is finally making the decisions but just how far that should be carried and how much decisionmaking you give to a Chairman is very critical. I think, probably in many instances we give too much to the Chairmen here in Congress, too.

Mr. BEVILL. You have to remember the majority.

Mr. MYERS. Well, I never will forget, after being here a few years—. Let me digress a moment. Back in 1972 the presidential election looked like it would be a landslide victory for the Republican President and the majority party hadn't been changed for years. They got jittery and jumpy and they thought they might be pushed out so they liberalized the rules here for the new 93d Congress in January 1973.

There was a landslide all right, but it didn't translate from the landslide victory for the President to the Congress. The majority party stayed in as the majority.

So what was the first act of the 93d Congress? To throw out all the new reforms that we thought we would be getting. They didn't last long. You know the old story, I'll love you tomorrow just as much as I love you tonight. This is an election year, gentlemen. Everybody's going to love you tonight.

#### POLICY PROPOSAL

I want to get back on track here. I received an undated letter from you recently. It has to do with the draft language suggested to the other body, our counterpart. What does that draft language really mean?

Mr. AHEARNE. I am not sure what the subject is, Mr. Myers.

Mr. MYERS. Well, it has to do with requesting the Senate to add language defining—

Mr. KENNEDY. Oh, that.

Mr. HENDRIE. Oh, that's mine.

Mr. MYERS. OK.

Mr. KENNEDY. That's yours.

Mr. MYERS. It is a draft of section 12 having to do with policy.

Mr. AHEARNE. Why didn't you date it, Joe?

Mr. HENDRIE. That must be an undated OCA letter.

Mr. MYERS. This letter is to Chairman Johnston of the Senate Appropriations Subcommittee and was dated April 16—yesterday.

Mr. BEVILL. We will put that letter in the record at this point.  
[The letter follows:]

U.S. NUCLEAR REGULATORY COMMISSION  
Washington, D.C., April 16, 1980.

Hon. J. BENNETT JOHNSTON,  
Chairman, Subcommittee on Energy and Water Development, Committee on Appropriations, U.S. Senate, Washington, D.C.

DEAR MR. CHAIRMAN: On February 27, 1980, the Commission testified before your Subcommittee on NRC's fiscal year 1981 appropriation request. During the hearing we discussed with you and Senator Schmitt the desirability of amending the Atomic Energy Act to provide NRC explicit authority to allow for public interest considerations in setting safety standards or resolving safety questions. You invited draft language that would establish such a requirement and resolve the present ambiguity on this point in our statutory charter.

As Senator Schmitt pointed out, the Federal Aviation Administration (FAA) is similar to NRC in that its primary responsibility is to regulate a potentially hazardous industry. However, the FAA in regulating civil aviation is permitted by statute to consider the public interest in setting safety standards. We believe it highly desirable that NRC be provided similar explicit statutory authority to take into account public interests in assuring that the civilian nuclear industry operates safely. Accordingly, we have enclosed draft statutory language which we believe will accomplish this result.

Under the Atomic Energy Act, activities involving nuclear facilities and materials are regulated in order to provide adequate protection of the health and safety of the public and to assure that such activities are carried out in a manner that would not be inimical to the common defense and security. It is clear that these statutory standards do not require zero risk and, so long as some risk may be tolerated consistent with these statutory standards, decisions on "how safe or secure is enough" may properly entail some balancing of safety or security risks against public interest factors, specifically energy needs and economic impacts. Thus, we view this draft legislation as confirming authority the NRC now has, authority to make prudent and sensible safety and national security judgments based upon safety or security as a paramount consideration, but also giving some consideration to appropriate public interest factors.

However, there has been some confusion on this point, and legislation would be highly desirable in order to help avoid future confusion and to make explicit in the Act what is at present only implicit.

Finally, we emphasize that this proposal is not intended to reduce the current standards of protection but rather to permit future decisions to be taken on a more rational basis with all considerations explicitly stated.

Please do not hesitate to call on us if we can be of further assistance in this matter.

Sincerely,

JOSEPH M. HENDRIE,  
RICHARD T. KENNEDY,  
VICTOR GILINSKY,  
Commissioners.

#### DRAFT BILL

The Atomic Energy Act of 1954, as amended, is amended by revising the title of Chapter 2. to read "Definitions and Policy," and by adding a new section 12 to read as follows:

"SEC. 12. POLICY.—In the domestic licensing and regulation of facilities and materials under this Act the Commission shall regard minimizing risks to public health and safety and the common defense and security as the paramount consideration, but the Commission shall recognize that absolute safety or security may be unattainable as a practical matter and give appropriate consideration to economic impacts and to meeting energy needs. This policy shall guide the Commission in

applying the domestic licensing and regulatory standards of this Act, including the standards of adequate protection to the health and safety of the public in section 182a. and noninimicality in section 103d."

Mr. HENDRIE. That is a letter on behalf of the Commissioners Gilinsky, Kennedy and myself so the Chairman and Commissioner Bradford get a free ride on that one.

Mr. MYERS. You guys seem to pass these things around to different people and take turns with the responsibility for different days and nobody ever gets caught for anything, right?

Mr. HENDRIE. That's one of the advantages of being a commission.

Mr. MYERS. That's right. Sure.

Under this new reorganization the Chairman would have the responsibility.

Mr. AHEARNE. Hopefully.

Mr. MYERS. Tell the committee what you mean by the proposed Section 12 in language that we can understand.

Mr. HENDRIE. Briefly it goes as follows. If you look around at other agencies that regulate potentially hazardous activities, they try to protect on the one hand the public safety and on the other to look out for the public interest. You find generally that there is statutory responsibility, a responsibility to regulate taking into account various public interests as well as the health and safety aspects. The FAA, for instance, in considering aircraft safety also takes into its consideration when it looks at a new standard or a change in operating regulations or what-have-you, the national interest in having a viable air transport industry to get people from one place to another. Then look at the Atomic Energy Act, and you will find that that is not so clear.

#### ENERGY REORGANIZATION ACT

One of the reasons it's not so clear is that some people take the view that in 1974 and 1975 when the Energy Reorganization Act was passed, that the NRC went off with a part of the Atomic Energy Act which said provide adequate protection for the public health and safety; and the Department of Energy, then ERDA, went off with the part that says it's the policy of the United States to make use of atomic energy through peaceful uses of atomic energy for the benefit and welfare of its citizenry. There continues to be an argument over how much that preamble of the Atomic Energy Act is a legitimate basis for taking into account such things as the fact that when you make electricity from nuclear power you don't have to use imported oil to do it, and also generally at least it's cheaper than a number of other things of that kind. Now, it seemed to me that it would be useful if there were a statutory clarification of what I believe to be the intent of the Congress, namely, that such public interest be a part of the considerations before the NRC when we establish our safety regulations and grant licenses and amend licenses and so on. Now, I can remember the discussions of more than a year ago when we thought we had serious mistakes in the seismic design of some plants and we went ahead and shut down some plants. We had some pretty strong discussions up here at the time as to how much in that decision we

had taken or felt we were authorized to take into account considerations other than of a safety nature; that is, the need for electricity, the reliability of the electrical grid, the fact that at least some of the replacement power was going to have to be generated by oil and probably imported oil.

We got into the same kind of a discussion on the Senate side a while ago—which our letter indicates—and we were invited to supply some draft language which would simply build absolutely unambiguously language into the act which would deal with this matter of what is taken into account in doing business.

This is what this is.

This is what Section 12 does.

#### INTERVENOR FUNDING

Mr. MYERS. In the President's Reorganization Plan No. 1, which we have been discussing, referring to actions not included in this plan, the second recommendation was that he consistently favored assistance to intervenors in regulatory proceedings.

Now, on this matter, Commissioner Kennedy, there has been no question about the explicit feelings of the Committee and the Congress on funding of intervenors. I think in the Department of Energy there is no question.

Mr. KENNEDY. If I may, sir, Mr. Myers. I think that is right, you think that's right, but I can assure you that not everyone thinks that's right. That's the point I am trying to make. It is a problem perhaps with the English language but it is nonetheless a problem.

Mr. MYERS. I don't think there is any question about any member of the Committee here now about the issue of paying for intervenors. It's not that they should not be allowed in, it's a question of paying people to testify.

We don't. We don't think you should pay for your witnesses to testify either. I wonder if this section 12 amendment is in any way a vehicle to come back in and say now we do have to.

Mr. HENDRIE. Oh, no, no.

Mr. KENNEDY. It certainly was not my intention.

Mr. AHEARNE. Joe, I didn't realize.

Mr. HENDRIE. I might have gotten broader support for the proposal if that had been embedded in it, Mr. Myers.

Mr. MYERS. You may have gotten some opposition from the wrong places, too.

Mr. HENDRIE. It's dealing with the questions of whether we can consider the National Energy Policy and the economic considerations and so on. I recommend it to you, by the way. I think it would be very useful.

Mr. MYERS. Well, thank you.

Congressman Conte of Massachusetts was here for a while and then had to go to another markup session. He is the ranking Minority Member on the Appropriations Committee. He has a series of questions, one of which was partially addressed in earlier testimony, but one specific question I would like to ask and I will put the rest in the record for you to answer.

## PILGRIM 2 NUCLEAR PLANT

He asked about Boston's Edison Pilgrim 2 plant in Plymouth, Massachusetts. The company is currently paying \$18 million a month for carrying charges. How soon can they expect clearance on their application on that one?

Mr. AHEARNE. Let me ask Mr. Denton to comment on that, because he is more familiar with the details of that one.

Mr. DENTON. There were about 6 utilities with applications that were essentially through the hearing process when the Three Mile Island accident occurred. All of those have been held in abeyance.

I have had meetings with the Boston Edison Co. and with the other companies. I hope to have the Commission approve the use of the action plan that we keep discussing here, items from the action plan which are applicable to CPs in the very near future. Once that is done, we will review that Pilgrim 2 design against the action plan and the hearing will restart. My best estimate for that plant at Pilgrim 2 is that it is 3 to 6 months away from a final Board decision, because the Commission has to approve the criteria, the change; we have to go back to hearing; we have to get to the Board again and on through.

Mr. MYERS. The minimum time would be 3 months, and the maximum time would be 6 months from today before that plant, Pilgrim 2, could be getting that approval. There are other plants in this difficulty, too, so will they all or could they all be activated in hearings again in that time?

Mr. DENTON. The Boards are all sitting. We can restart the hearings once the criteria are clear. I don't think 6 months is a maximum, however, because—

Mr. MYERS. It could go beyond that?

Mr. DENTON. Yes, it could.

Mr. MYERS. In other words, you just don't know? Would that be a safe assumption?

Mr. DENTON. Well, if—

Mr. AHEARNE. Mr. Myers, in front of the Board there are things that could happen, and of course it depends on as they get into the issues what the examination of the issue show.

Mr. MYERS. How soon will the Board restart hearings on plants like Pilgrim 2?

Mr. AHEARNE. I think Mr. Denton's estimate is that if he gets his items up to us this month we ought to be able to reach our resolution certainly by June, if we are going to lay out this criteria for the Boards.

Mr. MYERS. How soon will the Boards get cranked up again and get operating?

Mr. AHEARNE. Just a short time.

Mr. DENTON. They are awaiting decisions of the Board and staff of what changes are necessary in line with the action plan. I have to do the review, get it back to the Board and make a decision on that there. We have deferred the CP's in order to get started on the OL plants that were already built, of course. So our first priority was to move those and we will move the review of the Diablo Canyon plant back to that Board very soon, as I mentioned.

The next priority is to obtain final Commission approval on the items for plants like Boston Edison's. So it will be summertime before the Board starts acting again on those plant designs and then it depends on the issues before the Board as to when a decision will be reached.

Mr. MYERS. The consumers are having to pay about \$18 million a month. It's a lot of money. Can that be expedited safely in any way?

Mr. AHEARNE. Mr. Myers, we are trying to move as expeditiously as we can but as you said, safety is the real issue and we will try to work through these as rapidly as we can.

#### QUESTIONS SUBMITTED BY MR. CONTE

Mr. MYERS. Well, Mr. Conte has some other questions to be answered in the record.

[The questions and answers follow:]

*Question.* Mr. Denton, as we are all aware, the nuclear industry has come under careful scrutiny as a result of Three Mile Island. The immediate implications of this has been an NRC-imposed moratorium on the issuance of construction permits for new plants? In light of the fact that management of many companies throughout this nation have committed considerable investments to pre-construction activity, can you answer the following questions so that those managements can make intelligent decisions to either continue with a project or abandon it?

a. What is the status of the NRC's moratorium, does it expect to lift it in the long or short term? (if at all).

b. How many people does the NRC have working on applications for near-term construction permits?

c. More specifically, based on this staffing level, do you expect Boston Edison's Pilgrim 2 plant in Plymouth, Massachusetts, which is currently spending some \$18 million per month for carrying charges, to be given its construction permit in the long or short term?

*Answer.* a. As a result of the accident at Three Mile Island, those plants that we had expected to license for operation between March 28, 1979 and now were and have been delayed because of the need to investigate and analyze the accident and to apply our findings to currently operating plants. In view of its urgency, a significant amount of our staff resources concerned with reactor licensing were reassigned to this TMI-related work. As you know, early this year we initiated the DOE Lab Loaner program under which personnel from DOE's National Laboratories assist us in the conduct of licensing reviews. The licensing review process has also been delayed to permit each pending application to be reviewed in light of the new TMI-related requirements. All these factors contributed to a "pause" in nuclear power plant licensing.

On February 28, 1980, an operating license was issued authorizing the Tennessee Valley Authority to load fuel into Unit 1 of the Sequoyah Nuclear Plant in Hamilton County, Tennessee, to proceed to criticality, and conduct testing at zero power and, with NRC staff approval based on successful completion of zero-power testing, at 5 percent of full power. The purpose of low-power operation is to conduct necessary system and component tests—most of which have been required in the past during reactor startup periods. In addition, training of operators in emergency procedures can be conducted at low power simulating post-accident heat removal.

Similar low power licenses have since been issued for North Anna and Salem 2. These actions indicate the end of the licensing pause. We are now considering other measures which the TMI experience indicates may provide desirable additional protection of the public safety needed for operation at full power. Further Commission guidance to the staff and the Licensing Boards will follow with regard to operating license applications pending before Boards. We recognize that delays in licensing fully constructed plants result in substantial economic costs to the rate payers. We intend that the progressive phaseout from the licensing pause will proceed as rapidly as is consistent with the Commission's overriding responsibility to assure adequate protection of the public health and safety.

b. The staff manpower resources allocated to review of pending construction permit applications is 4 professional manyears in the rest of Fiscal Year 80 and 4 professional manyears in fiscal year 1981.

c. Based upon this staffing level we would expect that the Pilgrim 2 construction permit review can proceed as expeditiously as reasonably possible (see response to previous question on schedule for Pilgrim 2).

#### QUESTIONS SUBMITTED BY MR. MYERS

Mr. MYERS. Also I have some questions for you to be answered for the record.

[The questions and answers follow:]

#### MARBLE HILL NUCLEAR PLANT

*Question.* According to Attachment 1, Tables 1 & 7, NRC estimates that construction on the Marble Hill plant in Indiana will be completed exactly three years after the applicant expects to complete it, and seven years after the construction license was issued. In almost all the other cases where the Commission's estimate for construction completion differs from the applicant's, the difference is less than a year. Why is the delay expected for Marble Hill; does the Commission know something that the applicant does not know?

*Answer.* Public Service's estimate for Unit 1 is 4-82 and for Unit 2, 7-83. The NRC's estimate is 4-85 for Unit 1 and 7-86 for Unit 2. The Caseload Panel visited the Marble Hill site in February 1979 and, after reviewing the applicant's schedule and construction status, determined that a nominal fuel date of 7-83 (for Unit 1) was more reasonable. Marble Hill's construction schedule was based on a 61 month duration, starting with site preparation under a Limited Work Authorization issued in late 1977. The construction permit was issued in April 1978. From the discussion in the answer to Question 4, you can see that the applicant's planned construction completion is considerably sooner than that experienced by other plants in the past. An average plant would take about seven years from start of site preparation until completion. Further, at the time of the site visit the applicant was advised not to submit its OL application until after the reactor pressure vessel was set (at that time this milestone was projected to occur in September 1979). Subsequently, in August 1979, a work stoppage was ordered by NRC for QA-related safety problems. The plant was about 20 percent complete at that time. In March 1980, the NRC revised its estimate to 4-85, given the amount of construction complete prior to August 1979 and the fact that the overall impact would probably result in a 12-18 month schedule delay.

Nevertheless, the applicant has adhered to its official schedule of 4-82 throughout the past year. We appreciate that licensees have their own reasons such as financial commitments and contractual obligations with suppliers, which make it advisable for them to maintain a tight schedule. However, we believe this particular licensee will re-evaluate his schedule when the QA problems noted above have been resolved. And at that time the NRC will again evaluate the construction status and revise its estimate, if appropriate.

#### REORGANIZATION PLAN

*Question.* Why did Commissioner Hendrie not participate in the Commission's response to the President's reorganization plan and what is his position now on the plan?

*Answer.* Commissioner Hendrie did not participate in the Commission's response to the President's Reorganization Plan because he was out of town when the testimony was circulated and discussed by the Commission. His position on the matter is contained in the attached statement, prepared as testimony before the Senate Committee on Governmental Affairs, and in the NRC General Counsel's draft amendments to which it refers.

[The information follows:]

STATEMENT OF JOSEPH M. HENDRIE, COMMISSIONER, U.S. NUCLEAR REGULATORY  
COMMISSION

Mr. Chairman, members of the Subcommittee, I am grateful for the opportunity to present my personal comments on Reorganization Plan No. 1 of 1980. As one of those who is going to be reorganized, I have a high interest in this matter. I also have some experience in trying to run the NRC and believe I can qualify as an expert witness on the subject at hand.

I agree with the general thrust of this reorganization plan. That is, first, that the NRC should continue to be an independent regulatory agency headed by a Commission as against some recent recommendations that it be headed by a single administrator and placed in the Executive Branch. Second, that some clarification of the principle areas in which the collegial Commission should work as contrasted to those areas in which the Chairman should act as the Chief Executive Officer for administrative and operational matters is much to be desired. My comments then will deal with whether or not Reorganization Plan No. 1 strikes an optimum balance between the collegial Commission on the one hand and the Chairman on the other. I see no point in moving the NRC from a management system with an excess of collegiality as at present, a system which might be labeled "the five-fold way to inaction," to a system which might be titled "the Chairman and four eunuchs." I trust that will not be the case and that our discussions

here will lead to some needed modifications of the plan and to a system which will be workable and an improvement for the NRC and for nuclear regulation.

Late last year, I attempted myself to define a charter for the collegial Commission and to distinguish between those areas in which the collegial Commission would normally function and those areas in which the Chairman would act as Chief Executive Officer of the agency. The essential features of that proposed charter are contained in the NRC draft reorganization plan that has been prepared by our General Counsel's office and that is included with the Commission testimony. The NRC draft plan adopts much of the language of Reorganization Plan No. 1. It differs from Reorganization Plan No. 1 in that it more clearly retains for the collegial Commission the position of being the ultimate authority in the agency. I believe that the NRC draft plan represents an optimum balance between the collegial Commission and the Chairman. I recommend it to you and to the President.

Now, what of Reorganization Plan No. 1? As it stands, I cannot recommend it to you. I am not so pessimistic as my colleagues about the workability of Reorganization Plan No. 1, and the recently delivered section-by-section analysis helps some portions of the plan considerably. Nevertheless,

as it stands, Reorganization Plan No. 1 overbalances the management of the NRC as badly on the Chairman's side as the present arrangements do on the side of the collegial Commission. There are a few changes that I would regard as essential to make the Reorganization Plan No. 1 a workable arrangement. Some of these are in the language of the Plan itself and some could be adequately covered in the legislative history, preferably in an amended section by section analysis.

The first essential change in Reorganization Plan No. 1 is to add to the list of officers in Section 1(b)(1) the Executive Director for Operations, the Executive Legal Director, the Director of the Office of Nuclear Regulatory Research, the Director of the Office of Inspection and Enforcement, and the Director of the Office of Standards Development. This change returns to the collegial Commission the power of confirmation of the senior officers of the agency as well as the power of removal. It simply makes no sense to divide the senior officers of the staff into some appointed and removed by the Commission and others appointed and removed only by the Chairman. If the Commission is to have confidence in these officers it needs also to have confirmation and removal powers over them.

The second essential change has to do with access to information. The current draft of the section-by-section analysis deals

satisfactorily with the information question in my view. It preserves the Commissioners' right to all information in the agency. The difficulty is that the language of the Reorganization Plan itself in Section 1(c) leaves open the possibility of a future reversal of the thrust of the section-by-section analysis. Section 1(c) should be amended to read "The Commission shall act as provided by subsection 201(a)(1) of the Energy Reorganization Act of 1974, as amended (43 U.S.C. 5841 (a)(1)) in the performance of functions of the Commission described in subsection (a) and (b) of this section." This change removes the word "solely" and "direct" and the final phrase of the section. With this change and with the section-by-section analysis as it now reads, I believe that the problems with access to information for Commissioners that had appeared in earlier drafts would be satisfactorily resolved.

There is one more change in the language of Reorganization Plan No. 1 that I highly recommend. It involves the Advisory Committee on Reactor Safeguards and has been requested by the Committee itself. This involves Section 1(b)(2). It is simply to make the first line of that subsection read "The Chairman or a member of the Commission may also initiate the appointment of the members of the Advisory Committee on Reactor Safeguards...." This change would keep the Chairman

from unilaterally terminating the membership of one of the committee members even though a majority of the Commission felt that member should continue to serve. For our senior safety committee, reporting directly to the collegial Commission, this appears to be a reasonable provision to me.

There are two other matters that ought to be dealt with in the legislative history to clarify the intent of the Reorganization Plan. The first of these is that in connection with Section 4, the section-by-section analysis should note that there is no intent here to deny to the Commission the right to establish and maintain the sort of Open Door Policy that has long been in effect at NRC. The Open Door Policy allows any member of the staff to privately discuss with any member of the Commission any matter that the staff member wants to bring up. It is not limited to safety matters but can cover all sorts of personnel problems and is an important safety valve for our staff. This right of access to any Commissioner is also an important feature of our newly developed policy on the treatment of differing professional opinions in the agency.

Finally, again in connection with Section 4, the section-by-section analysis should note that in having the staff officers report to the Chairman, it is not intended that the Commission

would thereby lose its oversight responsibility and authority or access to information for staff activities related to the functions of the collegial Commission.

With the modifications I have detailed here for Reorganization Plan No. 1, I think that that plan becomes a workable arrangement and one under which I believe I could function effectively as a Commissioner. I would continue to recommend to you the NRC draft reorganization plan, however. Thank you.

UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

April 15, 1980

SECY-80-134C

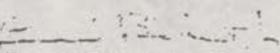
**INFORMATION REPORT**

For: The Commissioners

From: Leonard Bickwit, Jr., General Counsel

Subject: NRC REORGANIZATION PLAN -- DRAFT CHANGES  
TO PLAN

Discussion: At Commissioner Gilinsky's request, we have drafted amendments to the Reorganization Plan that would incorporate the changes recommended in the Commission's testimony on the Plan. Our amendments are attached in the form of an amended plan and a comparative text.

  
Leonard Bickwit, Jr.  
General Counsel

Attachments:

1. Amended Plan
2. Comparative Text

DISTRIBUTION

Commissioners  
Commission Staff Offices  
Exec Dir for Operations  
Secretariat

Contact:

C. W. Reamer, GC  
X-43288

ATTACHMENT 1REORGANIZATION PLAN NO. 1 OF 1980

Prepared by the President and submitted to the Senate and the House of Representatives in Congress assembled 1980, pursuant to the provisions of chapter 9 of title 5 of the United States Code.

NUCLEAR REGULATORY COMMISSION

Section 1. (a) Those functions of the Nuclear Regulatory Commission, hereinafter referred to as the "Commission", concerned with:

- (1) policy formulation;
- (2) rulemaking, as defined in section 553 of title 5 of the United States Code;
- (3) adjudications, as defined in section 551 (6) and (7) of title 5 of the United States Code;
- (4) any other matter which the Commission votes to consider;

shall remain vested in the Commission. The performance of any portion of those functions may be delegated by the Commission to a member of the Commission, including the Chairman of the Nuclear Regulatory Commission, hereinafter referred to as the "Chairman", and to the staff through the Executive Director for Operations.

(b)(1) With respect to the following officers or successor officers duly established by statute or by the Commission; the Chairman shall initiate the appointment, subject to the approval of the Commission; and the Chairman or a member of the Commission may initiate an action for removal, subject to the approval of the Commission:

- (1) Director of Nuclear Reactor Regulation,
- (ii) Director of Nuclear Material Safety and Safeguards,
- (iii) General Counsel,
- (iv) Secretary of the Commission,
- (v) Director of the Office of Policy Evaluation,
- (vi) Director of the Office of Inspector and Auditor,
- (vii) Executive Director for Operations,
- (viii) Executive Legal Director,
- (ix) Director of the Office of Nuclear Regulatory Research,

(x) Director of the Office of Inspection and Enforcement,

(xi) Director of the Office of Standards Development.

(2) With respect to the following officers or successor officers duly established by statute or by the Commission; the Chairman or a member of the Commission may initiate the appointment, subject to approval of the Commission, and may initiate the removal, subject to the approval of the Commission:

(i) Chairman, Vice-Chairman, Executive Secretary and Members of the Atomic Safety and Licensing Board Panel,

(ii) Chairman, Vice-Chairman and Members of the Atomic Safety and Licensing Appeal Panel.

(3) The Chairman or a member of the Commission may also initiate the appointment of the Members of the Advisory Committee on Reactor Safeguards which shall take effect upon the approval of the Commission. The provisions for appointment of the Chairman of the Advisory Committee on Reactor Safeguards and the term of the members shall not be affected by the provisions of this Reorganization Plan.

(c) Each member of the Commission, including the Chairman, shall have equal responsibility and authority in all decisions and actions of the Commission in the exercise of its functions under subsections (a) and (b) of this section, shall have full access to all information relating to the performance of his duties or responsibilities, and shall have one vote.

(d) Each member of the Commission shall continue to appoint, remove and supervise the personnel employed in his or her immediate office.

Section 2. (a) All other functions of the Commission, not specified by section 1 of this Reorganization Plan, are hereby transferred to the Chairman. The Chairman, in the performance of such functions, shall be the principal executive officer and shall:

- (1) exercise all of the executive and administrative functions of the Commission, including the appointive powers of the Chairman as provided by this Plan and the supervision of personnel employed under the Commission;
- (2) distribute business among such personnel and among administrative units and offices of the Commission;
- (3) determine the use and expenditure of funds of the Commission; and
- (4) prepare and submit to the Commission for its consideration and approval --
  - (i) proposals for the reorganization of the major offices within the Commission;
  - (ii) the budget estimate for the Commission; and
  - (iii) the proposed distribution of appropriated funds according to major programs and purposes.

The Chairman as principal executive officer shall be governed by the general policies of the Commission and by such regulatory decisions, findings and determinations, including those for reorganization proposals, budget revisions and distribution of appropriated funds, as the Commission may by law, including this Plan, be authorized to make.

- (b) The Chairman shall be responsible for assuring that the staff under the Chairman's general supervision is responsive to the requirements of the Commission in the performance of the functions continued in the Commission by section 1 of this Reorganization Plan.
- (c) There is hereby transferred to the Chairman the function of appointing and removing, without any further action by the Commission, all officers and employees under the Commission other than those whose appointment and removal are specifically provided for by subsections 1 (b) and (d) of this Reorganization Plan. In exercising such function, the Chairman shall consult with other members of the Commission as the Chairman deems appropriate.
- (d) The Chairman shall delegate the function of appointing, removing, and supervising the staff of the following offices or successor offices to the respective head of such offices: General Counsel, Secretary of the Commission, Office of Policy Evaluation, Office of Inspector and Auditor. The

Chairman shall delegate the function of appointing, removing and supervising the staff of the following panels and committee to the respective Chairman thereof: Atomic Safety and Licensing Board Panel, Atomic Safety and Licensing Appeal Panel and Advisory Committee on Reactor Safeguards.

Section 3. (a) Notwithstanding section 1 of this Reorganization Plan, there are hereby transferred to the Chairman all the functions vested in the Commission pertaining to an emergency at a particular facility or concerning materials licensed or regulated by the Commission, including the functions of declaring, responding, issuing orders, determining specific policies, advising the civil authorities and the public, directing and coordinating actions relative to such emergency incident.

(b) The Chairman may delegate the authority to perform such emergency functions, in whole or in part, to any of the other members of the Commission. Such authority may also be delegated or redelegated, in whole or in part, to the staff of the Commission.

(c) In acting under this section, the Chairman, or other member of the Commission delegated authority under subsection (b), shall conform to the policy guidelines of the Commission. To the maximum extent possible under the emergency conditions, the Chairman or other member of the Commission delegated authority under subsection (b), shall inform the Commission of actions taken relative to the emergency.

(d) Following the conclusion of the emergency, the Chairman, or the member of the Commission delegated the emergency functions under subsection (b), shall render a complete and timely report to the Commission on the actions taken during the emergency.

Section 4. (a) The Chairman may make such delegations and, subject to subsection (b), provide for such reporting as the Chairman deems necessary. The head of any component organization within the Commission may communicate directly to the Commission, or to any member of the Commission, whenever in the view of such officer, a critical problem of public health and safety or common defense and security is not being properly addressed.

(b) The Executive Director for Operations shall be the Chief Staff Officer of the Commission, to whom the staff reports, and shall act as the agent of the Commission under the general supervision of the Chairman.

(c) The functions of the Directors of Nuclear Reactor Regulation, Nuclear Material Safety and Safeguards, and Nuclear Regulatory Research of reporting directly to the Commission is hereby abolished.

(d) (1) The heads of the Commission-level offices or successor offices, of General Counsel, Secretary to the Commission, Office of Policy Evaluation, Office of Inspector and Auditor, the Atomic Safety and Licensing Board Panel and Appeal Panel, and Advisory Committee on Reactor Safeguards shall continue to report directly to the Commission and the Commission shall continue to receive such reports.

(2) The heads of the Commission-level offices or successor offices, of Congressional Affairs and Public Affairs shall report to the Chairman, and the Chairman shall receive such reports.

Section 5. The provisions of this Reorganization Plan shall take effect October 1, 1980, or at such earlier time or times as the President shall specify, but no sooner than the earliest time allowable under section 905 of title 5 of the United States Code.

ATTACHMENT 2REORGANIZATION PLAN NO. 1 OF 1980

Prepared by the President and submitted to the Senate and the House of Representatives in Congress assembled 1980, pursuant to the provisions of chapter 9 of title 5 of the United States Code.

NUCLEAR REGULATORY COMMISSION

Section 1. (a) Those functions of the Nuclear Regulatory Commission, hereinafter referred to as the "Commission", concerned with:

- (1) policy formulation;
- (2) rulemaking, as defined in section 553 of title 5 of the United States Code;
- (3) adjudications, as defined in section 551 (6) and (7) of title 5 of the United States Code;
- (4) any other matter which the Commission votes to consider;

shall remain vested in the Commission. The performance of any portion of those functions may be delegated by the Commission to a member of the Commission, including the Chairman of the Nuclear Regulatory Commission, hereinafter referred to as the "Chairman", and to the staff through the Chairman Executive Director for Operations.

(b)(1) With respect to the following officers or successor officers duly established by statute or by the Commission; the Chairman shall initiate the appointment, subject to the approval of the Commission; and the Chairman or a member of the Commission may initiate an action for removal, subject to the approval of the Commission:

- (1) Director of Nuclear Reactor Regulation,
- (ii) Director of Nuclear Material Safety and Safeguards,
- (iii) General Counsel,
- (iv) Secretary of the Commission,
- (v) Director of the Office of Policy Evaluation,
- (vi) Director of the Office of Inspector and Auditor,
- (vii) Executive Director for Operations,
- (viii) Executive Legal Director,
- (ix) Director of the Office of Nuclear Regulatory Research,

(x) Director of the Office of Inspection and Enforcement,

(xi) Director of the Office of Standards Development.

(2) With respect to the following officers or successor officers duly established by statute or by the Commission; the Chairman or a member of the Commission may initiate the appointment, subject to approval of the Commission, and may initiate the removal, subject to the approval of the Commission:

(i) ~~(vii)~~ Chairman, Vice-Chairman, Executive Secretary and Members of the Atomic Safety and Licensing Board Panel,

(ii) ~~(viii)~~ Chairman, Vice-Chairman and Members of the Atomic Safety and Licensing Appeal Panel.

(3) ~~(2)~~ The Chairman shall or a member of the Commission may also initiate the appointment of the Members of the Advisory Committee on Reactor Safeguards which shall take effect upon the approval of the Commission. The provisions for appointment of the Chairman of the Advisory Committee on Reactor Safeguards and the term of the members shall not be affected by the provisions of this Reorganization Plan.

~~(c) The Commission shall act as provided by subsection 201(a)(1) of the Energy Reorganization Act of 1974, as amended (42 U.S.C. 5841 (a) (1)) solely in the direct performance of functions of the Commission, described in subsections (a) and (b) of this section, and only when such functions have not been delegated pursuant to subsection (a) of this section.~~

(c) Each member of the Commission, including the Chairman, shall have equal responsibility and authority in all decisions and actions of the Commission in the exercise of its functions under subsections (a) and (b) of this section, shall have full access to all information relating to the performance of his duties or responsibilities, and shall have one vote.

(d) Each member of the Commission shall continue to appoint, remove and supervise the personnel employed in his or her immediate office.

Section 2. (a) All other functions of the Commission, not specified by section 1 of this Reorganization Plan, are hereby transferred to the Chairman. The Chairman, in the performance of such functions, shall be the principal executive officer and shall:

- (1) exercise all of the executive and administrative functions of the Commission, including the appointive powers of the Chairman as provided by this Plan and the supervision of personnel employed under the Commission;
- (2) distribute business among such personnel and among administrative units and offices of the Commission;
- (3) determine the use and expenditure of funds of the Commission; and
- (4) prepare and submit to the Commission for its consideration and approval --
  - (i) proposals for the reorganization of the major offices within the Commission;
  - (ii) the budget estimate for the Commission; and
  - (iii) the proposed distribution of appropriated funds according to major programs and purposes.

The Chairman as principal executive officer shall be governed by the general policies of the Commission and by such regulatory decisions, findings and determinations, including those for reorganization proposals, budget revisions and distribution of appropriated funds, as the Commission may by law, including this Plan, be authorized to make.

- (b) The Chairman shall be responsible for assuring that the staff under the Chairman's ~~direction~~ general supervision is responsive to the requirements of the Commission in the performance of the functions continued in the Commission by section 1 of this Reorganization Plan.
- (c) There is hereby transferred to the Chairman the function of appointing and removing, without any further action by the Commission, all officers and employees under the Commission other than those whose appointment and removal are specifically provided for by subsections 1 (b) and (d) of this Reorganization Plan. In exercising such function, the Chairman shall consult with other members of the Commission as the Chairman deems appropriate.
- (d) The Chairman shall delegate the function of appointing, removing, and supervising the staff of the following offices or successor offices to the respective head of such offices: General Counsel, Secretary of the Commission, Office of Policy Evaluation, Office of Inspector and Auditor. The

Chairman shall delegate the function of appointing, removing and supervising the staff of the following panels and committee to the respective Chairman thereof: Atomic Safety and Licensing Board Panel, Atomic Safety and Licensing Appeal Panel and Advisory Committee on Reactor Safeguards.

Section 3. (a) Notwithstanding section 1 of this Reorganization Plan, there are hereby transferred to the Chairman all the functions vested in the Commission pertaining to an emergency at a particular facility or concerning materials licensed or regulated by the Commission, including the functions of declaring, responding, issuing orders, determining specific policies, advising the civil authorities and the public, directing and coordinating actions relative to such emergency incident.

(b) The Chairman may delegate the authority to perform such emergency functions, in whole or in part, to any of the other members of the Commission. Such authority may also be delegated or redelegated, in whole or in part, to the staff of the Commission.

(c) In acting under this section, the Chairman, or other member of the Commission delegated authority under subsection (b), shall conform to the policy guidelines of the Commission. To the maximum extent possible under the emergency conditions, the Chairman or other member of the Commission delegated authority under subsection (b), shall inform the Commission of actions taken relative to the emergency.

(d) Following the conclusion of the emergency, the Chairman, or the member of the Commission delegated the emergency functions under subsection (b), shall render a complete and timely report to the Commission on the actions taken during the emergency.

Section 4. (a) The Chairman may make such delegations and, subject to subsection (b), provide for such reporting as the Chairman deems necessary. The head of any component organization within the Commission may communicate directly to the Commission, or to any member of the Commission, whenever in the view of such officer, a critical problem of public health and safety or common defense and security is not being properly addressed.

(b) The Executive Director for Operations shall report to the Chairman and shall be responsible for such functions as the Chairman shall direct be the Chief Staff Officer of the Commission, to whom the staff reports, and shall act as the agent of the Commission under the general supervision of the Chairman.

(c) The functions of the Directors of Nuclear Reactor Regulation, Nuclear Material Safety and Safeguards, and Nuclear Regulatory Research of reporting directly to the Commission is hereby transferred so that such officers report to the Chairman or as directed by the Chairman. ~~The function of receiving such reports is hereby transferred from the Commission to the Chairman abolished.~~

(d) (1) The heads of the Commission-level offices or successor offices, of General Counsel, Secretary to the Commission, Office of Policy Evaluation, Office of Inspector and Auditor, the Atomic Safety and Licensing Board Panel and Appeal Panel, and Advisory Committee on Reactor Safeguards shall continue to report directly to the Commission and the Commission shall continue to receive such reports.

(2) The heads of the Commission-level offices or successor offices, of Congressional Affairs and Public Affairs shall report to the Chairman, and the Chairman shall receive such reports.

Section 5. The provisions of this Reorganization Plan shall take effect October 1, 1980, or at such earlier time or times as the President shall specify, but no sooner than the earliest time allowable under section 905 of title 5 of the United States Code.

## ADMINISTRATIVE AGENCY

*Question.* Can you distinguish between the President's plan, Chairman Ahearne and a simple conversion of NRC into an administration with no real collective, deliberative function which simply carries out the policies of the President? Are there guarantees in the President's plan to prevent that?

Commissioner Ahearne's response: It is important to recognize that provisions of the President's Reorganization Plan No. 1 would operate in the broader context of the existing governmental framework for nuclear regulation established by the Atomic Energy Act of 1954 and the Energy Reorganization Act of 1974. Therefore, although the Reorganization Plan would give the Commission Chairman increased authority in certain specific areas (such as appointment of certain Commission officers), the Plan would not alter the basic responsibility of the collegial Commission over the fundamental NRC activities of policy formulation, rulemaking and adjudication. Further, the full Commission, rather than the Chairman, determines whether a particular question is "policy."

Also, Section 2(a) of the Plan specifically provides that "[t]he Chairman as principal executive officer shall be governed by the general policies of the Commission and by such regulatory decisions, findings and determinations, including those for reorganization proposals, budget revisions and distribution of appropriated funds, as the Commission may by law, including this Plan, be authorized to make." The Chairman is also required to assure that the Staff under the Chairman's direction is responsive to the requirements of the Commission in the performance of its functions.

Most importantly, however, the Reorganization Plan makes no change in the clause in Section 201(a)(1) of the Energy Reorganization Act of 1974 which establishes the NRC as "an independent regulatory Commission." A considerable body of administrative law, in the form of both statutory enactments and judicial precedents, has been developed over many years to establish the contours of this "independence" principle as applied to regulatory agencies. It is that body of law which would constitute an important guarantee against any attempt to compromise the NRC's independence from the Executive Branch in the exercise of its substantive responsibilities.

## EXPORT LICENSING

*Question.* The President did not mention the issue of Commission jurisdiction over export licensing in his reorganization plan, although the Kemeny and Rogovin studies supported transfer of that responsibility to another Executive Branch agency: What is the position of the Commissioners on this?

Answer. The Commission would support a transfer of NRC's export licensing authority to the Executive Branch. The nuclear export licensing process depends, in large measure, upon foreign policy judgments which are most appropriately made by those Executive Branch agencies which bear the constitutional responsibility for the conduct of United States foreign relations. We believe that it is inappropriate for an independent regulatory agency whose primary responsibility and expertise lie in the health and safety regulation of domestic nuclear power reactors to exercise responsibilities which may have a major impact on the conduct of U.S. foreign policy.

The position is not intended to either support or oppose an independent review of these matters. Rather, to point out that the NRC has neither the time nor the expertise to make the judgments required. The factors which must be considered in these decisions involve the ability of the countries involved to produce weapons, their intent, and the impact on U.S. foreign policy of the proposed sale. These have nothing to do with the primary business of the NRC and the time spent on this matter detracts from it.

Finally, it should be pointed out that the Kemeny Commission Report did not contain a specific recommendation that export licensing be transferred from the NRC. Indeed, such a recommendation was explicitly rejected during the Commission's deliberation. Instead, the Report contained a general recommendation that consideration be given to the transfer of non-safety functions to other federal agencies to permit the Commission to devote greater time to health and safety regulation.

Commissioners Bradford and Gilinsky assume that the Kemeny Commission's recommendation did not relate to the prevention of the use of U.S. supplied materials in the fabrication of nuclear weapons—a function which is certainly closely related to the public's health and safety. As for the views of the other Commissioners about the agency's expertise and the time involved in export licensing, the

expertise involved is primarily expertise regarding safeguards, an area in which this agency's competence is preeminent. This competence was recognized by Congress two years ago, when by a vote of 411 to 0 in the House and of 88 to 3 in the Senate, it enacted the Nuclear Non-Proliferation Act which assigned to the NRC its role as an independent check on the Executive Branch in nuclear export matters. As for the time involved, export licensing takes up no more than 10 percent of the Commission's time and consumes less than 1 percent of the agency's resources.

#### EXPORT LICENSING

*Question.* To the extent that sensitive foreign policy considerations are included in the export licensing decision, where do the commissioners who are not diplomats or foreign service specialists go for advice?

*Answer.* The Commissioners receive advice on any sensitive foreign policy considerations involved in export licensing decisions primarily from the Office of International Programs, which is responsible for coordinating NRC's international activities in the area of export licensing. That office reviews all export applications, then examines and provides recommendations on sensitive foreign policy issues for the Commissioners' use in export licensing decisions. In performing the export licensing reviews, the Office of International Programs draws on, but provides its own interpretation of the Executive Branch views which the NRC receives on proposed export applications pursuant to the Nuclear Non-Proliferation Act of 1978. The Office of International Programs also acquires any other relevant information from the Executive Branch which it analyzes and factors into its reviews.

In addition, the Commissioners, at their request, may receive briefings directly from the Executive Branch on specific cases involving sensitive matters.

#### PUBLIC POLICY ADVOCACY

*Question.* Commissioner Bradford, in your view is public policy advocacy an appropriate activity of Commission members? What has been your interest in or even relationship with the initiative effort in your home state of Maine concerning the Yankee reactor? Have you talked with any proponent of that effort? What is your position on it?

Commissioner Bradford's answer. I think that public advocacy is a necessary function for regulatory commissioners as long as the public policy in question is reasonably related to the subject matter that their agency is concerned with. For example, Commissioner Hendrie's letter regarding the rechartering of the NRC to which you alluded at the hearing certainly advocates a particular public policy.

I have had no relationship to the initiative effort regarding Maine Yankee. No proponent or opponent has asked for my view as to what the outcome should be. Indeed, the only two people with whom I have discussed it were proponents who, as a result of the conversation, came to doubt the wisdom of the effort. Essentially, the position that I took was that I thought statewide referenda of this sort usually to be ill-advised. The utilities involved are bound to out-spend their opponents by as much as ten or twenty to one. Having won, they will treat their victory as a general endorsement dismissing all nuclear doubts in all contexts, which, of course, it will not be. Maine had a similar experience in a public power referendum in 1973.

As a general rule, it seems to me to invite trouble when unelected federal regulatory officials involve themselves in state elections and referenda. It would politicize our agency by encouraging different commissioners to take different sides. While I will vote, I have no intention of taking a public position regarding the desirable outcome of the Maine referendum.

Mr. BEVILL. I would call the attention of the Committee to the time situation we have. If there is no objection we would like to go straight through lunch. With the Committee's cooperation, we would like to continue with the hearing. I want everyone to ask their questions. I did want to point that out and if that is agreeable, we will proceed on through.

Mrs. Boggs.

Mrs. BOGGS. Thank you, Mr. Chairman.

Mr. Chairman, I value the testimony today and the views of each of the Commissioners. I am very interested in their proposed reor-

ganization, but in view of our schedule, I won't have any questions at this time.

#### QUESTIONS SUBMITTED BY CHAIRMAN BEVILL

Mr. BEVILL. I have many other questions here but I see our time is limited so I am going to submit my questions for the Record and ask that you respond in the Record.

[The questions and answers follow:]

#### LOW POWER LICENSE PROCEDURE

*Question.* During your February 26 appearance, you (Chairman Ahearne) indicated that it would take four to six months under the low power procedure for you to then be able to consider a full power operating license. However, in today's statement, you project a seven-month period for the Sequoyah plant and six months for the North Anna and Salem plants. Would you explain why the low power procedure will take six to seven months?

*Answer.* TVA is not expected to achieve initial criticality at Sequoyah Unit 1 until May 1980. During fuel loading, certain activities, such as replacement of guide pins in the core internals and performance of a preservice turbine inspection had to be completed before proceeding to initial criticality. The zero-power and low-power tests will proceed as planned after initial criticality is achieved. During this period TVA and NRC will be completing the analyses required to issue the full power license for the facility.

For Sequoyah, we projected four to six months from the date of the low power license to issuance of a full power license. Pre-TMI, the period of time between issuance of an operating license and achievement of full power was approximately four to six months. We believe that the additional low power testing required of Sequoyah could be completed in two months. Thus, we believe four to six months from May 1980 is a reasonable span for the low power testing to be completed and the full power operating license to be issued.

We plan to conduct our full-power reviews of the low power tests at Sequoyah, North Anna, and Salem in series, separated by two to four weeks each. Thus, we would expect to issue full power licenses for these facilities on the schedules shown in the Commission's April 17, 1980 statement.

*Question.* It appears from your statement that you won't be able to consider a low power operating license for Salem 2 and Farley 2 until the safety evaluation report supplement is completed by the NRC staff. You won't be able to consider Diablo Canyon until the hearings are completed and the licensing board renders a decision. Is this correct?

*Answer.* Yes. The target dates shown in Table 1 of the Commission statement of April 17, 1980 are based on the assumptions attached to that Table. These assumptions are:

Commission decision on full-power NTOL requirements made in June 1980.

Commission decision on treatment of Class 9 accidents in NEPA statements adopts staff recommendation in SECY 80-131 and is made in June 1980.

Projected safety reviews are generally scheduled to start 33 months prior to construction completion dates including time for ACRS review and hearings.

Projected environmental reviews are generally scheduled to start 24 months prior to construction completion dates including time for a hearing.

For plants with construction completion dates before the end of 1982 the target schedules for OL review were developed, based on the NRC construction completion dates on a plant specific basis to minimize delays in OL issuance.

In addition, in developing the target schedules for these projects it was assumed that the NRC fiscal year 1980 Supplemental Budget Request and the NRC fiscal year 1981 Budget Request would be approved and that sufficient internal rescheduling and, if necessary, reprogramming could be done to continue the DOE Lab Loaner Program in fiscal year 1981.

#### LICENSING REPORTS

*Question.* What individual in the Commission is responsible for the completion of the necessary staff reports? Who is responsible for scheduling and running the safety and environmental hearings?

Answer. The Director of the Office of Nuclear Reactor Regulation is responsible for assuring that the necessary staff reports (safety evaluation reports and environmental statements) associated with the licensing of nuclear power reactors are completed. The Chairman of the Atomic Safety and Licensing Board Panel is responsible for the scheduling and conduct of safety and environmental hearings associated with the licensing of nuclear power reactors.

#### CONSTRUCTION SCHEDULES

*Question.* In reviewing the listing provided in Attachment 1, I notice that there are some significant differences between the construction completion estimate supplied by the applicant and the independent NRC estimate. For example, in the Mid-Atlantic and Mid-America power pools, the NRC estimate is from 2 to 14 months longer than the estimate of the applicant. In addition, nearly all of the NRC estimates are longer than the NRC estimates provided 2 months ago, in February, as shown on pages 470 through 472 of our hearing. What accounts for this lengthening of the time for construction completion.

Answer. The construction completion date is that date when both construction is completed and all the pre-operational testing is complete. For the first few Near Term Operating Licenses, the estimate also includes time to ensure that all TMI-related design changes and equipment modifications have been installed and the test results reviewed. The staff has found that in the past, applicant's estimated completion dates tend to be optimistic. About two years ago the staff began making an independent estimate of construction completion.

There is a special group, the Caseload Panel, comprised of representatives from the offices of IE, NMSS, NRR, MPA, and the Controller who prepare a special report to the EDO each year just prior to the beginning of the budget preparation. In March, 1980, the Panel reviewed the estimated fuel load dates for all reactors projected for completion during fiscal year 1980-86. Projections are based on the process described below. Except from the three reactors expected to load fuel over the next three months and for some reactors not expected to be completed until 1990 or later, the Panel chose as the estimated fuel load date that date which was determined from either the site visit, the applicant, the model or the I&E estimate. Except for the three near-term reactors, no TMI-induced slippage was explicitly incorporated into these estimates.

As a point of departure, a model was developed in 1977 which depicts the average time required to construct nuclear power plants. Subsequently, in early 1979, this model was refined to depict the relationship between the reported percent of construction completion of a nuclear power plant at any given time and the elapsed construction time from placement of first structural concrete. The data examined indicated that typical construction durations from placement of first structural concrete (about 5-15 months after site preparation begins) can range from 65 months to 87 months. Using this model, an estimate of the time required to complete construction can then be determined based on the reported percent complete. Since December 1973 this percentage has been reported monthly (although we recently changed our reporting frequency to four times a year) to the NRC by utilities.

Additional data is obtained from NRC regional inspectors, project managers, and special NRC team visits to arrive at a nominal date for realistic completion of construction. The visits take into account plant-specific factors, such as rate of cable-pulling, piping installation, equipment procurement, craft availability, and ongoing labor negotiations, as well as the schedule for pre-operational testing. While the results of the site visits and any applicant's schedule slips are factored into our manpower scheduling throughout the course of the year.

Specific information on some of the plants, which you mentioned, in the Mid-Atlantic and Mid-America power pools is given below:

*Braidwood.*—The applicant is projecting 5-83 for Unit 1 and 4-84 for Unit 2. The NRC estimate is 6-84 and 6-85 for Units 1 and 2, respectively. The staff visited the Braidwood site in 5/78. At that time, the applicant was projecting a May 1981 date for Unit 1, but the staff believed this was optimistic by about one year. The applicant later revised his estimates to the current one due to his inability to receive adequate rate relief which caused a construction halt and the lay-off of substantial numbers of crafts. Recently, the applicant did get the rate relief he was seeking, but the staff believes it will be several months longer before full-scale construction can be resumed. From May 1978 to September 1979, construction progressed from 28% to 54%—about 1.5 percent per month, about the average rate, although the applicant is projecting his date on the basis of only 9 months for pre-operational testing, about 12 months shorter than past averages for other plants.

The applicant plans to re-evaluate the schedule as soon as work resumes. His present plans call for 700 (versus the usual 2500) work force by July 1980.

*Clinton.*—The applicant's projected date for Unit 1 is 4-82 and the NRC estimate is 3-83. (Unit 2 is not projected by the applicant for completion until 1987, and only site preparation has been accomplished. Actual construction on Unit 2 has not begun.) Visits were made to the site in June and again in December 1979. The NRC staff believes that, based on the material commodities installed, construction complete is only about 50 percent, compared with the applicant's reported 58 percent complete. Based on historical averages, a median plant (at 50 percent complete) would require 37-41 months to completion.

*Susquehanna.*—The applicant's estimate for Unit 1 is 4-81 and for Unit 2, 4-82. The NRC estimate is 10-81 for Unit 1 and 4-83 for Unit 2. (The applicant recently slipped his schedule for Unit 1 from 5-80.) In March 1980, the Caseload Panel visited the Susquehanna site and was advised that the licensee had identified additional work which had caused him to revise his estimate of construction completion from the previously reported 94 percent to 80 percent. In addition, there were identified a number of items that were on the critical path: (1) requalification of installed hangers to meet the required stress analysis; (2) Mark II containment redesign problems; and (3) installation of the security system. A minimum number of pre-operational tests were completed and the earliest that cold hydrostatic testing could begin might be August 1980 (typically about 12 months prior to fuel loading). For these reasons, the NRC staff advised the licensee that November or December 1981 would be more realistic and the licensee, while not changing their official schedule, raised no objections.

*LaSalle.*—The applicant's official date for projecting construction completion of Unit 1 is 6-80 and for Unit 2, 6-81. However, at a recent site visit the applicant indicated it is now projecting about September 30, 1980, for construction completion of Unit 1. The NRC staff believes this may be optimistic by about two months for the following reasons.

(1) Approximately 40 percent of the pre-operational tests are completed, and the applicant's average rate of completion has been less than 6 percent per month. In order to meet their estimated fuel load date, the completion rate would have to be increased by almost a factor of two in comparison to their past performance.

(2) The applicant in its presentation stated that the hanger reevaluation for the "as-built" conditions would be completed by August 1980 and that approximately 10 percent rework would be required because of the re-evaluation. Completing the rework by the time of their estimated fuel load date is optimistic.

(3) Finally, the applicant and its contractor, Chicago Bridge & Iron Co., project only three months to complete the suppression pool modifications due to the hydrodynamic loads not accounted for in the initial Mark II containment design. All the other Mark II plants (Shoreham, Zimmer and the completed Susquehanna) are taking and have taken a longer time.

The NRC estimate for completion of Unit 2 is February, 1982.

#### ESTIMATED LICENSING DELAY

*Question.* There are three plants where, according to your own estimates, you will not be able to make an operating license decision when the plant is ready to load fuel: Summer 1 (5 months), and Diablo Canyon 1 (5 months) and San Onofre 2 (1 month).

In the case of Summer 1 and San Onofre 2, the safety evaluation report and the final environmental report have not yet been completed by the NRC staff. In the case of Diablo Canyon 1, the supplement to the safety evaluation report has not been completed expeditiously so that perhaps the hearings can be completed earlier and the licensing boards can accelerate their consideration of the cases?

*Answer.* The target schedules shown in Table 1 of the Commission's statement of April 17, 1980 were predicated on the assumptions attached to the Table, on approval of the Commission's fiscal year 1980 Supplemental and fiscal year 1981 Budget requests and on continuation of the DOE Lab Loaner Program in fiscal year 1981. The target schedules developed do indicate delays for three plants (Summer 1—five months, Diablo Canyon—five months and San Onofre 2—one month), if these plants meet the presently anticipated construction completion dates. The target schedules shown are being used by the Office of Nuclear Reactor Regulation to establish the priority with which available staff resources will be allocated to assure that the necessary staff reports are completed as scheduled. While we plan to concentrate our efforts to improve schedules on these three plants it is not likely that significant improvement in the schedules for these facilities can be made without adversely impacting the schedules for other plants.

*Question.* Is anything being done to insure that the licensing process does not delay the operation of any additional plants?

*Answer.* The target schedules shown in Table 1 of the Commission's statement of April 17, 1980, are being used to establish priorities and to allocate available staff resources with the objective of completing the licensing process so as to avoid or minimize delays in operating license issuances.

#### LICENSING BOARD DECISIONS

*Question.* In reviewing your schedule of licensing actions, I notice that it usually takes about two months after the hearings are completed before the licensing board makes its decision. Why does it take two months?

*Answer.* Once the evidentiary record is closed, the Commission's Rules of Practice provide that unless a different time is ordered by the presiding officer, the applicant may within twenty (20) days file proposed findings of fact and conclusions of law and briefs. Other parties may file proposed findings of fact, conclusions of law and briefs within thirty (30) days after the record is closed. Forty (40) days are provided for the regulatory staff to file its proposed findings, conclusions and briefs. The applicant may reply within ten (10) days after service of proposed findings, conclusions of law and briefs by other parties (10 CFR 2.754).

On receipt of proposed findings and conclusions from the parties, the Licensing Board prepares the initial decision pursuant to the requirements of the Administrative Procedure Act. It is expected that ordinarily a licensing board will render its initial decision within 35 days after its receipt of proposed findings of fact and conclusions of law filed by the parties in a contested case and within 15 days after receipt of such proposed findings and conclusions in an uncontested case (10 CFR Part 2, Appendix A). The length of time required for board deliberations and preparation of a decision depends upon the complexity of the proceeding. More and more frequently, boards are being confronted with proceedings which present unusually difficult issues which are hotly contested. Conscientious decision making thus requires more time. However, whenever possible, the boards attempt to issue their decisions within the time frames set out as guidance in Appendix A.

#### CONSTRUCTION PERMIT REVIEW

*Question.* According to page 427 of the February hearing, there are 15 reactors that have applied for a construction permit. Who in the Commission is responsible for the completion of the necessary staff reports? Who is responsible for scheduling and running the safety and environmental hearings?

*Answer.* The Director of the Office of Nuclear Reactor Regulation is responsible for assuring that the necessary staff reports (safety evaluation reports and environmental statements) associated with the licensing of nuclear power reactors are completed. The Chairman of the Atomic Safety and Licensing Board Panel is responsible for the scheduling and conduct of safety and environmental hearings associated with the licensing of nuclear power reactors.

#### PILGRIM 2 NUCLEAR PLANT

*Question.* What is the status of the construction permit for the Pilgrim 2 plant? When will you be able to make a decision on the issuance of a construction permit?

*Answer.* The status of the construction permit review for the Pilgrim Unit 2 plant is as follows. Except for a recent contention on emergency planning (which is a TMI-related issue), all non-TMI review matters have been completed, presented to the Board at a hearing, and proposed findings in the form of a proposed initial decision were submitted to the Board by all parties. With regard to the TMI-related issues, the staff is planning to submit in May for Commission approval the list of requirements in the TMI Action Plan which must be met prior to the issuance of a construction permit (NTCP List).

Five people have been working since March to adapt the Action Plan to the six active outstanding CP applicants. The staff has met with an ACRS subcommittee, and expects to meet with the full ACRS on May 2. Several meetings with the six CP applicants as an owner's group have been held. As stated above, the staff will submit a proposed NTCP List to the Commission in May.

A schedule for issuance of a construction permit based on the NTCP List approved by the Commission is difficult to predict at this time. This difficulty arises from two major factors. First and foremost, two issues in the TMI Action Plan involve matters (siting and consideration of degraded core cooling conditions) which could potentially result in the need for a substantial redesign or relocation of the proposed facilities. Second, each of the near-term construction permit applications

must complete the hearing process and the nature of the contentions which will be considered in the hearings as a result of TMI is not yet clear. Both of these factors are heavily dependent on the scope of the TMI-related requirements, which are yet to be approved by the Commission, which must be met by these near-term construction permit applicants.

#### SCHEDULE OF CONSTRUCTION PERMIT ACTIONS

*Question.* Provide for the record a schedule of the necessary licensing steps for plants seeking construction permits similar to what was prepared for chairman Ahearne's statement.

*Answer.* Four of the reactors under construction permit review at the time of the February hearings have subsequently been cancelled. They are Erie 1 & 2 (docketed 3-72) and Davis Besse 2 & 3 (docketed 8-74). We were nearing completion of our safety review on both of these applications when Three Mile Island occurred. For Erie 1 & 2 an SER Supplement had been issued on January 25, 1979 and an ACRS letter was issued on August 8, 1978 for Davis Besse 2 & 3. In a press release dated January 23, 1980, the Central Area Power Coordinating Group (CAPO) announced termination of plans to build the four units due to "the political and regulatory uncertainties affecting the future construction of nuclear plants [which] has intensified following the accident at Three Mile Island." All four steam supply systems were to be purchased from Babcock & Wilcox, and were similar to the Three Mile Island design.

The attached Table provides the status of the licensing review and target schedules for the future licensing steps for the remaining 11 plants seeking construction permits in so far as these dates can be estimated at this time. Further definition of the projected schedules for these plants depends in large measure on the Commission's decision on which items in the TMI Action Plan must be considered prior to issuance of construction permits. Please see response to previous question on Pilgrim 2 for more details.

## DATES OF LICENSING STEPS FOR PLANTS SEEKING CONSTRUCTION PERMITS

Plant	FSAR		ER		SER	AOKS	Non-TMI SER <sup>1</sup> supple- ment	DCS	FES <sup>1</sup>	Hearing <sup>2</sup>		TMI SER supple- ment	ASLB <sup>3</sup> decision	CP decision
	Tendered	Docketed	Tendered	Docketed						Start	Completed			
Black Fox 1, 2*	8/75	12/75	8/75	12/75	6/77	7/77	7/78	7/76	2/77	10/78 6/78	2/79 6/78	Open	Open 7/78	Open
Allens Creek 1*	12/73	12/73	12/73	12/73	11/74	12/74	3/79	7/74	5/80E	Open	Open	Open	Open	Open
Plym 2*	6/73	12/73	6/73	12/73	6/75	10/77	1/79	6/74	5/79	5/79	Open	Open	Open	Open
Perkins 1-3*	5/74	6/74	5/74	6/74	3/77	4/77	7/77	5/75	10/75	1/79	Open	Open	Open	Open
Pebble Springs 1, 2*	8/74	10/74	6/74	8/74	1/76	2/76	5/79	12/74	11/79	12/79	Open	Open	Open	Open
Skagit 1, 2*	11/74	1/75	8/74	9/74	8/77	11/77	10/78	1/75	4/77	7/79	Open	Open	Open	Open

<sup>1</sup> Date of last supplement to the FES/SER is shown.

<sup>2</sup> Where 2 dates are entered, first refers to the radiation safety hearings, second refers to Environmental Hearing. One entry indicates combined hearings.

<sup>3</sup> Where 2 dates are entered, first refers to the decision on radiation safety matters, second refers to decision on environmental matters. One entry indicates combined decision.

<sup>4</sup> Motion to reopen hearings based on TMI issues pending before ASLB. Board awaiting issuance of staff SER Supplement on TMI-issues for project for only one unit in October 1976 and provided initial information for rescheduled review in August 1977.

<sup>5</sup> Allens Creek was deferred by applicant in September 1975. Applicant provided notice of rescheduling in July 1974, extending environmental review process. The ASLB denied LWA application in November 1977 because they concluded the analysis of alternative sites was not acceptable. Supplemental FES on alternative sites was issued in May 1979.

<sup>6</sup> Motion was filed to reopen to consider TMI-2 issues. Applicant indicated in July 1979 that no final decision has been made by them on the construction of Units 1, 2, and 3.

<sup>7</sup> Seismic issue delayed safety review. Alternative Site review under the Seabrook decision resulted in FES supplement on this matter. Hearings not concluded; in addition to TMI-2 issues, generic issues (ALAB-444), need-for-power, and alternative site matters are pending. Site Certification by State is not complete.

<sup>8</sup> As a result of field explorations conducted by USGS, the seismic design of the facility must be reexamined.

<sup>9</sup> Motion to reopen to consider TMI-2 issues. Applicant provided notice of rescheduling in July 1974, extending environmental review process. The ASLB denied LWA application in November 1977 because they concluded the analysis of alternative sites was not acceptable. Supplemental FES on alternative sites was issued in May 1979.

## TIMELY CONSIDERATION OF UTILITY PROPOSALS

*Question.* As you know, this Committee has been and continues to be concerned about the timely and orderly completion of the necessary reports and hearings so that the licensing boards and the Commission can deliberate and make these decisions. In our report last year, the Committee said, "With the growing energy supply problems facing the United States, the electric utilities deserve timely consideration of their proposals so they can plan and act in a rational and responsible manner." I want to get each Commissioner's view on the importance of this issue.

Chairman AHEARNE. I agree that any applicant deserves timely consideration and that such will assist in utility planning. This past year has been one of major change in Commission approaches. We are now reaching a point where the revisions are becoming clear and the review process can begin to stabilize. This should lead to a more predictable consideration of applications and a process which will provide careful review and timely consideration.

Commissioner Hendrie agrees with the response given by Chairman Ahearne. Commissioner Kennedy's views were expressed in testimony given before the Subcommittee.

Commissioner Bradford's response is as follows: I believe that it is very important for the Commission to act upon utility applications in a timely and orderly fashion. However, it is equally important for the Commission to respond to nuclear safety concerns in a similar fashion. Three Mile Island came in large part from emphasizing the former at the expense of the latter.

Commissioner Gilinsky's response: It is obviously very important for the Commission to fulfill its responsibilities efficiently and of course utilities deserve timely consideration of their proposals. It should be added that the apparent increase, in recent years, in the time taken to review license applications is largely the result of the utilities' decision to slow down new plants because many of them were not needed as rapidly as originally scheduled. As a result of these decisions, many utilities slowed down their construction schedules and, consequently, their responses to NRC questions. More recently, of course, the slowdown in licensing has been caused by NRC's absorption with the Three Mile Island accident, its causes, and necessary fixes for operating plants and those near operation. I believe that the Commission has acted prudently in taking this course.

## LICENSING REVIEW WORK

*Question.* According to Chairman Ahearne's statement, there are 14 safety evaluation reports, 25 safety evaluation report supplements, 13 draft environmental statements and 16 final environmental reports to be completed by the NRC staff between now and the end of fiscal year 1981. Would you provide for the record a schedule showing the place where the personnel and dollars are budgeted in fiscal year 1980 and 1981 to complete this work.

*Answer.* The personnel and dollar resources needed to complete the necessary reviews and issue the staff documentation (safety evaluation, safety evaluation supplement draft environmental statement or final environmental statement) are contained within the Casework Decision Unit for the Office of Nuclear Reactor Regulation. With the help of the DOE Lab Loaner Program funded under the NRC fiscal year 1980 Supplemental Budget, we believe that these reports can continue to be completed on schedule in fiscal year 1980. In fiscal year 1981, additional funds for continuing the Lab Loaner Program at or slightly above the projected fiscal year 1980 level are required. In developing the target schedules for completing the staff reports necessary to carry out the licensing process, the DOE Lab Loaner program was assumed to be funded to fiscal year 1981. The NRC is currently examining rescheduling and possible reprogrammings which could provide the necessary funds for fiscal year 1981.

## ACTION PLAN

*Question.* On page 2 of attachment 2, you state: "Although a large number of the tasks included in the TMI action plan are already underway, many will not be initiated this year or next, and some are not expected to be completed for several years. Completion of these long-term tasks will not be a prerequisite for resumption of issuance of full-power operating licenses provided an adequate basis exists for permitting full power operation. However, a number of short-term tasks will have to be completed before issuance of a full-power operating license for any new plant."

a. Would you elaborate on this passage?

b. As an example, what are the kinds of requirements that Sequoyah and North Anna might be expected to meet that presently they have not met before you would

consider an operating license? You are scheduled to consider Sequoyah for a full power license in September and in the case of North Anna, in October.

c. Would you discuss the status of the existing plants in operation as far as the TMI action plan is concerned?

d. Provide for the record the latest version of the action plan similar to what you provided on pages 477 through 489 of the February hearing.

Answer. a. The decision group A items in the action plan (see Table 1 of NUREG-0660) have already been approved by the Commission and implementation on most of them is already underway, or in many cases, complete. There are other items in the plan that will eventually lead to new regulatory requirements, but they are not well enough studied or researched at this time to say exactly what they will be or when they will be issued. These are the decision group C items in the plan (see Table 1 of NUREG-0660). In between the A and C items which have not yet been approved by the Commission, but which have been thoroughly enough studied to know what needs to be done. They are also annotated in Table 1 of NUREG-0660 and are expected to be approved by the Commission within the next few weeks.

There are no decision group B or C items on the list of requirements that the Commission has required an applicant to meet before granting a new OL (this is the so-called near term OL list). All of the items on the NTOL list are decision group A items and most of them are equally applicable to operating plants and to new OLs (note, however, that not all decision group A items are on the NTOL list).

The NTOL list has been proposed by the staff, and judged by the ACRS, to be an adequate basis for resumption of licensing, i.e., an adequate basis for granting a full power operating license.

b. First, see the answer to part d., below. It provides an updated version of the NTOL list from draft 4 of the Action Plan. This table is annotated to show those requirements that must be met before fuel load and low power testing (FL) and those that must be met before full power operation (FP). Sequoyah and North Anna were required to meet the FL requirements before fuel loading. Before authorizing the plants to operate at full power, a supplement to the staff Safety Evaluation Report to address the FP requirements must be prepared. This will be done after the licensees have completed work on the FP requirements and reported to the staff.

c. Part 2 of the NTOL list provided in response to item d below is essentially the list of requirements from the actual plan that have been already issued to operating plants. These were the so-called short term lessons learned issued in the early Fall of 1979. They were required to be implemented in two stages—some by January 1980 and the rest by January 1981. Our review of the implementation of the first stage is nearly complete. In addition, the operating plants were required to implement a number of TMI-related changes pursuant to certain Bulletins and Orders. The status of these matters are described in the attached tables C.1 and C.2 of draft 4 of the TMI Action Plan.

d. The list referred to was the NTOL list from draft 3 of the Action Plan. The current version from draft 4 of the plan is not changed in any substantial way from draft 3, although there are some editorial and structural differences. A copy of the draft 4 version is attached.

[The information follows:]

TABLE C.1 OFFICE OF INSPECTION AND ENFORCEMENT BULLETINS

Requirement	Source for Operating Reactors	Applicability	Operating Reactor Implementation	Operating License Implementation
1. Review TMI-2 PNs and detailed chronology of the TMI-2 accident.	79-05&05A (Item 1) 79-06&06A (Item 1) 79-06&06B (Item 1) 79-08 (Item 1)	BWR and PWR	3/31/80	I.A.2.2 I.A.3.1
2. Review transients similar to TMI-2 that have occurred at other facilities and NRC evaluation of Davis-Besse transient.	79-05&05A (Item 2)	B&W	3/31/80	I.A.2.2 I.A.3.1
3. Review operating procedures for recognizing, preventing, and mitigating void formation in transients and accidents.	79-05&05A (Item 3) 79-06&06A (Item 2) 79-06&06B (Item 2)	PWR	3/31/80	I.C.1
4. Review operating procedures and training instructions to ensure that: a. Operators to not override ESF actions unless continued operation is unsafe;	79-05&05A (Item 4, a) 79-05B (Item 2) 79-06A (Item 7, a) 79-06B (Item 6, a) 79-08 (Item 5, a)	PWR and BWR	3/31/80	I.C.1 I.C.7 I.G.1 I.C.8
b. HPI system in operation	NUREG-0645 (App. G) NUREG-0565 (Rec. 104) 69-110 6002-00 (11/1/79) 69-110 6003-00 (11/20/79) 69-110 6001-00 (11/1/79)	W, CE B&W ANO-1 Davis-Besse 1 Oconee 1, 2 & 3 Crystal River 3 Rancho Seco 1	3/31/80	I.C.1

TABLE C.1 (continued)

Requirement	Source for Operating Reactors	Applicability	Operating Reactor Implementation	Operating License Implementation
c. RCP operation	NUREG-0623	PWR	Complete	I.C.1
d. Operators are instructed not to rely on level indication alone in evaluating plant conditions.	79-05A (Item 4.d) 79-06A (Item 7.d) 79-06B (Item 6.d) 79-08 (Item 5.b)	PWR and BWR	Complete	I.C.1 I.A.3.1 II.F.2
5. Safety-related valve position.	79-05&05A (Item 5)	PWR and BWR	3/31/80	NTOL: Same as ORS, before FL OL: I.C.2 & I.C.6
a. Review all valve positions and positioning requirements and positive controls and all related test and maintenance procedures to assure proper ESF functioning, if required.	79-06A (Item 8) 79-06B (Item 7) 79-008 (Item 6)			
b. Verify that AFW valves are in open position. See Requirement 8 below.	79-05A (Item 5)	B&W	3/31/80	I.C.2 I.C.6
6. Review containment isolation initiation design and procedures. Assure isolation of all lines that do not degrade safety features or cooling capability upon automatic initiation of SI.	79-05A (Item 6) 79-06A (Item 4) 79-06B (Item 3) 79-08 (Item 2)	PWR and BWR	3/31/80	II.E.4.2
7. Implement positive position controls on valves that could compromise or defeat AFW flow.	79-05A (Item 7)	B&W	3/31/80	II.E.1.1

TABLE C.1 (continued)

Requirement	Source for Operating Reactors	Applicability	Operating Reactor Implementation	Operating License Implementation
8. Immediately implement procedures that assure two independent 100% AFW flow paths, or specify explicitly LCD with reduced AFW capacity.	79-05A (Item 8)	B&W	3/31/80	II.E.1.1
9. Review procedures to assure that radioactive liquids and gases are not transferred out of containment inadvertently especially upon ESF reset. List all applicable systems and interlocks.	79-05A (Item 9) 79-06A (Item 9) 79-06B (Item 8) 79-08 (Item 7)	PWR and BWR	3/31/80	II.E.4.2
10. Review and modify (as required) procedures for removing safety-related systems from service (and restoring to service) to assure operability status is known.	79-05A (Item 10) 79-06A (Item 10) 79-06B (Item 9) 79-08 (Item 8)	PWR and BWR	3/31/80	NTOL: Same as 08s & I.C.2, before FL 01: I.C.2 & I.C.6
11. Make all operating and maintenance personnel aware of the seriousness and consequences of the erroneous actions taken leading up to, and in early phases of, the TMI-2 accident.	79-05A (Item 11) 79-06A (Item 1.a) 79-06B (Item 1.a) 79-08 (Item 1.a)	PWR and BWR	3/31/80	I.A.3.1 I.A.2.2
12. One hour notification requirement, and continuous communications channel.	79-05B (Item 6) 79-06A (Item 11) 79-06B (Item 10) 79-08 (Item 9)	PWR and BWR	Complete	I.E.6 III.A.3.3

TABLE C.1 (continued)

Requirement	Source for Operating Reactors	Applicability	Operating Reactor Implementation	Operating License Implementation
13. Propose Technical Specification changes reflecting implementation of all Bulletin items, as required.	79-05B (Item 7) 79-06A & Rev. 1 (Item 13) 79-06B (Item 12) 79-08 (Item 11)	PWR and BWR	1/1/81	Normal work on all new OLS
14. Review operating modes and procedures to deal with significant amounts of hydrogen.	79-06A (Item 12) 79-06B (Item 11) 79-08 (Item 10)	W, CE GE	3/31/80	II.B.4 II.B.7 II.E.4.1 II.F.1
15. For facilities with non-automatic AFW initiation, provide dedicated operator in continuous communication with CR to operate AFW.	79-06A (Item 5) 79-06B (Item 4)	W & CE	Complete	II.E.1.2
16. Implement (immediately) procedures that identify PRZ PORV "Open" indications and that direct operator to close manually at "RESET" setpoint.	79-06A (Item 6) 79-06B (Item 5)	W & CE	Complete	I.C.1 II.D.3
17. Trip PZR Level Bistable so that PZR Lo Press. (rather than PZR Lo Press. and PZR Lo Level coincidence) will initiate safety injection. For test, reset Lo Level bistable.	79-06A & Rev. 1 (Item 3)	W	Complete	Same as ORs, before FL
18. Develop procedures and train operators on methods of establishing and maintaining natural circulation.	79-05B (Item 1)	B&W	Complete	I.C.1 I.G.1

TABLE C.1 (continued)

Requirement	Source for Operating Reactors	Applicability	Operating Reactor Implementation	Operating License Implementation
19. Describe design and procedure modifications (based on analysis) to reduce likelihood of automatic PZR PORV actuation in transients.	79-05B (Item 3)	B&W	3/31/80	I.L.E.5
20. Provide procedures and training to operators for prompt manual reactor trip for LOFW, TT, MSIV closure, LOOP, LOSG Level, & Lo PZR Level.	79-05B (Item 4)	B&W	3/31/80	Same as ORs, before FL
21. Provide automatic safety-grade anticipatory reactor trip for LOFW, TT, or significant decrease in SG level.	79-05B (Item 5)	B&W	3/31/80	Same as ORs, before FL
22. Describe automatic and manual actions for proper functioning of auxiliary heat removal systems when FW system not operable.	79-08 (Item 3)	BWR	3/31/80	Same as ORs, before FL
23. Describe uses and types of RV level indication for automatic and manual initiation safety systems. Also, describe alternative instrumentation.	79-08 (Item 4)	BWR	3/31/80	Same as ORs and I.L.F.2, before FL
24. Perform LOCA analyses for a range of small-break sizes and a range of time lapses between reactor trip and RCP trip.	79-05C (short-term Item 2) 79-06C (short-term Item 2)	PWR	Complete	I.C.1

TABLE C.1 (continued)

Requirement	Source for Operating Reactors	Applicability	Operating Reactor Implementation	Operating License Implementation
25. Develop operator action guidelines (based on analyses in Requirement 24 above).	79-05C (short-term Item 3) 79-06C (short-term Item 3)	PWR	Complete	I.C.1
26. Revise emergency procedures and train RO's and SRO's based on guidelines developed in Requirement 25 above.	79-05C (short-term Item 4) 79-06C (short-term Item 4)	PWR	Complete	I.C.1 I.A.3.1 I.G.1
27. Provide analyses and develop guidelines and procedures for inadequate core cooling conditions. Also, define RCP restart criteria.	79-05C (short-term Item 5) 79-06C (short-term Item 5)	PWR	Complete	I.C.1 II.F.2
28. Provide design that will assure automatic RCP trip for all circumstances where required.	NUREG-0623	PWR	1/1/81	See Table C.3, Item 5

TABLE C.2 REQUIREMENTS FOR NEW B&W PLANTS DERIVED FROM COMMISSION ORDERS ON OPERATING B&W PLANTS

Requirement	Source	Applicability	Operating Reactor Implementation	Operating License Implementation
1. Upgrade timeliness and reliability of AFW system.	Commission Order	B&W	Complete	II.E.1
2. Procedures and training to initiate and control AFW independent of integrated control system.	Commission Order	B&W	Complete	II.K.2
3. Hard-wired control-grade anticipatory reactor trips.	Commission Order	B&W	Complete	None-see Requirement 10 below
4. Small-break LOCA analysis, procedures, and operator training.	Commission Order	B&W	Complete	I.A.3.1 I.C.1
5. Complete TMI-2 simulator training for all operators.	Commission Order	B&W	Complete	I.A.2.6
6. Reevaluate analysis for dual-level setpoint control.	Commission Order	Davis-Besse 1	Complete	NA
7. Reevaluate transient of September 24, 1977.	Commission Order	Davis-Besse 1	Complete	NA
8. Continued upgrading of AFW system.	Commission Order	B&W	1/1/81	II.E.1

TABLE C.2 (continued)

Requirement	Source	Applicability	Operating Reactor Implementation	Operating License Implementation
9. Analysis and upgrading of integrated control system.	Commission Order	B&W	1/1/81	Same as ORs, before OL
10. Hard-wired safety-grade anticipatory reactor trips.	Commission Order	B&W	1/1/81	Same as ORs, before OL
11. Operator training and drilling.	Commission Order	B&W	1/1/81	I.A.3.1 I.A.2.2 I.A.2.5 I.G.1
12. Transient analysis and procedures for management of small breaks.	Commission Order	B&W	I.C.1	I.C.1
13. Thermal-mechanical report -- effect of HPI on vessel integrity for small-break LOCA with no AFW.	Letter, D. Ross to B&W operating plants, 8/21/79	B&W	1/1/81	Same as ORs, before OL
14. Demonstrate that predicted lift frequency of PORVs and SVs is acceptable.	Letter, D. Ross to B&W operating plants, 8/21/79	B&W	1/1/81	Same as ORs, before OL
15. Analysis of effects of slug flow on once-through steam generator tubes after primary system voiding.	Letter, D. Ross to B&W operating plants, 8/21/79	B&W	6/1/80	Same as ORs, before OL

TABLE C.2 (continued)

Requirement	Source	Applicability	Operating Reactor Implementation	Operating License Implementation
16. Impact of RCP seal damage following small-break LOCA with loss of offsite power.	Letter, D. Ross to B&W operating plants, 8/21/79	B&W	6/1/80	Same as ORs, before OL
17. Analysis of potential voiding in RCS during anticipated transients.	Letter, R. Reid to all B&W operating plants 1/9/80	All B&W	1/1/81	I.C.1
18. Analysis of loss of feedwater and other anticipated transients.	Letter, D. Ross to B&W operating plants, 8/21/79	All B&W	I.C.1	I.C.1
19. Benchmark analysis of sequential AFW flow to once-through steam generator.	Letter, D. Ross to B&W operating plants, 8/21/79	All B&W	1/1/81	I.C.1
20. Analysis of system response to small-break LOCA that causes system pressure to exceed PORV setpoint.	Letter, D. Ross to B&W operating plants 8/21/79	All B&W	1/1/81	I.C.1
21. LOFT 3-1 predictions.	Letter, D. Ross to B&W operating plants, 8/21/79	All B&W	Complete	None

TABLE A.1

## NEAR-TERM OPERATING LICENSE REQUIREMENTS

PART 1 - REQUIREMENTS NOT PREVIOUSLY ISSUED<sup>1, 2</sup>

<u>REQUIREMENT</u>	<u>WHEN APPLICABLE<sup>3</sup></u>
(1) I.A.1.3 <u>Shift Manning</u>	
(a) SRO and RO in control room.	FL
(b) Restrictions on use of overtime.	FL
(2) I.A.3.1 <u>Revised Scope and Criteria for Licensing Examinations</u>	
Prepare applicants for new examinations.	FL

<sup>1</sup>On September 27, 1979 and November 9, 1979, all pending operating license applicants were issued a letter containing a set of requirements resulting from staff investigations of the TMI-2 accident and approved by the Commission. The new requirements listed in this Part 1 are in addition to the previously issued requirements which are listed in Part 2, below. Of the 13 items in this Part 1, 3 have been previously approved for application to operating plants (2, 10, and 11) but have not been issued formally to operating license applicants. Five of the 13 are applicable to operating reactors and will be issued after approval by the Commission (1, 2, 5, 12, and 13).

<sup>2</sup>On March 28, 1980, all power reactor applicants and licensees were issued a letter that set forth the revised criteria to be used by the staff in evaluating reactor operator training and licensing that can be implemented under the current regulations and to establish an effective date for their implementation. The content of this letter is reflected in individual sections of the Action Plan. With respect to the March 28, 1980 letter, NTOL applicants, with exception of two items (increased scope of examinations and training in use of installed plant systems to control or mitigate an accident in which the core is severely damaged) will be required to meet the same implementation date as operating reactors. For these two items, NTOL applicants will implement as specified in Part 1 of this list for Items I.A.3.1 and II.B.4.

<sup>3</sup>FL = Before fuel loading  
FP = Before full-power operation

TABLE A.1 (continued)

<u>REQUIREMENT</u>	<u>WHEN APPLICABLE</u>
(3) I.B.1.2 <u>Evaluation of Organization and Management Improvements of Near-Term Operating License Applicants</u> Interoffice NRC review of licensee management to determine organizational and managerial capabilities, using internal NRC draft criteria pending development of formal criteria. - No immediate action required by OL applicant pending completion of NRC review of licensee management.	FL
(4) I.B.1.2 <u>Evaluation of Organization and Management Improvements of Near-Term Operating License Applicants</u> Provide onsite safety engineering group to provide supplemental engineering review and support. Interoffice NRC review of the adequacy of these groups, using internal NRC draft criteria pending development of formal criteria.	FL
(5) I.C.5 <u>Procedures for Feedback of Operating Experience to Plant Staff</u> Procedures that assure feedback of operating experiences to operators and other personnel.	FL
(6) I.C.7 <u>NSSS Vendor Review of Procedures</u> NSSS vendor review of licensee procedures. <ul style="list-style-type: none"> <li>(a) Emergency Procedures</li> <li>(b) Low Power Test Procedures</li> <li>(c) Power Ascension Procedures</li> </ul>	FP FL FP

TABLE A.1 (continued)

<u>REQUIREMENT</u>	<u>WHEN APPLICABLE</u>
(7) I.C.8 <u>Pilot Monitoring of Selected Emergency Procedures for Near-Term Operating License Applicants</u> NRC conduct in-depth review of development and use of selected emergency procedures on NTOL plants.	FP
(8) I.G <u>Training During Preoperational and Low-Power Testing</u> Conduct "hands on" training in selected plant evolutions and off-normal events for shift personnel. - Define training plan - Conduct training	FL FP
(9) II.B.4 <u>Degraded Core - Training</u> (a) Establish training program for all operating personnel in the mitigation of severe core damage using existing equipment. (b) Complete initial training.	FL FP
(10) II.E.1.1 <u>Auxiliary Feedwater System Reliability Evaluation</u> Perform simplified reliability analysis of AFW system and modify as necessary.	FP
(11) II.K.1 <u>IE Bulletins on Measures to Mitigate Small Break LOCAs and Loss of Feedwater Accidents</u> Implement, as applicable, TMI-2 related IE bulletins. - Bulletins were issued to ORs.	FL

TABLE A.1 (continued)

- (12) II.K.3 Final Recommendations of B&O Task Force  
Implement Bulletin and Orders Task Force  
recommendations on a schedule to be determined ..... As required  
by NRR on a case-by-case basis. by NRR
- (13) III.D.3.4 Control Room Habitability  
Confirm compliance with existing Regulatory  
Guides and Standard Review Plan or establish schedule  
for necessary modifications to achieve compliance. FP

PART 2 - REQUIREMENTS ALREADY ISSUED<sup>1</sup>

<u>REQUIREMENT</u>	<u>WHEN APPLICABLE<sup>1,2</sup></u>
(1) I.A.1.1 <u>Shift Technical Advisor (STA)</u> Provide technical advisors with engineering expertise on each shift.	
- STA on duty	FL
- STA training complete	1/1/81
- See NUREG-0578, Section 2.2.1b and September 27, 1979 and November 9, 1979 letters to all pending OL applicants for criteria.	

<sup>1</sup>On September 27, 1979, all pending operating license applicants received a letter which defined a set of requirements resulting from NRC staff investigations of the TMI accident and approved by the Commission. On November 9, 1979, a followup letter was sent to all pending operating license applicants further clarifying the requirements of the September 27, 1979 letter. Enclosures 6 and 8 of the September 27, 1979 letter provided implementation schedules for the short term requirements. The schedules have been refined here to reflect a difference between fuel load and full power dates.

<sup>2</sup>FL = Before fuel loading

FP = Before full-power operation

TABLE A.1 (continued)

<u>REQUIREMENT</u>	<u>WHEN APPLICABLE</u>
(2) I.A.1.2 <u>Shift Supervisor Administrative Duties</u> Minimize administrative duties. - See subitem 4 of Section 2.2.1a of NUREG-0578 and letters of September 27, 1979 and November 9, 1979 to pending OL applicants for criteria.	FL
(3) I.B.1.2 <u>Evaluation of Organization and Management Improvements of Near-Term Operating License Applicants</u> Capability for evaluation of operating experiences at nuclear power plants. - See NUREG-0578, Section 2.2.1b and September 27, 1979 and November 9, 1979 letters to all pending OL applicants for criteria. - See also Task Action Plan Sections I.B.1.1 and I.B.1.2.	FL
(4) I.C.1 <u>Short-Term Accident Analysis and Procedure Revision</u>	
(a) Small break LOCAs.	FL
(b) Inadequate core cooling.	FL
(c) Transients and accidents.	Same schedule
- See Section 2.1.9 and 2.1.3b of NUREG-0578 and letters of September 27, 1979 and November 9, 1979 to pending OL applicants for criteria.	as OR

TABLE A.1 (continued)

REQUIREMENT	WHEN APPLICABLE
(5) <u>I.C.2 Shift Relief and Turnover Procedures</u> Plant procedures for shift relief and turnover. - See Section 2.2.1c of NUREG-0578 and letters of September 27, 1979 and November 9, 1979 to pending OL applicants for criteria.	FL
(6) <u>I.C.3 Shift Supervisor Responsibilities</u> Plant procedures specifying responsibilities of shift personnel for safe operation of the plant. - See Items 1, 2, and 3 of Staff Position of Section 2.2.1a to NUREG-0578 and letters of September 27, 1979 and November 9, 1979 to pending OL applicants for criteria.	FL
(7) <u>I.C.4 Control Room Access</u> Plant procedures for limiting access to the control room. - See Section 2.2.2a of NUREG-0578 and letters of September 27, 1979 and November 9, 1979 to pending OL applicants for criteria.	FL
(8) <u>II.B.1 Degraded Core - Primary System Vent</u> Provide design of remotely operable high-point reactor coolant system vents. - Installation complete. - See Enclosure 4 to September 27, 1979 and November 9, 1979 letter to OL applicants for criteria.	FP 1/1/81
(9) <u>II.B.2 Degraded Core - Plant Shielding</u> Provide design of additional shielding required to provide access to vital areas and protect safety equipment.	FP

TABLE A.1 (continued)

<u>REQUIREMENT</u>	<u>WHEN APPLICABLE</u>
(9) (continued) - Plant modifications complete. - See Section 2.1.6b of NUREG-0578 and letters of September 27, 1979 and November 9, 1979 to pending OL applicants for criteria.	1/1/81
(10) II.B.3 <u>Degraded Core - Post-accident Sampling</u> Provide interim procedures and final system design for sampling and analyzing reactor coolant and containment atmosphere. - Plant modifications complete. - See Section 2.1.8a of NUREG-0578 and letters of September 27, 1979 and November 9, 1979 to pending OL applicants for criteria.	FP 1/1/81
(11) II.D.1 and II.D.2 <u>Relief and Safety Valve Test and Research</u> Commit to performance testing of RCS relief and safety valves under the full range of normal and accident conditions. Test program complete Test program complete - See Section 2.1.2 of NUREG-0578 and letters of September 27, 1979 and November 9, 1979 to pending OL applicants for criteria.	FL 7/1/81
(12) II.D.3 <u>Relief and Safety Valve Position Indication</u> Install direct indication of relief and safety valve position. - See Section 2.1.3a of NUREG-0578 and letters of September 27, 1979 and November 9, 1979 to pending OL applicants for criteria.	FL

TABLE A.1 (continued)

REQUIREMENT	WHEN APPLICABLE
(13) II.E.1.2 <u>Auxiliary Feedwater Initiation and Indication</u>	
Install control grade automatic start of AFW and control grade flow indicators.	FL
Complete implementation of safety grade equipment.	1/1/81
- See Section 2.1.7a and b of NUREG-0578 and letters of September 27, 1979 and November 9, 1979 to pending OL applicants for criteria.	
(14) II.E.3.1 <u>Emergency Power for Pressurizer Heaters</u>	
Install capability to supply some pressurizer heaters and controls from emergency power supply and implement necessary training and procedures.	FP
- See Section 2.1.1 of NUREG-0578 and letters of September 27, 1979 and November 9, 1979 to pending OL applicants for criteria.	
- This item complements II.G.	
(15) II.E.4.1 <u>Containment Dedicated Penetrations</u>	
Provide design of redundant dedicated containment penetrations for external hydrogen recombiner, if applicable.	FL
Complete installation.	1/1/81
Review procedures and bases for recombiner use.	FL
- See Section 2.1.5a and 2.1.5c of NUREG-0578 and letters of September 27, 1979 and November 9, 1979 to pending OL applicants for criteria.	

TABLE A.1 (continued)

<u>REQUIREMENT</u>	<u>WHEN APPLICABLE</u>
(16) II.E.4.2 <u>Containment Isolation Dependability</u> Install diverse containment isolation signals. - See Section 2.1.4 of NUREG-0578 and letters of September 27, 1979 and November 9, 1979 to pending OL applicants for criteria.	FP
(17) II.F.1 <u>Additional Accident Monitoring Instrumentation</u>	
(a) Interim Procedures for Quantifying High Level Accidental Radioactivity Releases	FL
(b) Containment Pressure Monitor	1/1/81
(c) Containment Water Level Monitor	1/1/81
(d) Containment Hydrogen Monitor	1/1/81
(e) Containment High Range Radiation Monitors	1/1/81
(f) High Range Noble Gas Effluent Monitors	1/1/81
- See Section 2.1.8b of NUREG-0578 and letters of September 27, 1979 and November 9, 1979 to pending OL applicants for criteria.	
(18) II.F.2 <u>Inadequate Core Cooling Instruments</u>	
(a) Procedure development for use of existing instrumentation.	FL
(b) Install subcooling meter.	FL
(c) Submit analysis of capability to detect inadequate core cooling and vessel level indicator design, if new instrumentation desirable.	FL
(d) Install vessel level indicator, if required.	1/1/81
- See Section 2.1.3b of NUREG-0578 and letters of September 27, 1979 and November 9, 1979 to pending OL applicants for criteria.	

TABLE A.1 (continued)

REQUIREMENT	WHEN APPLICABLE
<p>(19) <u>II.G Emergency Power for Pressurizer Equipment</u>            Modify power supplies for the pressurizer relief valves, block valves, and level indicators to be from emergency power sources.</p> <ul style="list-style-type: none"> <li>- See Section 2.1.1 of NUREG-0578 and letters of September 27, 1979 and November 9, 1979 to pending OL applicants for criteria.</li> <li>- This item complements II.E.3.1.</li> </ul>	FL
<p>(20) <u>III.A.1.1 Upgrade Emergency Preparedness</u>            Implement provisions of SECY 79-450.</p> <ul style="list-style-type: none"> <li>- See Enclosures 7 and 8 of September 27, 1979 letter to OL applicants for requirements.</li> <li>- See all Item III.A.1.2 below.</li> </ul>	Phased implementation. - As specified in Enclosure 8 of September 27, 1979 letter to OL applicants
<p>(21) <u>III.A.1.2 Upgrade Emergency Support Facilities</u></p> <p>(a) Establish onsite technical support center and provide plans, procedures, staffing, communications, and radiation monitoring equipment.</p> <p>Upgrade technical support center.</p> <ul style="list-style-type: none"> <li>- See Section 2.2.2b of NUREG-0578 and letters of September 27, 1979 and November 9, 1979 to pending OL applicants for criteria.</li> </ul>	FL 1/1/81
<p>(b) Establish an operational support center.</p> <ul style="list-style-type: none"> <li>- See Section 2.2.2c of NUREG-0578 and letters of September 27, 1979 and November 9, 1979 to pending OL applicants for criteria.</li> </ul>	FL

TABLE A.1 (continued)

<u>REQUIREMENT</u>	<u>WHEN APPLICABLE</u>
(21) (continued)	
(c) Establish an emergency operations center as a base for coordinating onsite and offsite activities and interface with State, local, and Federal agencies.	FL
Upgrade emergency operations center.	1/1/81
- See Item 3 of Enclosures 7 and 8 to September 27, 1979 letter to pending OL applicants for description.	
- Items (a), (b), and (c) above complement III.A.1.1 of Action Plan.	
(22) III.D.1.1 <u>Radiation Sources Outside Containment</u>	
Evaluate leakage from systems outside containment likely to present radiological hazards in the event of an accident and reduce leakage to the extent practical.	FP
- See Section 2.1.6a of NUREG-0578 and letters of September 27, 1979 and November 9, 1979 to pending OL applicants for criteria.	
(23) III.D.3.3 <u>Inplant Radiation Monitoring (Partial)</u>	
Provide instrumentation to determine in plant airborne radioiodine concentrations.	FL
- See Section 2.1.8c of NUREG-0578 and letters of September 27, 1979 and November 9, 1979 to pending OL applicants for criteria.	

TABLE A.1 (continued)

## PART 3 - NRC ACTIONS RECOMMENDED FOR COMPLETION BEFORE RESUMPTION OF LICENSING

REQUIREMENT	WHEN APPLICABLE
(1) I.B.2.2 <u>Resident Inspector</u> NRC Resident Inspector at each site for new OL.	FL
(2) II.B.7 <u>Containment Inerting</u> Reach decision on need for interim hydrogen control requirements for small containments and apply, as appropriate, to near-term plants.	FP
(3) II.B.8 <u>Degraded Core - Rulemaking</u> Issue notice of intent to conduct rulemaking on requirements for design features for accident involving severely damaged cores.	FP
(4) III.A.3.1 <u>Role of NRC in Emergency Preparedness</u> More detailed definition of role of NRC in emergencies.	FP
(5) III.A.3.3 <u>Communications in Emergencies</u> Install direct dedicated telephone lines between plant and NRC.	FL
(6) III.B.2 <u>Implementation of NRC's and FEMA's Responsibilities</u> Approve overall state of emergency preparedness, including integration of emergency preparedness onsite and offsite pursuant to the Memorandum of Understanding with FEMA.	FL
(7) III.D.2.4 <u>Offsite Dose Measurements</u> NRC establish TLD surveillance network around site.	FP

TABLE A.1 (continued)

PART 4 - NEW REQUIREMENTS PROPOSED BASED ON NRC SPECIAL INQUIRY  
GROUP REPORT RECOMMENDATIONS

<u>REQUIREMENT</u>	<u>WHEN APPLICABLE</u>
(1) I.D.1 <u>Control Room Design Review</u> OL applicant examine control room to identify outstanding human factors deficiencies and any instrumentation problems	FL
Interoffice NRC review to determine whether the applicant's self-examination was adequate	
(2) IV.F.1 <u>Power Ascension Test Schedule</u> Increased IE scrutiny of the power ascension test program to prevent any compromising of safety in view of the proposed expansion of startup test programs and the economic incentives to achieve the already delayed commercial operation of new plants.	FL - until completion of program

## REORGANIZATION PLAN

*Question.* Commissioner Gilinsky, you authored an article on April 7 about the proposed reorganization that emphasized that the Chairman would have greater access to information than would the other Commissioners. It is not clear what aspect of the proposal would either expand the Chairman's access to information or limit the access of the other individual Commissioners. Would you explain the reason for your view on this specific issue?

*Answer.* The Reorganization Plan limits an individual Commissioner's legal right to elicit information from the NRC staff and permits the Chairman to restrict the flow of information from the staff to the Commission. With regard to a Commissioner's ability to obtain information, Section 1(c) of the Reorganization Plan states that "[t]he Commission shall act as provided by subsection 201(a)(1) of the Energy Reorganization Act of 1974 \* \* \* solely in the direct performance of functions of the Commission, described in subsections (a) and (b) of this section, and only when such functions have not been delegated \* \* \*." In pertinent part, subsection 201(a)(1) of the Energy Reorganization Act provides that "[e]ach member of the Commission, including the Chairman, shall have equal responsibility and authority in all decisions and actions of the Commission, shall have full access to all information relating to the performance of his duties or responsibilities, and shall have one vote." Section 1(c) of the Reorganization Plan has the effect of limiting an individual Commissioner's legal right to full access to all the information he deems relevant to the performance of his duties to those situations where the Commission is engaged in the direct performance of policymaking, rulemaking or adjudication. Furthermore, Section 1(c) deprives an individual Commissioner of the legal right to obtain full information about any function which the Commission has delegated to the NRC staff.

Presently, the NRC staff reports to the entire Commission. Information which is provided to one Commissioner, other than information given to the Chairman acting in his capacity of principal executive officer, is circulated to the entire Commission. The Reorganization Plan would alter this practice by having the staff report only to the Chairman who would decide what information to circulate to the other members of the Commission. Section 4(b) of the Plan specifically provides that the Executive Director for Operations, who is the senior staff officer, would "\* \* \* report to the Chairman \* \* \*." Section 4(c) states that "[t]he functions of the Directors of Nuclear Reactor Regulation, Nuclear Material Safety and Safeguards, and Nuclear Regulatory Research of reporting directly to the Commission is [sic] hereby transferred so that such officers report to the Chairman, or as directed by the Chairman." Only the Commission-level offices, such as the General Counsel and Secretary, the adjudicatory boards, and the Advisory Committee on Reactor Safeguards would retain the right to report directly to the Commission.

Although Section 2(c) of the Plan makes the Chairman "responsible for assuring that the staff under the Chairman's direction is responsive to the requirements of the Commission in the performance of the functions continued in the Commission," the Plan does not give the Commission the authority to sanction the Chairman in the event that he fails to fulfill this responsibility. Under the Plan, the Commission's authority over the staff is limited to the right to initiate the removal of the Directors of Nuclear Reactor Regulation and Nuclear Material Safety and Safeguards. The cumulative effect of these provisions is that the Commission will receive only that routine information which the Chairman wishes it to have and that the Commission's ability to obtain information from the staff will be severely circumscribed.

## STATUTORY CHANGE

*Question.* As you know, section 201 of the Energy Reorganization Act of 1974 states in part that: "\* \* \* Each member of the Commission, including the Chairman, shall have equal responsibility and authority in all decisions and actions of the Commission, [and] shall have full access to all information relating to the performance of his duties and responsibilities.\* \* \*" Is the proposed reorganization inconsistent with this portion of the statute? If it is, how will this conflict be resolved?

*Answer.* The basic purpose behind Reorganization Plan No. 1 is to extend the authority of the NRC Chairman to exercise certain responsibilities and to take certain actions previously exercised by the full Commission, acting in a collegial capacity. Therefore, of necessity, the Reorganization Plan involves changes in or inconsistencies with the "equal responsibility and authority" provisions of section 201 of the Energy Reorganization Act because the Plan transfers functions to the Chairman which only the Chairman will have authority to exercise. There is some

inconsistency between the language of the Plan (Section 1(c)) and its Section-by-Section analysis, on whether Commissioners would continue to have "full access to all information", as provided in Section 201 of the ERA. However, we believe that the plain language of the Plan, even when read in light of the analysis, would also cut back on the "full access" provision, and therefore, is not consistent with Section 201.

Changes in agency organization and procedures taken pursuant to the President's reorganization authority, and approved by the Congress, have the legal effect of legislation. The later enactment (in this case, the Reorganization Plan provisions) would prevail over earlier statutory language (such as Section 201 of the ERA). Were a dispute to arise over whether a specific change was within the President's authority or over interpretation of a specific provision of the plan, the dispute could be resolved, depending on the nature of the issue, through the customary process of agency decision, with possible recourse to the federal courts or an opinion of the Attorney General.

Chairman Ahearn disagrees with the Commission answer to this question and would answer it as follows:

The basic purpose of Reorganization Plan No. 1 is to provide the stronger executive structure called for by the President's Commission on Three Mile Island, the GAO, and the NRC's own Special Inquiry Group. The Energy Reorganization Act calls for Commissioners to have equal authority and access to information "relating to the performance of their duties and responsibilities." The Reorganization Plan No. 1 (and the section-by-section analysis) preserved this equality in the areas that are specified as those of the Commission, i.e., the areas of policy formulation, rule-making, and adjudication. The Reorganization Plan (and the section-by-section analysis) is consistent with the intent of the Atomic Energy Act and the Energy Reorganization Act in precluding the extension of that equality to the day-to-day management of the staff.

Under the present practice, Commissioners submit requests for information directly to the staff. Since the full Commission is responsible for allocation of staff resources, it could vote not to apply the resources required to develop the information and effectively veto the request. Obviously, the concept of "full" access must be tempered by the availability of staff resources. Under the Reorganization Plan, the Chairman is given responsibility for daily management and allocation of resources within policies and priorities established by the Commission. The purpose of having requests come through the Chairman is to allow him to direct the response as would happen in any normal management chain. Should the Chairman decide that a request falls outside the Commission established priorities, he would still be subject to being overruled by the full Commission.

The change is in the degree to which the Commissioners may impose requirements on and participate directly in the operation of the staff, not in their access to information on the issues relating to their stated functions. This in itself is not a change in the intent of the law which, already makes the Chairman the principal executive officer of the Commission, but rather a change in the practice of the Commission. Determination of what constitutes a policy matter and is therefore available to the full Commission is still made by a majority vote of the Commission.

#### PROPOSED POLICY LANGUAGE

Mr. BEVILL. Mr. Burgener.

Mr. BURGNER. Thank you, Mr. Chairman.

Mr. Hendrie, if I understand your section 12, I applaud it very much. But to draw a quick analogy, one which you alluded to on the FAA: Nobody has suggested not to license aircraft because they are not totally safe. I believe no one has suggested anything like that.

We have to recognize that nuclear power is not totally safe either, but the law ought not to suggest that because it is not totally safe, that it ought not to be licensed.

Is that what you are getting at?

Mr. HENDRIE. I think there are some implications of that kind here. I would point out that the intent of the proposed section 12 is not to reduce any safety standards or to degrade them from pres-

ent levels but rather allow us specific authority to take into account what seemed to me perfectly reasonable things to take into account when you are trying to decide for instance should this plant continue to operate or operate at a reduced level or whatever in the case where some question has come up.

Now, the general counsel takes the view that one can read the Atomic Energy Act and draw that inference, the inference that we have that authority from it but I must say there are a number of people who would argue strongly with that and as long as it is a matter of kind of just interpretation, there is some reluctance to use it.

Mr. BURGNER. Well, if you—

Mr. HENDRIE. We have had occasions when it would have been useful to have clear authority to take these sorts of things into account. It is just no more complicated than that.

Mr. GILINSKY. Mr. Burgener, I think the word "explicit" is very important. These things have been taken into account in the past but in an uneven sort of way because there was a certain amount of uncertainty about just what was involved. My interest in joining Mr. Hendrie and Mr. Kennedy was to make sure that in fact these things did get laid out on the table and were considered explicitly.

Mr. BURGNER. It seems like a very good idea to me and I would applaud it and support it. Also, I want to commend Commissioner Kennedy for his distinguished service and wish him God speed in whatever he chooses to do.

Thank you for your public service.

Mr. KENNEDY. Thank you.

#### DIABLO CANYON NUCLEAR PLANT

Mr. BURGNER. Just one question, Mr. Chairman, before this great array of talent escapes. This deals with the Diablo Canyon nuclear plant. I will spare you my usual diatribe about our governor. I give him credit for being sincere, misguided as he might be. But he has publicly announced that he will make an all-out attack, or effort to keep Diablo Canyon from being licensed.

I think that is not in the public interest, but he obviously thinks it is. So the question is, under Federal laws, rules, regulations, what can he do? What can he do within the established framework—perhaps this would be for Mr. Denton—what are his options? What can he do to stop it? I don't mean concerning public persuasion. I mean legally.

Mr. DENTON. I will defer to the general counsel on that.

Mr. BURGNER. OK.

Mr. AHEARNE. This is Mr. Bickwit, the general counsel.

Mr. BICKWIT. He or any agency that he would control could intervene in the Federal proceeding.

Mr. BURGNER. At his own expense, I trust.

Mr. BICKWIT. Yes.

Mr. MYERS. You're a trusting soul.

Mr. BURGNER. OK. So he can intervene.

Mr. BICKWIT. Yes.

Commissioner BRADFORD. Or the State.

Mr. MYERS. For the State, you mean of course.

Mr. BICKWIT. That is correct. Moreover, the State has some responsibility with respect to health and safety and land use matters. It is clear that under the Atomic Energy Act that the NRC makes the judgments with respect to radiological health and safety matters.

The State does have an opportunity consistent with that doctrine, to make land use decisions and it would be consistent with the statute and consistent with the Constitution for those land use decisions to govern.

However, it is absolutely certain that as far as radiological health and safety issues are concerned, it is the NRC's judgment that is paramount.

Mr. BURGNER. I would respectfully submit that the land use has sort of been determined since we have \$1 billion or \$2 billion invested in the plant. It's complete or nearly so. Now we are talking about safety.

The earthquake situation was a factor. I believe that's been resolved. I am not sure.

Mr. DENTON. I would like to point out a distinction and apparently it flows from acts passed by Congress.

Mr. BURGNER. All right.

Mr. DENTON. Between Salem and Diablo Canyon, there are some parallels. The staff is almost at the same point in review of Diablo Canyon as we were with respect to Salem yesterday. Within the next day or so we would have completed Diablo Canyon and would meet all the Commission's requirements and the Board has already found that that plant meets all requirements that existed before Three Mile Island happened, so we are only dealing now with the incremental requirements of the Commission as a result of the Three Mile Island matter. And the Salem case, I was able to bring those issues before the Commission and they were able to decide and allow them to go ahead and fuel load and do low power testing has begun.

Now, with regard to Diablo Canyon we are putting in motion these same procedures. We will file the safety evaluation before the Board, and then we have a process that might take months and months and it will be six months before, probably, before a favorable decision comes out on Diablo Canyon even though the staff feels about that plant today the same way we felt about Salem for which we will be issuing the license.

Mr. BURGNER. After those months have transpired and the delay has occurred, then what are the governor's options if he wants to intervene? How would this occur?

Mr. BICKWIT. He has no rights other than any other private citizen.

Mr. BRADFORD. He has already sought intervenor status in the proceeding. There is a problem, and that is—

Mr. MYERS. Does he get paid for it?

Mr. BRADFORD. Not by us.

Mr. HENDRIE. I assume by the State of California.

Mr. BRADFORD. We are the ultimate adjudicators in the case, so there is a real limit to how much we can sit now and tell you about how the case is going to come through. We are supposed to decide on the record that comes up through the licensing appeals Boards,

and we really have to take our facts in a contested case like Diablo Canyon exclusively from the record in that case.

So that on questions ranging from Governor Brown's intervention to the seismic issues that are remaining and would be appealed to us, we have to make the decision exclusively on that record and not on what we may hear elsewhere.

Mr. BURGNER. But there is no question about the ultimate authority to license or not to license?

Mr. BICKWIT. No, there is not.

Mr. BURGNER. Thank you very much.

Mr. BEVILL. The Chair recognizes Mr. Chappell.

Mr. CHAPPELL. Let me express my appreciation also for your good service, Commissioner Kennedy. I'm sorry that you have to leave us at this time.

Mr. KENNEDY. Thank you, Mr. Chappell.

#### LICENSE PROCEEDINGS

Mr. CHAPPELL. Let me call your attention to attachment 1 in your statement, Mr. Chairman.

Mr. AHEARNE. Yes, sir.

Mr. CHAPPELL. I have chosen for purposes of asking some questions the Mid-Atlantic area, and Salem 2. The only reason I have done that is as I look through the attachment that seems to be the one that has been tendered the longest of those shown.

Is that right?

Mr. AHEARNE. It might be.

Mr. CHAPPELL. I note that the date the applicant tendered the application was in August 1971. I notice that is was just yesterday approved for low power license.

Mr. AHEARNE. Yes.

Mr. CHAPPELL. Now that's about 9 years, nearly 9 years.

Mr. AHEARNE. That's correct.

Mr. CHAPPELL. And I assume we have a ways to go.

Mr. AHEARNE. Well, yes, there are a number of steps that the applicant now will be going through as he loads the fuel, goes through some zero power tests, low power tests, and so on.

Mr. CHAPPELL. If he has been given his low power license, does that permit him to load fuel?

Mr. AHEARNE. Yes.

Mr. CHAPPELL. So he is permitted to load fuel?

Mr. AHEARNE. Yes, he is permitted to go to 5 percent of power in fact.

Mr. CHAPPELL. That is the testing power level for that license.

Mr. AHEARNE. Yes, right.

Mr. CHAPPELL. How much longer would you expect that applicant to go through the process before he would be able to receive consideration for a full power license?

Mr. AHEARNE. Four to five months.

Mr. CHAPPELL. Four to five months. Now, on the date the application was tendered it was docketed. As I understand the next category—what is ER?

Mr. HENDRIE. Environmental report.

Mr. CHAPPELL. August of 1971 the application was docketed. Then on July 1971 the environmental report was tendered and docketed.

Mr. HENDRIE. Yes.

Mr. CHAPPELL. And then as I understand it, the work to be done by staff was begun. SER stands for what?

Mr. HENDRIE. Safety evaluation report.

Mr. CHAPPELL. That was in October 1971. That is a staff function, right?

Mr. AHEARNE. Yes.

Mr. CHAPPELL. Then the ACRS—

Mr. AHEARNE. And that is the Advisory Committee on Reactor Safeguards.

Mr. CHAPPELL. That was done in February 1979. That is a staff function.

Then the SER supplement, that was done in April 1980. I guess they expect the full power license in 10-80, right?

Mr. AHEARNE. Right.

#### ENVIRONMENTAL STATEMENT

Mr. CHAPPELL. For the next item, DES—what's that?

Mr. AHEARNE. Draft environmental statement.

Mr. CHAPPELL. Was that in October of 1972?

Mr. AHEARNE. Yes, and the final was—

Mr. CHAPPELL. The FES, final environmental statement, is that it?

Mr. AHEARNE. Yes.

Mr. CHAPPELL. Was done in April 1973.

Mr. AHEARNE. Yes.

Mr. CHAPPELL. There is no hearing required.

Mr. AHEARNE. Yes. That's correct.

Mr. CHAPPELL. Then you come on through the construction phase and I assume that is the applicant again, right?

Mr. AHEARNE. That is the applicant's estimate of when it can be completed, and then our estimate.

Mr. CHAPPELL. He estimated February of 1980 and you estimate April of 1980.

Mr. AHEARNE. Yes.

Mr. CHAPPELL. What is ASLB?

Mr. AHEARNE. That is the Atomic Safety and Licensing Board decision and since there was no hearing required it was not applicable.

Mr. CHAPPELL. Now, what I really am interested in is one thing the Chairman discussed.

Mr. AHEARNE. Could I ask one question of Mr. Denton for clarification?

Was the original document for Salem 1 and 2, both plants, or just one?

Mr. DENTON. The times may look long in this case, because it is a two unit plant and when they submitted the application for Salem 1 they also submitted the application for Salem 2 and even though Salem 2 was not very far along, it came in with the application.

So this is—that is what makes the distortion in the time frame. Unit 2 was in 1971 nowhere complete but Salem 1 was, so Salem 1 was acted upon several years ago but they just filed the same application for both units at the same time. That is confusing.

Mr. CHAPPELL. Would that also be true of North Anna which was started in 1973?

Mr. DENTON. Generally that was the trend in these applications. When you had 2 plants, they would file for them both at the same time even though the second was not really for—

Mr. CHAPPELL. Sequoyah 1, for example?

Mr. DENTON. That is more representative because we deal with Unit 1 there.

Mr. CHAPPELL. That was started in December 1973 and the low power was issued in February 1980?

Mr. DENTON. Our standard schedule is a 33 month schedule and it allows about a year for a public hearing process and about 2 years for staff review.

Mr. CHAPPELL. Two years for staff review?

Mr. DENTON. Well, 33 months total. We back out 12 months for the hearing process; and 21 months for staff review. That includes an ACRS meeting and their hearings, and our statutory requirements which take 3 or 4 months; so it's approximately a two year staff review effort.

Mr. AHEARNE. But this is while the plant is being built.

Mr. CHAPPELL. I understand the plant is, yes, you back out 24 months for environmental and 33 for safety.

Mr. DENTON. Yes, sir.

Mr. AHEARNE. That's right.

#### STAFF REVIEW

Mr. CHAPPELL. What concerns me—this goes to the same thing the Chairman was alluding to earlier. Why does it take so long to get it done? How many man-days are involved in the process insofar as the Commission and its staff is concerned from the time the application is made until he is given his full power license?

Mr. DENTON. It's on the order now of 15 manyears in total effort to completely review and document the results of reviews and—

Mr. CHAPPELL. In other words, one man taking 15 years to go through all the reviews that are necessary?

Mr. DENTON. That is under the Office of Nuclear Reactor Regulation.

Mr. HENDRIE. In principal. Or you can say 5 men 3 years, and so on.

Mr. CHAPPELL. I understand that. I didn't mean to get into too many mathematical problems for us here.

Mr. DENTON. Yes, sir. Before Three Mile Island we were trying to improve the process by assigning a team, and there was an application that I assigned a team to with all the reviewers across the technical disciplines and we completed the review in 6 months, wrote the SER in 6 months from the date of docketing by applying a team concept. Otherwise, the review is spread out in that two year period.

Mr. CHAPPELL. It looks to me like you would have to go to that concept if you wanted to accomplish these reviews.

Mr. DENTON. We don't have sufficient technical people to put on individual teams in each area. We have 30 applications before us now and our individual branches are not that deep to handle them on that basis.

Mr. CHAPPELL. That's what I am coming to. Is the lag caused because you don't have enough manpower or is it because you have too many procedures?

Mr. AHEARNE. Mr. Chappell, the lag—if we back off 33 months, if the plant is still being built during that period of time, whether it takes us 33 months or 3 months, if we complete our review at the time the plant is completed, we have not caused any lag in the completion time of the plant.

Mr. CHAPPELL. I understand that. Is that true though? When he makes his application he certainly can't start construction of that plant at that time.

Mr. AHEARNE. His plant is under construction though at the time this is done.

Mr. CHAPPELL. When he makes his application?

Mr. AHEARNE. For the final, yes.

Mr. CHAPPELL. No, I am talking about when he applies for the first time to build a plant.

Mr. AHEARNE. Not for the construction permit, no. Here we are talking about an operating license though.

Mr. CHAPPELL. I understand. You are just talking about the operating permit.

Mr. AHEARNE. I was focusing on this table.

Mr. CHAPPELL. This table is only from the time of docketing of—

Mr. AHEARNE. It deals with the operating licenses on this table.

Mr. CHAPPELL. He has already received a construction permit?

Mr. KENNEDY. It's while he is under construction but is ready to put forward his license, looking towards the completion of the construction.

Mr. CHAPPELL. You are saying it took the applicant on Salem 2, it took him 9 years to build the plant?

Mr. AHEARNE. When he filed his initial application he was filing it both for Salem 1 and 2, both. Salem 1 was underway at that time, and he filed for both.

Mr. CHAPPELL. You said that wasn't a good example didn't you. You said Sequoyah was a better example. He filed his application in December 1973.

Mr. AHEARNE. Yes.

Mr. CHAPPELL. And he just in February got his low power license. So that is still 7 years.

Did it take 7 years to actually build the plant?

Mr. HENDRIE. Sure.

Mr. DENTON. I think we delayed Sequoyah a very few months when we issued a license. They had not been ready but for a few months prior to that. So that is certainly true, from the time they filed to the time they really finished it took almost as long as is shown in that table.

## CONSTRUCTION REVIEW

Mr. CHAPPELL. How much do you have to do with his construction as far as inspection, the onsite inspections and all that?

Mr. AHEARNE. In some cases a great deal.

Mr. CHAPPELL. Are you saying that none of those would hold him up? Once you give him the license or the permit, are you saying that none of your activity holds him up?

Mr. AHEARNE. I certainly would not say that, because in some cases we have told them to stop work. We have found faulty practices, for example, and have told them to stop work.

Mr. CHAPPELL. Of course, all of us are familiar with the—

Mr. AHEARNE. We have found practices that we felt were such that the plant construction had to be stopped until it was corrected. So clearly we have had in some cases major impact.

Mr. CHAPPELL. And we agree with your objectives on that point. Are those inspections made on a timely basis?

Mr. AHEARNE. We do have teams that go through for the construction of plants. We are moving as he gets closer to early operations status, we put a resident inspector in there. We are moving resident construction inspectors in onto the premises if we think they are having a lot of problems, and we—

Mr. CHAPPELL. That is what I am coming to. The construction is certainly a big part of it, no question about that.

Mr. AHEARNE. That's right, these are huge facilities, and it takes a long time to build them.

Mr. CHAPPELL. That's right, but the fact is that as one who has had a little experience in construction and in the construction industry, you know, these city inspectors and the local level people, and county inspectors and so on, can hold up a project and just literally double and triple the time for its construction. I mean hold it up unnecessarily. Many times it is because they are not putting the same inspector in there all the time. The new one has to review what the other fellow did and then you get differences in opinion on decisions made by his predecessor and on and on it goes. How much of that is involved with the Commission here?

Mr. AHEARNE. I don't think that that has been a major problem. It is a minor problem in fact. The GAO, your arm, who has looked at our inspection practices has in fact said we don't—our inspectors are not there enough of the time; that they don't get more involved; and their recommendation has been for us to get more involved in these projects from that aspect.

Mr. CHAPPELL. With the idea of speeding the process, not holding it back though, right?

Mr. AHEARNE. Oh, correct. Certainly.

Mr. HENDRIE. Mr. Chappell, I think it is fair to say that the kind of hold in construction that you mentioned where particular inspectors for one jurisdiction or another have a hold power on the construction, you know you have to get it signed off before you close the wall or whatever, I think in what I will call the normal construction of a nuclear construction project that kind of delay is practically none of it. From our inspection none of it. Our inspectors don't typically find it necessary to exert those kinds of holds and if they think they should, why, it's always something that is

sent back through higher management and not done by the man right on the site anyway.

So that at least I think is not a problem in holding up construction.

#### DESIGN REVIEW

Mr. CHAPPELL. I see. So when he gets his construction permit, at that time do you review all of his plans?

Mr. HENDRIE. Not really. What we have looked at in the construction permit review is his preliminary drawings and his application that lays out his preliminary safety analysis and all of that. But once he gets the construction permit and is seriously into construction we are not sitting there looking at it drawing by drawing and spec by spec as they come out of the engineers shop and go out to the field for construction.

If he changes anything in a very substantial way from the preliminary plans that we saw, why, he is supposed to let us know and we will see what we have to do about that if anything, but if he doesn't make fairly major changes he drives right on through and completes the construction.

As he comes towards the end of construction—at about Mr. Denton's 33 months, or 3 years from the completion of the construction, maybe a little more if he is wise—he will file with us an application for the operating license and our review of that will then go on concurrently with that last approximately 3 years of construction while he completes construction and our intent is to come out and be ready to make a decision on the license when he is through with construction and ready to take the step towards fuel loading.

I think there have been some hold ups connected with the Three Mile Island situation and the plants that have been ready in this past year, but the record before that in spite of the lengthening review times on construction permits and lengthening of review times on OLS as well, our record was darn good in that regard.

Mr. CHAPPELL. Coming back to the time required prior to construction—

Mr. HENDRIE. Starting the whole process back at the CP time you mean.

Mr. CHAPPELL. Right.

Haven't we now arrived at the time in our experience where certain core things are going to be pretty standard items to use in construction? I would assume at the time that you take his plans and specs, you would grant him that license.

Mr. HENDRIE. Construction permit.

Mr. CHAPPELL. The construction permit, yes. And, therefore, if he builds in accordance with those plans and specifications, government interference shouldn't hold up construction at all; should it?

Mr. HENDRIE. And if his construction is of good quality, of course.

Mr. CHAPPELL. That's what I'm saying.

Mr. HENDRIE. I think that's right. And if I can add, I think that is the case to a pretty good degree in what I call the average case.

## CONSTRUCTION PERMIT REVIEW

Mr. CHAPPELL. How long did it take him once he filed his plans and specs to get his construction permit?

Mr. HENDRIE. To get the construction permit, I guess in those days probably a year and a half.

Mr. CHAPPELL. So it took a year and a half just to review his plans and specs before you could issue a construction permit.

What does it take now?

Mr. HENDRIE. I would say that for about the majority of them, longer.

Mr. AHEARNE. Mr. Denton would comment I think on that.

Mr. DENTON. For every construction permit review, pre-TMI, the staff has completed review of all the CPs now and as I said that is pre-TMI. There are no brand new cases before us. So all the pending CP's need to be reviewed against the new items since TMI.

Mr. CHAPPELL. But how long? My question is how long from the time he submits his plans and specs does it take you to review them and give him a construction permit?

Mr. DENTON. The 6 months review was a construction permit case. That is where we had a team review from the moment it arrived until we wrote our safety evaluation; it was 6 months. But there is still a one year period provided for after that for the hearing process to take place. So even if the staff did it in one day, it would take a year.

Mr. CHAPPELL. So you are saying it takes the staff 6 months minimum to review the plans, and specifications, even though the 20 years of experience has brought some standardization to the components? It still takes the staff 6 months to review the plant specs?

Then it takes the Board another year to hear the case, to approve the plans and specs, all this before he ever gets a construction permit?

Mr. DENTON. It takes the year. The reason it takes the staff as long as it does, we have to prepare draft and final environmental impact statements and have them out for comment. Even though there is some standardization, the site is different most times, the management is different and so the 6 months is about as short as we can compress it with review of a brand new application. But it is true that our schedules allow normally a year after our first documents are published so that the discovery period can go on and so on.

Mr. CHAPPELL. Let's talk about the 6 months. That doesn't sound too unreasonable, but what about the year? Is that a reasonable period?

Mr. AHEARNE. The law requires that we——

## REFORM OF RULES AND PROCEDURES

Mr. CHAPPELL. I am not criticizing that. I am getting to where the problem is hopefully. The President says that in order to overcome the problems we need reorganization. But is it some of the procedures which you follow, the rules and regulations that really cause the bottleneck? If we need legislation here, we need to be about it and get things rolling.

If it's reorganization of the Commission, fine, let's have it. But whatever it is, I am trying to understand what it is that is causing this great period of time to be taken up. Isn't a year a pretty long period of time for that?

Mr. GILINSKY. Can I say a word about that, Mr. Chappell, concerning the 6 months figure that Mr. Denton mentioned.

That was in a case where the applicant wanted to add identical units on a site where he already had several plants which had been previously approved.

Mr. CHAPPELL. So you say normally it would take longer then?

Mr. KENNEDY. Yes.

Mr. GILINSKY. It was not only the team approach but it was a special application where the applicant used a good approach in that he used plans that had been already approved.

Mr. CHAPPELL. So 6 months, whether that is reasonable, you are saying he is taking longer to do that. It's taking up to 9 months or a year just to review plans and specs and to get your environmental and safety statements issued?

Mr. AHEARNE. Many times they don't come in with the same plans though. You say they have been in business 20 years, that's true in these cases, but many times they don't come in with the plans for a replica of what they've built.

Mr. CHAPPELL. I know that. But certainly there has to be some things that are standard by now.

Mr. AHEARNE. Yes, certainly.

Mr. CHAPPELL. By specification now they must have some standard items. You are going to be able to say, "Use GE" so and so and in the specs you show that you are using that.

Mr. AHEARNE. Yes.

Mr. CHAPPELL. So what I am trying to get at is this: Is there anything in the law, or in the procedures that enables us to speed up the review and retain all the safety considerations that are necessarily involved in the process? It seems to me that 9 months or a year after filing the plan and the specifications before you get an approval of those plans and specs—particularly when he has had engineers drafting these things that are certainly certified to certain standards on it—is questionable. It's not likely that you would need to examine every tiny thing before you could issue the permit.

Mr. BURGNER. Would the gentleman yield?

Mr. CHAPPELL. Yes, I'll yield to the gentleman.

Mr. BURGNER. When they are building a plant that has already been given a construction permit, of course, at what percentage completion of construction roughly do they apply for an operating license?

Mr. DENTON. From 30 to 50 percent. They want to apply well in advance of the 33 month window that is scheduled for our process to take in normal circumstances. So I would say 30 to 50.

Mr. BURGNER. We have a lot of plants under construction that have not applied for an operating license. I assume they are in the early stages of construction?

Mr. DENTON. There are about 20 plants under construction that are or that have not applied for an operating license.

Mr. BURGNER. You said that rule of thumb was between 30 and 50 percent completion before they would apply for the operating license?

Mr. DENTON. Yes.

Mr. BURGNER. Thank you for yielding.

Mr. GILINSKY. If I might add, you ask what we can do to improve the process. I think the 6 month example points the way in many respects to improving that whole situation. First of all, the applicant had a site, he was putting on plants that were identical to the ones he had had approved before, and the staff used an innovative approach to reviewing that application. So you had a number of good features that got it down to 6 months.

Mr. CHAPPELL. What you are saying is you are improving that end of it, too.

Mr. GILINSKY. I think so.

Mr. AHEARNE. What we are saying is the potential for improvement is there for applicants who replicate plants and have good sites.

#### SITE REVIEW

Mr. CHAPPELL. How long does it take to get an approved site?

Mr. HENDRIE. Probably three years.

Mr. CHAPPELL. I can see now I've started at the wrong place for these questions.

Mr. HENDRIE. That's probably three years.

Mr. AHEARNE. The point Mr. Gilinsky made earlier to the Chairman is the case of Japan applies here, too. In those cases when they come in they have their sites locked up, of course, and there it is, you got it.

Mr. CHAPPELL. How long did it take them to lock it up? Do you know that?

Mr. AHEARNE. Harold, do you know how long that might have been originally to get their site approved?

Mr. DENTON. We have not approved the site, any site, independent of a simultaneous approval of a plant yet. In other words, we are getting combinations of the plant and the site and the review goes on concurrently. But on Palo Verde the initial application for that plant came in in October 1974 and we issued a construction permit in May 1976.

Mr. CHAPPELL. So it took 2 years for them to get that.

Mr. DENTON. That included plant approval.

Mr. GILINSKY. That includes the first 3 reactors at that site, too. That approval includes the first 3 reactors.

Mr. CHAPPELL. Well, take a typical case. They come in out of the blue with an application for a site, they want site approval and the plans and specifications and so on come in, and they are asking for a construction permit. How long does that process take?

#### EARLY SITE REVIEW

Mr. DENTON. If they only came in for early site review and no plant at all, but a site review, it would probably take on the order of 9 months as a typical case to review the site from all the seismological standpoints, issue a draft environmental impact statement, get comments, and get to the final one. Even in a case

where there is no plant and no hearings involved, still probably 9 months is a normal sort of review of a site.

Mr. CHAPPELL. You are saying in your professional opinion that that is a fair period of time, are you? A fair period of time which is enough to accomplish that purpose?

Mr. DENTON. That is about the best we can do and still issue a draft and get comments and get a final one out.

Mr. CHAPPELL. How much of that time would concurrently have been used to approve plans and specifications?

Mr. DENTON. That is the normal case, they come in with the site and the plant together. So the site review is concurrently done.

Mr. CHAPPELL. He can follow the same plans and specs whether it's on site A or site B with certain changes with reference to the water system, the groundwater and so on, isn't that right?

Mr. DENTON. Yes.

Mr. CHAPPELL. Otherwise it's the same plant, for example, if I understand you, you are talking about roughly a year and a half then altogether to get his site approved and his construction permit.

Mr. DENTON. In many cases it's taken care of in a period that is much longer than that. This is the best-case case.

#### DEPARTURES FROM STANDARD DESIGNS

Mr. CHAPPELL. Why? That is the question.

Mr. DENTON. The last two applications that came in for construction permits referenced standard designs, standard design plants that we have approved, and are sort of on the shelf designs, but in key areas those utilities departed from the standard design and required another review by doing that. In one area they changed the control room, the instrumentation and the wiring system. So instead of buying the standard plant they bought the standard plant with something extra. It's because of the marketplace considerations that the utilities would rather buy not the standard brand, rather they buy the standard brand plus something and it takes us longer to review the new features in the latter.

So that was the utility's choice. If they were talking about the standard plant, we are able to review that much quicker.

Mr. CHAPPELL. So your standard is roughly 18 months to 2 years if he comes in and buys a standard plant, buys one off the shelf.

Mr. DENTON. One that we have seen before, and approved before, yes.

Mr. HENDRIE. And if he doesn't get caught in too much of a hearing.

Mr. CHAPPELL. All right.

Mr. BURGNER. Would the gentleman yield for a question on that?

Mr. CHAPPELL. Yes.

#### LOCAL LAND USE REGULATION

Mr. BURGNER. I thank the gentleman.

I think this is quite relevant. When you get the application, has considerable time elapsed in local land use considerations before it gets to you?

Mr. HENDRIE. Well, yes, a couple of years sometimes. Yes.

Mr. KENNEDY. That's true.

Mr. BURGNER. A couple years for land use matters, putting aside seismology and all of that—

Mr. DENTON. It varies region to region, and district to district. Some utilities do thorough reviews of the site with regard to endangered species and alternative sites before they get to us. In other cases, filing the application with us is the first announcement that that site has been picked.

Mr. BURGNER. So there is no uniformity.

Mr. AHEARNE. That's right.

Mr. CHAPPELL. Mr. Gilinsky.

#### DIVERSITY OF NUCLEAR PROPOSALS.

Mr. GILINSKY. There is a fact which should enter into these discussions. We hear of the example of for instance, France, where things are moving along, it is said, quite smoothly. But they have one utility, one constructor, one vendor, and we are dealing with something like 60-odd utilities, about a dozen architect-engineers and several vendors, and that just creates a different picture, not to speak of fifty states.

Mr. CHAPPELL. I understand that. It's like building school buildings down in my State. You have to have a different school design for every county and every city and for every location. You can't use any standard plans. They just don't seem to do that despite the fact that Florida doesn't vary much in elevation, soil content and other physical features. But there always has been, or it seems there always has to be a new plan.

I guess that's what I am really asking. You certainly have some things that are pretty much standard in construction. If you go that way, you can tell the prospective applicant, "We can go the faster route." But if the engineers are going to want to design something entirely new and innovative and so on, he will have to expect to spend more time getting approval. Is that a reasonable statement?

Mr. KENNEDY. Yes.

Mr. AHEARNE. Yes.

Mr. GILINSKY. Right.

#### STANDARD DESIGN REVIEWS

Mr. CHAPPELL. How far are you along the line of more readily approving the plans and specs so he can move on with construction if he chooses this standard way?

Mr. DENTON. We have approved several standard designs by vendors and we have approved several balance of plant designs so these designs are in effect on the shelf if people want to use them. We thought by approving such designs there would be an incentive to standardize that would be so persuasive that people would do just that. In the cases I have cited the people chose to take an additional delay in order to incorporate their own unique requirements.

Mr. CHAPPELL. We Americans want to be innovative in everything. Right?

OK, I've got a pretty good picture of this. You are saying that generally, it's not government that is holding up the construction. If the applicant follows plans and specs of a standard nature, the government doesn't hold up the construction?

Mr. AHEARNE. I think you can say that.

Mr. HENDRIE. Once he has his construction permit, yes, that's right.

Mr. CHAPPELL. Yes.

Mr. KENNEDY. Our government, yes—not us.

Mr. CHAPPELL. I understand.

Mr. KENNEDY. I don't know to what extent local building codes and so on may be involved in this.

Mr. CHAPPELL. I understand that. You're not suggesting that any change in the legislation from the Congress is needed at this time to speed the process? Can I assume you don't need legislation?

Mr. HENDRIE. That's correct.

Mr. CHAPPELL. You are satisfied with the law like it is?

Mr. HENDRIE. In the sense that—

Mr. AHEARNE. I think we can say, at least for the time that I have been with us, we have been wrestling with so many other problems that that did not seem to be the type of thing that was a problem.

Mr. CHAPPELL. That doesn't seem to be the bottleneck.

Mr. GILINSKY. We have some suggestions on early site reviews and unified applications if the applicant provided sufficient information to consider giving him a single license instead of breaking it up into two parts, for example.

Mr. CHAPPELL. I think that would be appropriate.

Mr. GILINSKY. This has been one recommendation that we have supported.

Mr. CHAPPELL. If the Commission would give us some of the ideas they think could help speed the process, it might be helpful.

Mr. BEVILL. May I ask you to do this—due to the time situation—would you mind if they furnished that for the record?

Mr. CHAPPELL. That's what I am asking for, yes, Mr. Chairman.

#### COMMISSION RECOMMENDATIONS ON LICENSING REFORM

Mr. BEVILL. All right. Provide that for the record if you would. [The information follows:]

Chairman AHEARNE. I believe the Congress could help improve the licensing process by three actions:

(1) Representing the citizens of the United States, take a position on the safety standards which nuclear power should satisfy, specifically the level of risk to the public from nuclear power that is acceptable relative to the risks from other forms of energy generation and other risks to which the public is exposed.

(2) Either as a part of or separate from (1), re-establish a national position regarding the use of nuclear power;

(3) On a less sweeping, more immediate, but no less important level, approve the fiscal year 1980 supplemental request and the fiscal year 1981 budget request of the NRC.

Commissioner Hendrie agrees with the response given by Chairman Ahearne. Commissioner Kennedy's views were expressed in testimony given before the Subcommittee.

Commissioner Bradford would indicate that legislation in the areas of intervenor funding, consolidation of NRC offices and the Commission position on the President's Reorganization Plan would be helpful.

Commissioner Gilinsky's Response: I believe that two of the legislative proposals made by the Commission in prior years would improve the licensing process. The first is a request that Congress expand the Commission's present authority to issue early site approvals. This proposal might, in certain circumstances, facilitate the licensing process. The second is a request that Congress give the Commission explicit authority to combine the construction permit and operating license states of the licensing process where sufficient information is available to permit one-step licensing. Again, this measure would serve to encourage the industry to adopt practices that would help reduce the overall reactor project time and would have other benefits. I think that the present statute gives the Commission the authority to go a long way in the direction of these steps; however, it would be helpful for Congress to affirm and broaden that authority.

In the present circumstances, I think that Congress could improve, or at least protect, the licensing process by persuading the President to amend the Reorganization Plan so that the Commission remains a workable entity. The Plan as presently drafted would result in a hybrid organization which would have the disadvantages, and few of the advantages, of both the Commission and Single Administrator forms of management. The Plan gives the Chairman dominant control over the flow of information within the agency and over its staff. The Commission would, however, remain the ultimate adjudicatory and rule- and policy-making body within the agency. The resulting tension between the Chairman and the Commission is likely to result in worse rather than better management. The licensing process will almost certainly suffer.

Since the President has decided to retain the Commission format, rather than to appoint a Single Administrator, the Commission should be organized to operate efficiently. In my opinion, this would, at a minimum, require modification of the Plan to permit the Commission to have full access to the information it needs to conduct its business, to require the staff to report to the Commission through the Executive Director, rather than to the Chairman alone. In addition, I believe that the position of the Executive Director for Operations should be strengthened to permit the incumbent to fulfill his responsibilities as the senior staff officer of the Commission. These changes would not affect the provisions of the Plan dealing with emergency management nor would they interfere with the Chairman's role of principal executive officer of the agency.

#### REORGANIZATION PLAN

Mr. CHAPPELL. I wanted to get a better picture in my mind of what was happening now and then to understand the reorganization proposal. I am a little bit disturbed personally by the plan that's been proposed. I see a lot of things that you people are concerned about and they certainly concern me.

Can't you liken your Commission to a board of directors for a huge corporation?

Mr. GILINSKY. Exactly.

Mr. KENNEDY. That's exactly right.

Mr. CHAPPELL. And therefore it would be your duty and responsibility to set the policies, the procedures and all the rest of it, and then look to the executive, whoever he is, to get the job done. We have all kinds of structures business-wise in this country. I have been a little skeptical of how a board could perform its functions as a board setting policies with everybody having a right to get their ideas into this policymaking procedure and at the same time have the chairman of the board be the president or chief executive officer of the corporation.

Isn't that really where you all have the problem?

Mr. AHEARNE. Not I.

Mr. KENNEDY. I think that's right.

Mr. CHAPPELL. You say that's fine, Mr. Chairman?

Mr. AHEARNE. Yes, because I don't think it is completely analo-

Mr. CHAPPELL. What's the difference?

Mr. AHEARNE. These are 5 full time people.

Mr. CHAPPELL. That wouldn't make any difference. You could have 5 full time directors of a corporation. They could each head up a certain committee but when they all come together, they would need to have a concurrence about where they are going to be going and how they will do it.

Mr. AHEARNE. Right.

Mr. CHAPPELL. But if one person is chairman and president, or chairman and chief executive officer with a vote too, don't you set up the machinery for all kinds of conflicts among and between the directors on the board?

Mr. AHEARNE. It's certainly possible. On the other hand we have seen enough people who have reviewed the current operation and they indicate that although it might, should, could work—it doesn't. And the proposals are in such a way to say that the commission as a group should concentrate on policymaking, on rulemaking, and on adjudication. I don't view those as narrow trivial small items. Those are major issues.

Mr. KENNEDY. Mr. Chappell—

Mr. CHAPPELL. I assume the rest of you don't necessarily agree.

Mr. AHEARNE. That's right.

#### IMPORTANCE OF APPOINTMENTS

Mr. KENNEDY. It has been said that it doesn't work. It hasn't worked. I think it would be worthwhile for the committee, indeed I thought it would have been worthwhile for the Kemeny Commission and our own study, the Rogovin Report, to go back and look historically at what has happened. I don't think they did that very well. They know that. I told them so. I don't think they did it very well at all. As a matter of fact, from January 1975 when the Commission was formed until 1977 when—as I mentioned earlier—we suddenly found ourselves without a quorum because no positions had been filled by reappointments, in that time whatever the differences we may have had among us on the philosophical questions with which we were dealing or on the substance, we had no difficulty in getting things done. We met regularly; we had a schedule of things that we wanted to get done, we had a schedule laid out for the staff to do things; the staff was working and functioning effectively; delegations were clear—and remember we started this thing from scratch. Now, therefore, one has to ask himself what did happen? What doesn't make it work now? Appointments, Mr. Chairman. That's what doesn't make it work now.

Mr. CHAPPELL. Well, if I understand what you are saying, you get back to philosophies again, don't you?

Mr. KENNEDY. Yes, sir.

Mr. CHAPPELL. If we have a Commission with appointees who are philosophically opposed or fearful of nuclear energy, the process will slow and grind down to an ever increasing slower pace. Isn't that what you're saying?

Mr. KENNEDY. I think I wouldn't have put it that way.

I guess I would have put it that it's going to make it more difficult.

Mr. CHAPPELL. What's the difference?

Mr. KENNEDY. Degree.

Mr. CHAPPELL. How do you eliminate that?

Mr. KENNEDY. Well, it seems to me as I said earlier that the President and the Congress have to be able to decide that. After all, they have two powers, one, the legislative power to tell us precisely what it is they want done. They also can tell us precisely what the national policy is and reaffirm it if necessary. And, second—

Mr. CHAPPELL. You know, I agree with you.

Mr. KENNEDY. Second, the Congress and the President have the power over appointments. How much more power do they need?

Mr. CHAPPELL. What you are saying is there has to be a way for the legislative process to remove from the Commission as much discretion as possible on matters that are not purely technical in nature?

#### AUTHORITY OVER NUCLEAR POWER

Mr. KENNEDY. On matters with which the Commission was not constituted to function. The Commission was never given authority or responsibility to decide whether nuclear power was a good thing or a bad thing.

Mr. CHAPPELL. Amen. I totally agree with you.

Mr. KENNEDY. At least that has to be reasserted.

Mr. CHAPPELL. And you think that we need to reassert that in the law?

Do you think it possible that the legislative process could effectively write a code tight enough that yours would be purely an administrative or technical function?

Mr. KENNEDY. I think it ought to be that kind of a code. I am not so foolish as to suggest that any code could be perfectly tight; for as we said earlier—the English language has some deficiencies and of course active and facile minds can always find interpretations of the language.

Nonetheless, I think it can be sharpened. I think it ought to be sharpened and in any event there ought to be an unequivocal, in my view, an unequivocal expression by the President and the Congress whether you really want to have nuclear power or whether you don't.

Mr. CHAPPELL. Well, I totally agree with you on that. Then what you are saying is if we had such a code, it would not make any difference who was appointed because their duties and responsibilities would be strictly within that framework. To be about the business of putting nuclear plants online and not deciding whether nuclear energy is good or bad.

Mr. KENNEDY. That's correct, sir.

Mr. CHAPPELL. Now, have you seen a draft or any sort of that type of thing that would suggest wording for such a code?

Mr. KENNEDY. No, sir.

Mr. CHAPPELL. How much of a problem would it be and where would one start to have that code drafted for us.

Mr. KENNEDY. I would be glad to provide some language.

Mr. CHAPPELL. I would be delighted to receive it.

Madam Chairman, I would like to ask the gentleman, and the others, too, to give us some thoughts along this line.

I really think that is something that would be nearer to getting to a solution to these problems than this reorganization structure as I presently understand it.

Mr. KENNEDY. That was the thrust of my testimony, sir.

Mr. CHAPPELL. I cannot personally see how doing what we are attempting to do with the Chairman, making him the executive officer—as much as his abilities are and as fair as he may be—as long as you have as much variance in viewpoints as apparently there is on this Commission. I don't think we will ever shorten the period that it takes to put nuclear plants online. That's my own view. I hope I'm wrong.

Mr. Gilinsky?

Mr. GILINSKY. I want to say that I agree a good deal with what Mr. Kennedy was saying. I want it to be clear I was appointed before 1977.

Mr. KENNEDY. He and I shared the haciendas of yore when the Commission could function and do its job. It knew what it was doing, it did it.

Mr. CHAPPELL. How long did it take you to put a nuclear plant online in those days?

Mr. KENNEDY. We used to put some online. I think that's a different question.

Mr. CHAPPELL. OK.

#### SINGLE ADMINISTRATOR

Mr. GILINSKY. I want to add that I think the appointments really are critical. You can't get to a point where you write a code and then it won't make any difference who's on the Commission because if that's the case, you really don't need the Commission, you can forget about it.

Mr. CHAPPELL. What about the suggestion?

Mr. GILINSKY. That's another way to do this. And that has been discussed.

Mr. AHEARNE. I like that

Mr. CHAPPELL. The Chairman likes that. I see that now of course.

Mr. GILINSKY. I guess he believes things would be safer with only him around—

Mr. AHEARNE. No, not I. A single administrator. That's different than me.

Mr. GILINSKY. But you know it's another way to go and it's certainly very clear how it would work, and there aren't any conceptual problems about it. I think at this point in nuclear energy development, given the history of regulation and the form of relationships in the AEC, it's wiser to have the regulators separated out and give them some independence from those who are responsible for energy policy. I think that the public is better served that way.

## OFF-SHORE POWERPLANTS

Mr. CHAPPELL. Madame Chairman, would you let them state for the record an answer to my question about what you are doing concerning off-shore power plants. What do you think the future of that concept is? Do you think it is a viable answer.

Mr. AHEARNE. We will supply that for you.

[The information follows:]

## STATUS OF OFF-SHORE POWER SYSTEMS APPLICATION

Staff Safety Evaluation Report (SER) published September 30, 1975.

SER Supplement 1 thru 3 issued, latest on February 1980, addresses core ladle issue.

SER Supplement 4 in preparation. Addresses ALAB 444 issues.

March ACRS meeting on core ladle resulted in a letter wherein Committee agreed that " \* \* \* the proposed FNP core ladle design is adequate for the FNP manufacturing license; however, the planned tests and analytical programs must confirm present estimates of the operation of the ladle before the FNP is built and operated."

Need to complete staff review of several non-critical non-TMI issues, such as upper head injection, environmental qualification of equipment, tornado missiles, subcompartment pressure analysis, and all appropriate TMI-related issues. The appropriate TMI-related issues are dependent upon the requirements in the NTCP list which is yet to be approved (see discussion in response to question regarding Pilgrim 2). Thus, no schedule for resolution of these items can be given at this time.

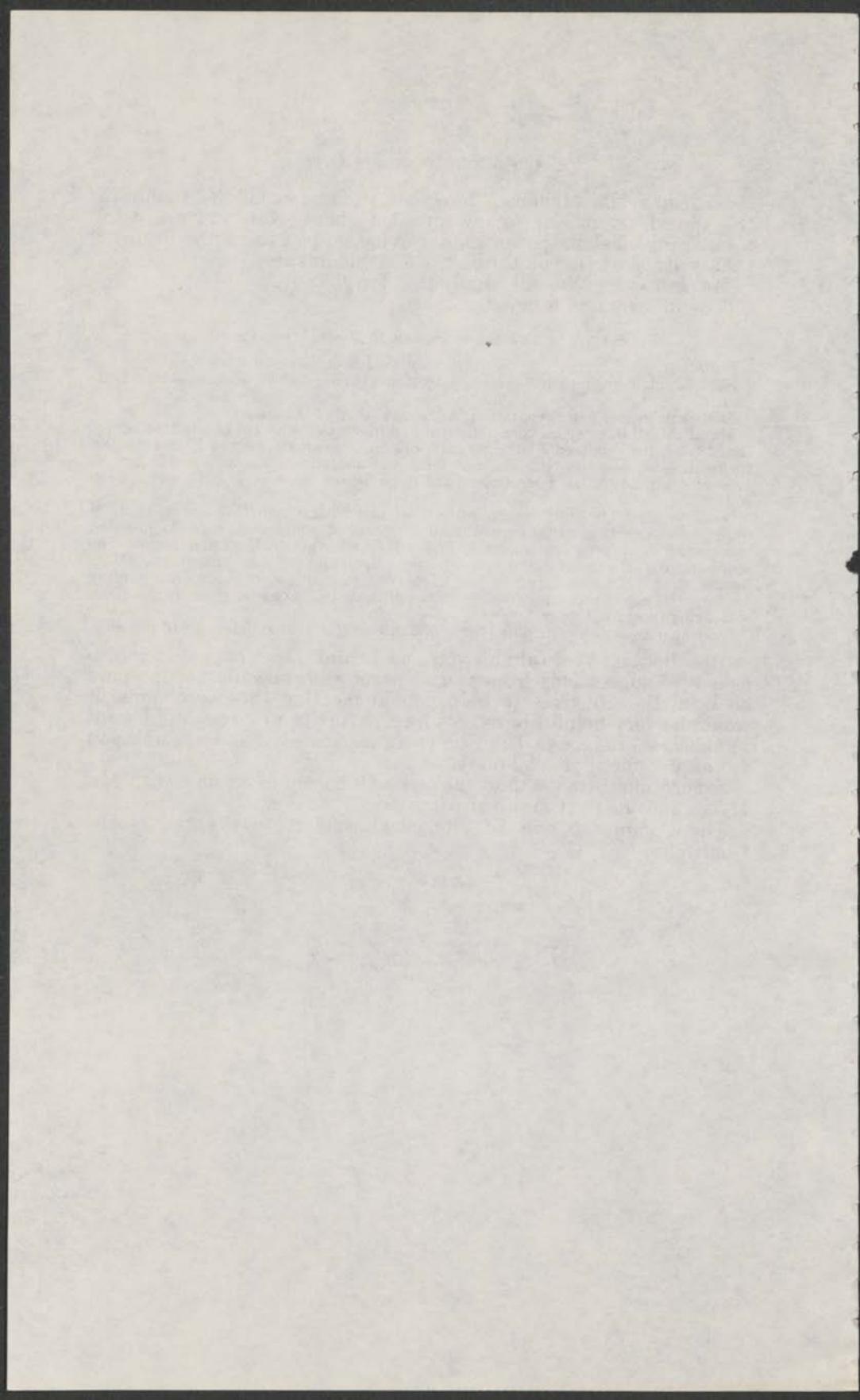
Hearing record still open.

Next hearing will be scheduled after issuance of the final supplement to the SER.

Mrs. BOGGS. We do thank you and I think Mr. Chappell has also asked for suggestions from you on what your specific needs would be from the Congress to help you in meeting these problems. It would be very helpful to us. We have a vote in progress and I want to call a short recess. The Chairman suggested that we thank you very much for your testimony.

Excuse me, I understand that we will continue on now with Mr. Myers and the next group of witnesses.

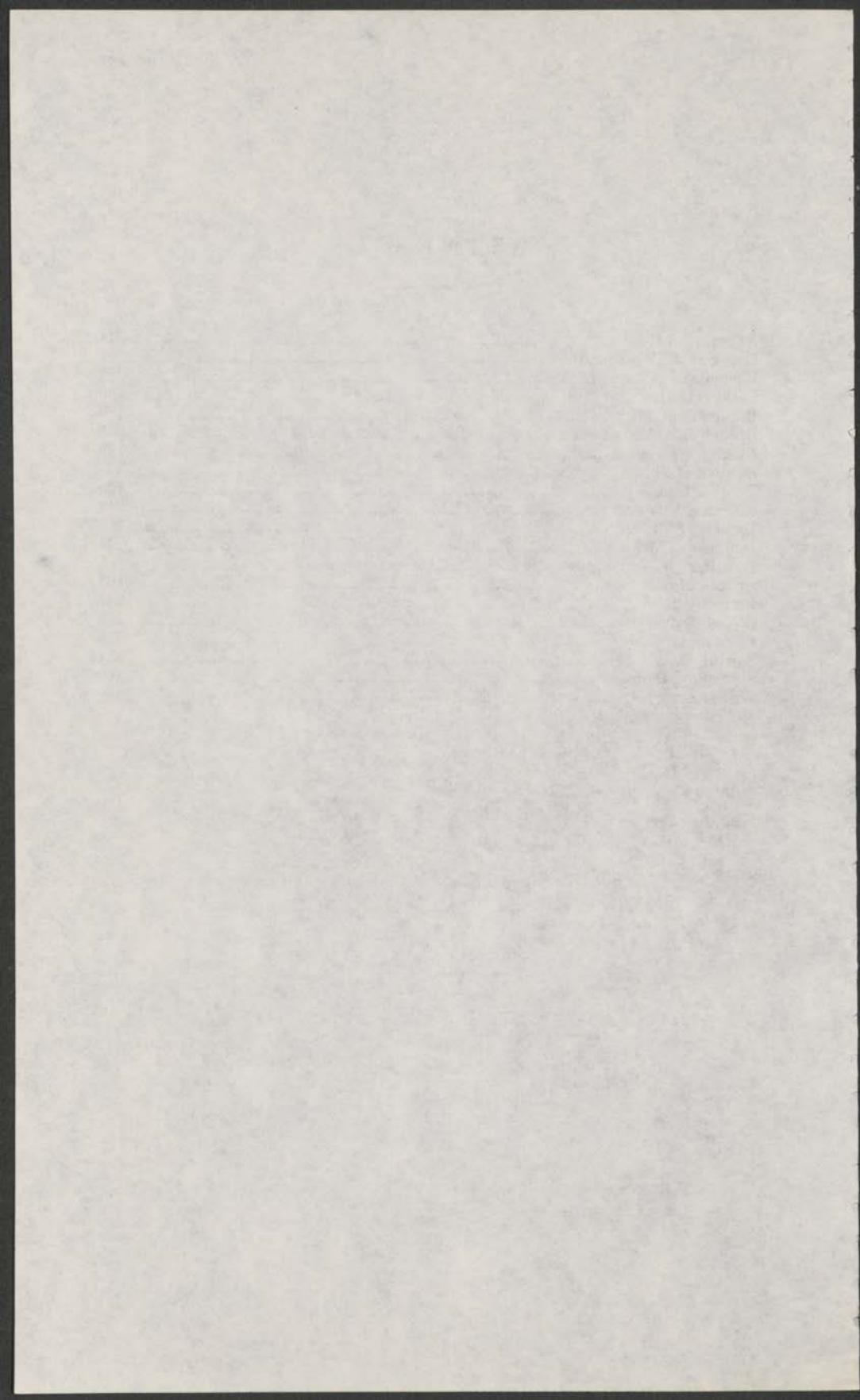
The Committee will be adjourned, subject to the call of the Chairman.



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