The original documents are located in Box 37, folder "12/31/75 HR3474 Energy Research and Development Administration Authorization (1)" of the White House Records Office: Legislation Case Files at the Gerald R. Ford Presidential Library.

APPROVED
DEC 3 1 1975

signed 12/31/75

THE WHITE HOUSE

WASHINGTON

ACTION

Last Day: December 31

December 30, 1975

Postal
1/1

To Archives
1/2

MEMORANDUM FOR THE PRESIDENT

FROM: JIM CANNON

SUBJECT: Enrolled Bill H.R. 3474 - Energy Research and Development Administration Authorization

Attached for your consideration is H.R. 3474, sponsored by Representatives Price and Teague, which authorizes appropriations for the Energy Research and Development Administration in the amount of $6,445 million for FY 76 and the transition quarter.

The enrolled bill also contains a number of changes in the ERDA authorizing legislation which are detailed in OMB's enrolled bill report at Tab A.

OMB, Max Friedersdorf, Counsel's Office (Lazarus), Bill Seidman and I recommend approval of the enrolled bill.

RECOMMENDATION

That you sign H.R. 3474 at Tab B.

A

EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF MANAGEMENT AND BUDGET
WASHINGTON, D.C. 20503

DEC 27 1975

MEMORANDUM FOR THE PRESIDENT

Subject: Enrolled Bill H.R. 3474 - Energy Research and Development Administration Authorization
Sponsor - Rep. Price (D) Illinois and Rep. Teague (D) Texas

Last Day for Action

December 31, 1975 - Wednesday

Purpose

To authorize appropriations for the Energy Research and Development Administration for fiscal year 1976 and the transition period from July 1, 1976 to September 30, 1976.

Agency Recommendations

Office of Management and Budget	Approval
Energy Research and Development Administration	Approval (Informally)
Department of the Interior	Approval
Department of Defense	Approval
Federal Energy Administration	Approval [illegible]
National Science Foundation	No objection
Nuclear Regulatory Commission	No comment
Council on Environmental Quality	No comment (Informally)
National Security Council	No comment [illegible]
Environmental Protection Agency	No recommendation
Department of Transportation	Defer to ERDA

Discussion

H.R. 3474 is the first annual authorization bill for the new Energy Research and Development Administration (ERDA). The enrolled bill authorizes funds for fiscal year 1976 and for the transition quarter and makes other changes in the ERDA authorizing legislation.

Titles I and II authorize a total of $6,445 million for ERDA in fiscal year 1976 and the transition quarter, compared with the Administration's budget request of $5,823 million for the same period. However, the appropriation bills providing funds for ERDA are now enrolled and appropriate $92.1 million less than your budget requests for 1976 and the transition quarter. Thus, the higher authorization levels are not a problem.

The enrolled bill authorizes funds for ERDA programs in much greater detail than we would prefer but this would not be detrimental to ERDA's activities.

Title III contains a number of desirable provisions which allow ERDA flexibility in carrying out its program, such as:

-- authorizing the Administrator to begin construction work without specific authorization from Congress on any project except fossil fuels. No-year funds would be authorized for these construction projects.

-- authorizing ERDA to transfer funds from its "operating expenses" account to other government agencies for the performance of work.

The Administrator would also be required to establish, develop, acquire and maintain a central source of information on all energy resources and technology. Such information would be available for use by ERDA for its research and development programs, by other Federal agencies and by the public with specific exceptions relating to trade secrets and proprietary information.

In addition, the Administrator would be required to conduct an environmental and safety research, development and demonstration program related to fossil fuels.

Title III would, however, establish many stringent requirements for the reprogramming and use of authorized funds particularly relating to fossil energy development. For example, a 30-day Congressional notification would be required before the Administrator could either fund any particular program in excess of the amount appropriated, or fund any new program which has not been presented to, or requested of, the Congress. Money

for specific non-nuclear programs may in no event be decreased by more than 10 per cent of the appropriation for each program. While these requirements are more restrictive than we believe appropriate, they do not cause serious enough problems to warrant disapproval of the bill.

Title IV redesignates the Holifield National Laboratory in Oak Ridge, Tennessee as the Oak Ridge National Laboratory. The name was changed from Oak Ridge to Holifield in 1974. However, because the facility is internationally known as "Oak Ridge," the new name was found to be unnecessarily confusing. In order to honor former Representative Holifield, the bill would designate a facility under construction as the Holifield Heavy Ion Research Facility.

Title V would prohibit shipment of plutonium by air transport with certain exceptions such as medical application and national security. The restriction would remain in force until ERDA has certified to the Joint Committee on Atomic Energy that a safe container has been developed which will not rupture under the test conditions equivalent to the crash and explosion of a high-flying aircraft. In its views letter on the enrolled bill, the Department of Transportation states that such a prohibition would cause shipments of plutonium to be made by surface transportation, and will increase the safety risks due to pilferage, loss, et cetera. However, DOT's reservations about this provision of the bill are not serious enough to cause the agency to recommend disapproval.

Title VI authorizes assistance payments to Anderson and Roane Counties, Tennessee in addition to payments in lieu of taxes presently being made by ERDA. These counties claim dependence on local Federal activities which do not pay local taxes to support schools, police and other services. Although this provision was not in your budget request, its inclusion does not cause any serious problems.

James M. Frey

Assistant Director
for Legislative Reference

Enclosures

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

DEC 24 1975

OFFICE OF THE
ADMINISTRATOR

Dear Mr. Lynn:

This is in response to your request of December 19, 1975, for our views and recommendations on H.R. 3474, an enrolled bill which authorizes appropriations to the Energy Research and Development Administration.

H.R. 3474 is a comprehensive bill providing authorities for the many energy research related programs administered by ERDA. Rather than attempting to comment on the many aspects of the enrolled bill, we will restrict our comments to those sections of H.R. 3474 which deal with municipal solid waste conversion, an area of particular interest to EPA.

Under section 101(a)(4)(F) of H.R. 3474, ERDA is authorized for fiscal year 1976 to spend fifteen million dollars for research and development in the areas of urban waste conversion. During the period from July 30, 1976, to September 30, 1976, an additional 3.75 million dollars is authorized under section 201(a)(4)(F) for the same urban waste conversion program.

EPA has developed a broad program in municipal solid waste (hereinafter MSW) as a result of the Solid Waste Disposal Act, as amended by the Resource Recovery Act. In administering this program, EPA has developed significant expertise with the complex problems associated with the economic recovery and use of material and energy from municipal wastes. In addition, EPA has been developing and demonstrating resource recovery technologies and has been assisting communities and industry in adopting them through technical assistance, education and planning programs. The relationship which has evolved between EPA and municipal

and industrial decision makers who are charged with managing their respective solid waste systems, enables EPA to transfer new resource technologies developed by Agency research to the field for their implementation in municipal and industrial solid waste systems.

It is necessary to recognize that waste conversion cannot be dealt with as an independent process. Waste conversion is merely one aspect of an overall community or industrial waste management system. In many cases there may be greater energy savings in recovery of materials from waste than its direct conversion into energy. As a result, the development of particular waste conversion technologies should not occur without prior consideration of environmental factors and the cost benefits of the technology to the community or industry that eventually will be implementing the technology in its waste management system.

EPA believes that resource recovery should be promoted by the Federal government, and will support any program which can do so efficiently. We believe that the most efficient way to pursue the Congressional mandate embodied in H.R. 3474 for development of MSW, would be to integrate this new authority into EPA's existing program structure. Energy and material recovery are an integral part of the EPA municipal solid waste program. In order for ERDA to administer these new MSW programs it would have to develop similar capabilities. Indeed, the Conferees, aware of EPA's expertise in MSW and mindful of the potential overlap of an ERDA program with EPA's current MSW program, expect that ERDA will assign program management responsibility to EPA through interagency agreement in those areas where EPA has expertise. The Conferees' position is stated in the Conference Report in H.R. 3474 as follows:

> It is not the intent of the Conferees to impinge on the current EPA program. Rather, we expect that the relative roles of ERDA and EPA will be decided within the Executive Branch through interagency agreements and coordination. The Conferees expect that unnecessary duplication and overlap in this extremely important program will be minimized through close cooperation between the two agencies during the period such an interagency agreement is pending. It is hoped that such an agreement will be reached as soon as feasible. The Conferees feel that ERDA should work closely with EPA in those areas where

EPA has special expertise, including, if desirable, the assigning of program management responsibility to EPA by interagency agreement, in order to take advantage of the EPA experience.

In the interest of ensuring efficiency and avoiding the duplication of resources, it would be appropriate for ERDA formally to assign to EPA program management responsibility for the authorities delineated for MSW in H.R. 3474. There is ample precedent for this type of transfer within the Federal structure and this arrangement is consistent with the intent of the Conferees.

Under such an arrangement EPA will be in a close working relationship with ERDA and will conduct the program in a manner consistent with ERDA's organic authority. In addition, EPA will draw upon the technical expertise in ERDA for assistance where appropriate.

The proposed arrangement has the significant advantage of utilizing EPA's existing expertise, contacts, and technical assistance in dealing with the complicated relationships between municipalities or other units of local government, industry, the financial community, the Federal government and the public.

Thank you for this opportunity to express our views on H.R. 3474.

Sincerely yours,

Russell E. Train
Administrator

Honorable James T. Lynn
Director
Office of Management and Budget
Washington, D. C. 20503

OFFICE OF THE SECRETARY OF TRANSPORTATION
WASHINGTON, D.C. 20590

GENERAL COUNSEL

DEC 23 1975

Honorable James T. Lynn
Director
Office of Management and Budget
Washington, D. C. 20503

Dear Mr. Lynn:

This is in response to your request for the views of this Department with respect to H.R. 3474, an enrolled bill

> "To authorize appropriations to the Energy Research and Development Administration in accordance with section 261 of the Atomic Energy Act of 1954, as amended, section 305 of the Energy Reorganization Act of 1974, and section 16 of the Federal Nonnuclear Energy Research and Development Act of 1974, and for other purposes."

In addition to providing appropriation authorization for the Energy Research and Development Administration (ERDA), the enrolled bill contains a number of provisions relating to the administration of certain ERDA programs. Of particular concern to this Department is Title V dealing with air transportation of plutonium. Section 501 would prohibit ERDA from shipping plutonium by aircraft with certain exceptions enumerated in section 502. This restriction would remain in force until ERDA has certified to the Joint Committee on Atomic Energy of the Congress that a safe container has been developed and tested which will not rupture under crash and blast-testing equivalent to the crash and explosion of a high-flying aircraft.

This restriction is similar to that contained in section 201(a)(5) of the Nuclear Regulatory Commission's appropriation authorization for fiscal year 1976 (Public Law 94-79). Unlike that restriction, however, section 502 of H.R. 3474 would allow ERDA to make shipments of plutonium which the Administrator determines are for purposes of national security, public health and safety, or emergency maintenance operations, and small amounts of plutonium which require rapid shipment by air in order to preserve their chemical, physical, or isotopic properties.

Although to a lesser extent because of the additional exemptions in section 502, this restriction, like that in section 201(a)(5) of Public Law 94-79, contributes to the incompatability of the U.S. regulations with those accepted internationally. This Department with the cooperation of the U.S. Atomic Energy Commission participated in the development of International Atomic Agency regulations which are widely accepted and which provide for the air transport of plutonium when properly packaged in accordance with extremely stringent standards.

As in the case of section 201(a)(5) of the Nuclear Regulatory Commission Authorization Act, this prohibition will cause shipments of plutonium now being made by air to be transferred to surface transport. It is our opinion that while such a change will not change the level of safety attributable to the integrity of individual packages or the actual movement of plutonium, it will increase the security risks -- loss, pilferage, et cetera -- associated with such shipments.

Although we have the foregoing reservations regarding the possible effects of section 501 of the enrolled bill, we do not recommend disapproval and defer to the views of ERDA on the question of whether the President should sign the enrolled bill.

Sincerely,

John Hart Ely

United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

DEC 2 1975

Dear Mr. Lynn:

This responds to your request for the views of this Department on H.R. 3474, an enrolled bill "To authorize appropriations to the Energy Research and Development Administration in accordance with section 261 of the Atomic Energy Act of 1954, as amended, section 305 of the Energy Reorganization Act of 1974, and section 16 of the Federal Nonnuclear Energy Research and Development Act of 1974, and for other purposes", which is before the President for approval.

We recommend that the President approve the bill.

The enrolled bill authorizes additional appropriations to the Energy Research and Development Administration of approximately $5 billion for fiscal year 1976 and of approximately $375 million for the June 30 - September 30, 1976 transition quarter, including operating expenses, plant and capital equipment and amendment of prior year act authorizations. In addition, funds are authorized for the liquid metal fast breeder reactor program covering these fiscal periods, subject to submission to the Joint Committee on Atomic Energy. Limits on reprogramming funds are specified in the bill, as well as certain conditions on allocation of appropriations. H.R. 3474 directs ERDA to conduct an environmental and safety research, development and demonstration program related to fossil fuels. It also requires ERDA to establish a central source of information and technology in furtherance of its research, development and demonstration missions. The information must be made public subject to certain limitations for trade secrets and proprietary information. ERDA is required to make information available to other specified Federal agencies as necessary to carry out their functions and ERDA would be authorized to obtain energy information under section 11(d) of the Energy Supply and Environmental Coordination Act of 1974 (ESECA). The bill also gives the name 'Holifield Heavy Ion Research Facility' to a facility now under construction at Oak Ridge, Tennessee and changes the name of the 'Holified National Laboratory' to the 'Oak Ridge National Laboratory'. In addition, the bill prohibits air transportation of plutonium, with limited exceptions, until ERDA certifies that a safe container has been developed and tested. H.R. 3474 also amends the Atomic Energy Community Act of 1955 and would include two additional Tennessee counties in this assistance payments program.

We support generally the objective of increasing our energy research and development programs as one means of helping achieve energy independence for the Nation. The authority provided by H.R. 3474 will facilitate the necessary effort and we therefore favor its enactment. We will anticipate working with ERDA under this legislation and in accordance with plans developed to carry out Federal energy R&D.

The provisions of the bill for an ERDA central information system (section 312) could be read as duplicating existing functions now performed by this Department and other agencies. Throughout consideration of this authorization a careful legislative record (summarized in the Congressional Record of December 11, 1975, pages H 12380-12381) was compiled which clearly shows that the authorized data gathering system is for the specific purposes of supporting ERDA's program and there was no intent to authorize duplication of existing data gathering facilities and efforts.

A similar possibility of duplication was recognized in connection with the Environmental and Safety Research authorized in Section 316 and here too the Congressional intent was made specific that there was no intent to authorize duplication of existing programs.

The Congressional intent of "no duplication" should be adhered to as the programs of ERDA are developed and executed, and as funds are provided. We would hope that your office should take appropriate steps to assure this objective.

Sincerely yours,

Stanley K. Hathaway

Secretary of the Interior

Honorable James T. Lynn
Director
Office of Management and Budget
Washington, D. C. 20503

EXECUTIVE OFFICE OF THE PRESIDENT
COUNCIL ON ENVIRONMENTAL QUALITY
722 JACKSON PLACE, N. W.
WASHINGTON, D. C. 20006

December 31, 1975

Mr. James M. Frey
Assistant Director for
Legislative Reference
Office of Management and Budget
Washington, D.C. 20503

Dear Mr. Frey:

This is in response to your request for our recommendation on Enrolled Bill H.R. 3474, authorizing appropriations to the Energy Research and Development Administration for FY 1976. The Council has reviewed this proposed legislation, including those provisions under its responsibility under the Non-nuclear Energy Research and Development Act of 1974, and recommends that the bill be signed into law.

Sincerely,

Gary Widman

Gary L. Widman
General Counsel

GENERAL COUNSEL OF THE DEPARTMENT OF DEFENSE
WASHINGTON, D. C. 20301

December 22, 1975

Honorable James T. Lynn
Director, Office of Management
and Budget
Washington, D. C. 20503

Dear Mr. Lynn:

This is in reply to your request for the views of the Department of Defense on the enrolled enactment H. R. 3474, 94th Congress, a bill "To authorize appropriations to the Energy Research and Development Administration in accordance with section 261 of the Atomic Energy Act of 1954, as amended, section 305 of the Energy Reorganization Act of 1974, and section 16 of the Federal Nonnuclear Energy Research and Development Act of 1974, and for other purposes."

The Department of Defense recommends that H. R. 3474 be signed by the President.

Sincerely,

L. Niederlehner
Acting General Counsel

To. J. Cavanaugh 12-29-75 10:00 a.m.

EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF MANAGEMENT AND BUDGET
WASHINGTON, D.C. 20503

DEC 27 1975

MEMORANDUM FOR THE PRESIDENT

Subject: Enrolled Bill H.R. 3474 - Energy Research and Development Administration Authorization
Sponsor - Rep. Price (D) Illinois and Rep. Teague (D) Texas

Last Day for Action

December 31, 1975 - Wednesday

Purpose

To authorize appropriations for the Energy Research and Development Administration for fiscal year 1976 and the transition period from July 1, 1976 to September 30, 1976.

Agency Recommendations

Office of Management and Budget	Approval
Energy Research and Development Administration	Approval
Department of the Interior	Approval
Department of Defense	Approval
Federal Energy Administration	Approval
National Science Foundation	No objection
Nuclear Regulatory Commission	No comment
Council on Environmental Quality	No comment (Informally)
National Security Council	No comment
Environmental Protection Agency	No recommendation
Department of Transportation	Defer to ERDA

Discussion

H.R. 3474 is the first annual authorization bill for the new Energy Research and Development Administration (ERDA). The enrolled bill authorizes funds for fiscal year 1976 and for the transition quarter and makes other changes in the ERDA authorizing legislation.

EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF MANAGEMENT AND BUDGET

DATE: 12-29-75

TO: Robert D. Linder

FROM: James M. Frey

Attached is the NSC views letter on H.R. 3474 for inclusion in the enrolled bill file.

OMB FORM 38
REV AUG 73

MEMORANDUM 8366

NATIONAL SECURITY COUNCIL

December 23, 1975

MEMORANDUM FOR: JAMES M. FREY

FROM: Jeanne W. Davis

SUBJECT: H.R. 3474 -

The NSC Staff has no objection to H.R. 3474 - ERDA Appropriations for FY-1976.

THE WHITE HOUSE

ACTION MEMORANDUM WASHINGTON LOG NO.: 1570

Date: December 29 Time: 1100am

FOR ACTION: Glenn Schleede
Max Friedersdorf
Ken Lazarus
Bill Seidman

cc (for information): Jack Marsh
Jim Cavanaugh
Warren Hendriks

FROM THE STAFF SECRETARY

DUE: Date: December 30 Time: noon

SUBJECT:

H.R. 3474 - ERDA Authorization

ACTION REQUESTED:

____ For Necessary Action ____ For Your Recommendations

____ Prepare Agenda and Brief ____ Draft Reply

x For Your Comments ____ Draft Remarks

REMARKS:

Please return to Judy Johnston, Ground Floor West Wing

PLEASE ATTACH THIS COPY TO MATERIAL SUBMITTED.

If you have any questions or if you anticipate a delay in submitting the required material, please telephone the Staff Secretary immediately.

THE WHITE HOUSE

ACTION MEMORANDUM WASHINGTON LOG NO.: 1570

Date: December 29 Time: 1100am

FOR ACTION: Glenn Schleede
Max Friedersdorf
Ken Lazarus
Bill Seidman

cc (for information): Jack Marsh
Jim Cavanaugh
Jack Marsh

FROM THE STAFF SECRETARY

DUE: Date: December 30 Time: noon

SUBJECT:

H.R. 3474 - ERDA Authorization

ACTION REQUESTED:

____ For Necessary Action ____ For Your Recommendations

____ Prepare Agenda and Brief ____ Draft Reply

X For Your Comments ____ Draft Remarks

REMARKS:

Please return to Judy Johnston, Ground Floor West Wing

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K. R. COLE, JR.
For the President

THE WHITE HOUSE

ACTION MEMORANDUM WASHINGTON LOG NO.: 1570

Date: December 29 Time: 1100am

FOR ACTION: ~~Glenn Schleede~~
Max Friedersdorf
Ken Lazarus
Bill Seidman

cc (for information): Jack Marsh
Jim Cavanaugh
Warren Hendriks

FROM THE STAFF SECRETARY

DUE: Date: December 30 Time: noon

SUBJECT:

H.R. 3474 - ERDA Authorization

ACTION REQUESTED:

____ For Necessary Action ____ For Your Recommendations

____ Prepare Agenda and Brief ____ Draft Reply

x For Your Comments ____ Draft Remarks

REMARKS:

Please return to Judy Johnston, Ground Floor West Wing

Recommend approval Schleede

PLEASE ATTACH THIS COPY TO MATERIAL SUBMITTED.

If you have any questions or if you anticipate a delay in submitting the required material, please telephone the Staff Secretary immediately.

THE WHITE HOUSE

WASHINGTON

December 30, 1975

MEMORANDUM FOR: JIM CAVANAUGH

FROM: MAX L. FRIEDERSDORF MLF

SUBJECT: H.R. 3474 - ERDA Authorization

The Office of Legislative Affairs concurs with the agencies that the subject bill be signed.

Attachments

THE WHITE HOUSE

ACTION MEMORANDUM WASHINGTON LOG NO.: 1570

Date: December 29 Time: 1100am

FOR ACTION: Glenn Schleede
Max Friedersdorf
Ken Lazarus
Bill Seidman

cc (for information): Jack Marsh
Jim Cavanaugh
Warren Hendriks

FROM THE STAFF SECRETARY

DUE: Date: December 30 Time: noon

SUBJECT:

H.R. 3474 - ERDA Authorization

ACTION REQUESTED:

____ For Necessary Action ____ For Your Recommendations

____ Prepare Agenda and Brief ____ Draft Reply

X For Your Comments ____ Draft Remarks

REMARKS:

Please return to Judy Johnston, Ground Floor West Wing

No objection. -- Ken Lazarus 12/30/75

PLEASE ATTACH THIS COPY TO MATERIAL SUBMITTED.

If you have any questions or if you anticipate a delay in submitting the required material, please telephone the Staff Secretary immediately.

Ninety-fourth Congress of the United States of America

AT THE FIRST SESSION

Begun and held at the City of Washington on Tuesday, the fourteenth day of January, one thousand nine hundred and seventy-five

An Act

To authorize appropriations to the Energy Research and Development Administration in accordance with section 261 of the Atomic Energy Act of 1954, as amended, section 305 of the Energy Reorganization Act of 1974, and section 16 of the Federal Nonnuclear Energy Research and Development Act of 1974, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

TITLE I—AUTHORIZATION OF APPROPRIATIONS FOR FISCAL YEAR 1976

SEC. 101. There is hereby authorized to be appropriated to the Energy Research and Development Administration in accordance with the provisions of section 261 of the Atomic Energy Act of 1954, as amended (42 U.S.C. 2017), section 305 of the Energy Reorganization Act of 1974 (42 U.S.C. 5875), and section 16 of the Federal Nonnuclear Energy Research and Development Act of 1974 (42 U.S.C. 5915):

(a) For "Operating expenses", for the following programs, a sum of dollars equal to the total of the following amounts:

(1) FOSSIL ENERGY DEVELOPMENT.—

(A) Coal liquefaction:
Costs, $96,897,000.
Changes in selected resources, $665,000.

(B) High Btu gasification (coal):
Costs, $37,838,000.
Changes in selected resources, $20,526,000.

(C) Low Btu gasification (coal):
Costs, $54,671,000.
Changes in selected resources, (minus) $4,282,000.

Provided, That not less than 20 per centum of the funds appropriated pursuant to this subparagraph (C) shall be used for in situ processes.

(D) Advanced power systems (coal):
Costs, $8,261,000.
Changes in selected resources, $2,340,000.

(E) Direct combustion (coal):
Costs, $32,645,000.
Changes in selected resources, $5,451,000.

(F) Advanced research and supporting technology (coal), for the following:

(i) Advanced coal conversion process:
Costs, $13,000,000.
Changes in selected resources, $1,000,000.

(ii) Advanced direct coal utilization process:
Costs, $4,600,000.
Changes in selected resources, $400,000.

(iii) Advanced supporting research:
Costs, $8,374,000.
Changes in selected resources, $119,000.

(iv) System studies:
Costs, $9,087,000.
Changes in selected resources, $2,813,000.
(G) Demonstration plants (coal):
Costs, $18,100,000.
Changes in selected resources, $18,900,000.
(H) Natural gas and oil extraction:
Costs, $32,865,000.
Changes in selected resources, $8,564,000.
(I) Natural gas and oil utilization:
Costs, $1,582,000.
Changes in selected resources, $215,000.
(J) Oil shale in situ processing:
Costs, $16,000,000.
Changes in selected resources, $3,000,000.
(K) Oil shale composition and characterization:
Costs, $1,113,000.
Changes in selected resources, $152,000.
(L) Magnetohydrodynamics:
Costs, $22,340,000.
Changes in selected resources, $12,160,000.

(2) SOLAR ENERGY DEVELOPMENT:
Costs, $97,100,000.
Changes in selected resources, $62,425,000.

(3) GEOTHERMAL ENERGY DEVELOPMENT:
Costs, $34,750,000.
Changes in selected resources, $8,520,000.

(4) CONSERVATION RESEARCH AND DEVELOPMENT.—
(A) Electric Power Transmission:
Costs, $11,830,000.
Changes in selected resources, $300,000.
(B) Advanced Transportation Power Systems:
Costs, $19,000,000.
Changes in selected resources, $4,500,000.
(C) Energy Storage Systems:
Costs, $23,100,000.
Changes in selected resources, $5,700,000.
(D) End-use Conservation:
Costs, $31,000,000.
Changes in selected resources, $18,650,000.
(E) Improved Conversion Efficiency:
Costs, $12,625,000.
Changes in selected resources, $3,000,000.
(F) Urban Waste Conversion:
Costs, $10,000,000.
Changes in selected resources, $5,000,000.

(5) NUCLEAR ENERGY AND OTHER PROGRAMS.—$3,158,970,000, of which a sum of dollars for the following programs equal to the total of the following amounts is included:
(A) Scientific and technical education in support of Nonnuclear Energy Technologies:
Costs, $4,500,000.
Changes in selected resources, $1,350,000.
(B) General new programs in Environmental and Safety Research in support of nonnuclear energy technology:
Costs, $22,100,000.
Changes in selected resources, $7,700,000.

(C) For use as provided in section 316 of this Act:
Costs, $4,000,000.
Changes in selected resources, $1,000,000.

(D) Nonpulmonary health studies on miners and people living in areas subjected to a high incidence of sulphur oxides and trace elements:
Costs, $400,000.
Changes in selected resources, $100,000.

(E) New programs of physical research in molecular and materials sciences in support of nonnuclear technologies:
Costs, $15,725,000.
Changes in selected resources, $3,750,000.

(F) $2,750,000 shall be available pursuant to sections 14 and 16 of the Federal Nonnuclear Energy Research and Development Act of 1974 (42 U.S.C. 5913 and 5915) as follows:
(i) $1,250,000 for the National Bureau of Standards;
(ii) $500,000 for the Council on Environmental Quality; and
(iii) $1,000,000 for the Water Resources Council.

(b) For "Plant and capital equipment", including construction, acquisition, or modification of facilities, including land acquisition; and acquisition and fabrication of capital equipment not related to construction, a sum of dollars equal to the total of the following amounts:

FOSSIL ENERGY DEVELOPMENT

(1) COAL.—
Project 76–1–a, clean boiler fuel demonstration plant (A–E and long-lead procurement), $20,000,000.
Project 76–1–b, High Btu synthetic pipeline gas demonstration plant (A–E and long-lead procurement), $20,000,000.
Project 76–1–c, Low Btu fuel gas demonstration plant, (A–E and long-lead procurement), $15,000,000.
Project 76–1–d, Fluidized bed direct combustion demonstration plant, $13,000,000.

SOLAR, GEOTHERMAL, AND ADVANCED ENERGY SYSTEMS DEVELOPMENT

(2) SOLAR ENERGY DEVELOPMENT.—
Project 76–2–a, Five megawatt solar thermal test facility, $5,000,000.
Project 76–2–b, Ten megawatt central receiver solar thermal powerplant, (A–E and long-lead procurement), $5,000,000.

(3) GEOTHERMAL ENERGY DEVELOPMENT.—
Project 76–3–a, Geothermal powerplant (steam) (A–E and long-lead procurement), $5,000,000.
Project 76–3–b, Geothermal powerplant (A–E and long-lead procurement), $5,000,000.

(4) PHYSICAL RESEARCH.—
Project 76–4–a, accelerator and reactor improvements and modifications, $4,000,000.

NUCLEAR ENERGY DEVELOPMENT

(5) FUSION POWER RESEARCH AND DEVELOPMENT.—
Project 76–5–a, Tokamak fusion test reactor, Princeton Plasma Physics Laboratory, Plainsboro, New Jersey, $23,000,000.
Project 76–5–b, 14 Mev intense neutron source facility, Los Alamos Scientific Laboratory, New Mexico, $22,100,000.

Project 76-5-c, 14 Mev high intensity neutron facility, Lawrence Livermore Laboratory, California, $5,000,000.

(6) FISSION POWER REACTOR DEVELOPMENT.—

Project 76-6-a, modifications to reactors, $4,000,000.

Project 76-6-b, sodium components test installation steam and feedwater system modification, Liquid Metal Engineering Center, Santa Susana, California, $7,700,000.

(7) FISSION POWER REACTOR DEVELOPMENT.—

Project 76-7-a, test reactor area fire main replacement, Idaho National Engineering Laboratory, Idaho, $2,200,000.

(8) NUCLEAR MATERIALS.—

Project 76-8-a, additional facilities, high level waste storage, Savannah River, South Carolina, $68,000,000.

Project 76-8-b, additional high level waste storage facilities, Richland, Washington, $35,000,000.

Project 76-8-c, supplemental N reactor irradiated fuel storage, Richland, Washington, $2,500,000.

Project 76-8-d, uprate electrical switchyards for Roane substation, Oak Ridge, Tennessee, $8,100,000.

Project 76-8-e, conversion of existing steam plants to coal capability, gaseous diffusion plants and Feed Materials Production Center, Fernald, Ohio, $12,200,000.

Project 76-8-f, radioactive liquid waste system improvements, Idaho Chemical Processing Plant, Idaho National Engineering Laboratory, Idaho, $5,800,000.

Project 76-8-g, additional facilities, enriched uranium production, locations undetermined, $25,000,000.

NATIONAL SECURITY

(9) WEAPONS.—

Project 76-9-a, MK-12A MINUTEMAN III production facilities, various locations, $3,000,000.

Project 76-9-b, plutonium metallurgy building modifications, Lawrence Livermore Laboratory, California, $1,000,000.

Project 76-9-c, limited life component exchange facility, Charleston, South Carolina, $13,900,000.

Project 76-9-d, water control and recycle project, Rocky Flats, Colorado, $3,100,000.

(10) WEAPONS.—

Project 76-10-a, fire wall construction, Bendix Plant, Kansas City, Missouri, $2,000,000.

Project 76-10-b, fire protection improvements, Los Alamos Scientific Laboratory, New Mexico, $1,450,000.

Project 76-10-c, PHERMEX enhancement, Los Alamos Scientific Laboratory, New Mexico, $6,150,000.

ENVIRONMENTAL AND SAFETY RESEARCH

(11) BIOMEDICAL AND ENVIRONMENTAL RESEARCH.—

Project 76-11-a, modifications and additions to biomedical and environmental research facilities, $3,200,000.

Project 76-11-b, inhalation toxicology research facilities, $6,800,000.

(12) GENERAL PLANT PROJECTS.—$61,670,000.

(13) CONSTRUCTION PLANNING AND DESIGN.—$6,000,000.

(14) SAFEGUARDS AND FACILITY UPGRADING.—

Project 76-14, safeguard and security upgrading, various locations, $32,800,000.

CAPITAL EQUIPMENT NOT RELATED TO CONSTRUCTION

(15) CAPITAL EQUIPMENT.—Acquisition and fabrication of capital equipment not related to construction, for the following programs, a sum of dollars equal to the total of the following amounts:

(A) Fossil energy development, $425,000.

(B) Solar energy development, $3,000,000.

(C) Geothermal energy development, $3,120,000.

(D) Conservation research and development including improved conversion efficiency, $11,500,000.

(E) Physical research in molecular and materials sciences in support of nonnuclear energy technology, $4,600,000.

(F) Environmental and safety research in support of nonnuclear energy technology, $2,000,000.

(G) Nuclear energy and other programs, $237,502,000.

SEC. 102. LIMITATIONS.—(a) The Administration is authorized to start any project set forth in subsections 101(b) (4), (5), (6), (8), (9), (11), and (14) only if the currently estimated cost of that project does not exceed by more than 25 per centum the estimated cost set forth for that project.

(b) The Administration is authorized to start any project set forth in subsections 101(b) (7) and (10) only if the currently estimated cost of that project does not exceed by more than 10 per centum the estimated cost set forth for that project.

(c) The Administration is authorized to start any project under subsection 101(b) (12) only if it is in accordance with the following:

(1) The maximum currently estimated cost of any project shall be $750,000 and the maximum currently estimated cost of any building included in such project shall be $300,000: *Provided*, That the building cost limitation may be exceeded if the Administration determines that it is necessary in the interest of efficiency and economy.

(2) The total cost of all projects undertaken under subsection 101(b) (12) shall not exceed the estimated cost set forth in that section by more than 10 per centum.

(d) The total cost of any project undertaken under subsections 101 (b) (4), (5), (6), (8), (9), (11), and (14) shall not exceed the estimated cost set forth for that project by more than 25 per centum unless and until additional appropriations are authorized under section 261 of the Atomic Energy Act of 1954, as amended: *Provided*, That this subsection will not apply to any project with an estimated cost less than $5,000,000.

(e) The total cost of any project undertaken under subsection 101 (b) (7) and (10) shall not exceed the estimated cost set forth for that project by more than 10 per centum, unless and until additional appropriations are authorized under section 261 of the Atomic Energy Act of 1954, as amended: *Provided*, That this subsection will not apply to any project with an estimated cost less than $5,000,000.

SEC. 103. AMENDMENT OF PRIOR YEAR ACTS.—(a) Section 101 of Public Law 91-273, as amended, is further amended by (1) striking from subsection (b) (1), project 71-1-f, process equipment modifications, gaseous diffusion plants, the figure "$295,100,000" and substituting therefor the figure "$478,100,000"; and (2) striking from subsection (b) (9), project 71-9, fire, safety, and adequacy of operating conditions projects, various locations, the figure "$193,000,000" and substituting therefor the figure "$240,000,000".

(b) Section 101 of Public Law 93–60, as amended, is further amended by (1) striking from subsection (b) (1), project 74–1–g, cascade uprating program, gaseous diffusion plants, the figure "$183,100,000" and substituting therefor the figure "$259,600,000"; and (2) striking from subsection (b) (2), project 74–2–c, high energy laser facility, Lawrence Livermore Laboratory, California, the figure "$20,000,000" and substituting therefor the figure "$25,000,000".

(c) Section 101 of Public Law 93–276 is amended by (1) striking from subsection (b) (1), project 75–1–a, additional facilities, high level waste handling and storage, Savannah River, South Carolina, the figure "$30,000,000" and substituting therefor the figure "$33,000,000"; (2) striking from subsection (b) (1), project 75–1–c, new waste calcining facility, Idaho Chemical Processing Plant, National Reactor Testing Station, Idaho, the figure "$20,000,000" and substituting therefor the figure "$27,500,000"; (3) striking from subsection (b) (3), project 75–3–e, addition to building 350 for safeguards analytical laboratory, Argonne National Laboratory, Illinois, the figure "$3,500,000" and substituting therefor the figure "$4,300,000"; (4) striking from subsection (b) (6), project 75–6–c, positron-electron joint project, Lawrence Berkeley Laboratory and Stanford Linear Accelerator Center, the figure "$900,000" and substituting therefor the figure "$11,900,000"; and (5) striking from subsection (b) (7), project 75–7–c, intermediate-level waste management facilities, Oak Ridge National Laboratory, Tennessee, the figure "$9,500,000" and substituting therefor the figure "$10,500,000".

(d) Section 106 of Public Law 91–273, as amended, is further amended by deleting the present text thereof and substituting therefor the following:

SEC. 104. RESCISSIONS.—(a) Public Law 92–314, as amended, is further amended by rescinding therefrom authorization for a project, except for funds heretofore obligated, as follows:

Project 73–5–d, modifications to TREAT facility, National Reactor Testing Station, Idaho, $1,500,000.

(b) Public Law 93–60, as amended, is further amended by rescinding therefrom authorization for a project, except for funds heretofore obligated, as follows:

Project 74–3–e, modifications to TREAT facility, National Reactor Testing Station, Idaho, $2,500,000.

(c) Public Law 93–276, as amended, is further amended by rescinding therefrom authorization for projects, except for funds heretofore obligated, as follows:

Project 75–13–a, hydrothermal pilot plant, $1,000,000.

Project 75–5–e, high temperature gas reactor fuel reprocessing facility, National Reactor Testing Station, Idaho, $10,100,000.

Project 75–5–f, high temperature gas reactor fuel refabrication pilot plant, Oak Ridge National Laboratory, Tennessee, $3,000,000.

TITLE II—AUTHORIZATION OF APPROPRIATIONS FOR THE PERIOD JULY 1, 1976, THROUGH SEPTEMBER 30, 1976

SEC. 201. There is hereby authorized to be appropriated to the Energy Research and Development Administration in accordance with the provisions of section 261 of the Atomic Energy Act of 1954, as amended (42 U.S.C. 2017), section 305 of the Energy Reorganization Act of 1974 (42 U.S.C. 5875), and section 16 of the Federal Nonnuclear Energy Research and Development Act of 1974 (42 U.S.C. 5915):

(a) For "Operating expenses", for the following programs, a sum of dollars equal to the total of the following amounts:

(1) FOSSIL ENERGY DEVELOPMENT.—

(A) Coal liquefaction:
Costs, $16,000,000.
Changes in selected resources, $12,750,000.

(B) High Btu gasification (coal):
Costs, $7,450,000.
Changes in selected resources, $1,800,000.

(C) Low Btu gasification (coal):
Costs, $7,300,000.
Changes in selected resources, $5,350,000.

Provided, That not less than 20 per centum of the funds appropriated pursuant to this subparagraph (C) shall be used for in situ processes.

(D) Advanced power systems (coal):
Costs, $2,050,000.
Changes in selected resources, $1,450,000.

(E) Direct combustion (coal):
Costs, $5,100,000.
Changes in selected resources, $9,800,000.

(F) Advanced research and supporting technology (coal), for the following:

(i) Advanced coal conversion process:
Costs, $2,100,000.
Changes in selected resources, $1,900,000.

(ii) Advanced direct coal utilization process:
Costs, $500,000.
Changes in selected resources, $500,000.

"SEC. 106. LIQUID METAL FAST BREEDER REACTOR DEMONSTRATION PROGRAM—FOURTH ROUND.—(a) The Energy Research and Development Administration (ERDA) is hereby authorized to enter into cooperative arrangements with reactor manufacturers and others for participation in the research and development, design, construction, and operation of a Liquid Metal Fast Breeder Reactor powerplant, in accordance with criteria approved by the Joint Committee on Atomic Energy, without regard to the provisions of section 169 of the Atomic Energy Act of 1954, as amended. Appropriations are hereby authorized for the period consisting of the fiscal year ending June 30, 1976, and the interim period following that fiscal year and ending September 30, 1976, for the aforementioned cooperative arrangements as shown in the basis for arrangements as submitted in accordance with subsection (b) hereof. In addition, ERDA may agree to provide assistance in the form of waiver of use charges during the term of the cooperative arrangements without regard to the provisions of section 53 of the Atomic Energy Act, as amended, by waiving use charges in an amount not to exceed $10,000,000.

"(b) Before ERDA enters into any arrangement or amendment thereto under the authority of subsection (a) of this section, the basis for the arrangement or amendment thereto which ERDA proposes to execute (including the name of the proposed participating party or parties with which the arrangement is to be made, a general description of the proposed powerplant, the estimated amount of cost to be incurred by ERDA and by the participating parties, and the general features of the proposed arrangement or amendment) shall be submitted to the Joint Committee on Atomic Energy, and a period of forty-five days shall elapse while Congress is in session (in computing such forty-five days, there shall be excluded the days on which either

House is not in session because of adjournment for more than three days): *Provided, however*, That the Joint Committee, after having received the basis for a proposed arrangement or amendment thereto, may by resolution in writing waive the conditions of all, or any portion of, such forty-five-day period: *Provided, further*, That such arrangement or amendment shall be entered into in accordance with the basis for the arrangement or amendment submitted as provided herein: *And provided further*, That no basis for arrangement need be resubmitted to the Joint Committee for the sole reason that the estimated amount of the cost to be incurred by ERDA exceeds the estimated cost previously submitted to the Joint Committee by not more than 15 per centum. Notwithstanding the foregoing, ERDA, in each of its annual budget submissions, shall submit for the information and review of the Joint Committee in the exercise of its oversight responsibility, the anticipated obligations and costs for the ensuing fiscal year for the project authorized under subsection (a) of this section.

"(c) The ERDA is hereby authorized to agree, by modification to the definitive cooperative arrangement reflecting such changes therein as it deems appropriate for such purpose, to the following: (1) to execute and deliver to the other parties to the definitive contract, the special undertakings of indemnification specified in said contract, which undertakings shall be subject to availability of appropriations to ERDA and to the provisions of section 3679 of the Revised Statutes, as amended; and (2) to acquire ownership and custody of the property constituting the Liquid Metal Fast Breeder Reactor powerplant or parts thereof, and to use, decommission, and dispose of said property, as provided for in the definitive contract."

(iii) Advanced supporting research:
Costs, $1,400,000.
Changes in selected resources, $450,000.
(iv) Systems studies:
Costs, $1,400,000.
Changes in selected resources, $1,600,000.
(G) Demonstration plants (coal):
Costs, $4,100,000.
Changes in selected resources, $4,900,000.
(H) Natural gas and oil extraction:
Costs, $9,930,000.
Changes in selected resources, $600,000.
(I) Natural gas and oil utilization:
Costs, $500,000.
Changes in selected resources (minus) $50,000.
(J) Oil shale in situ processing:
Costs, $4,241,000.
Changes in selected resources, $529,000.
(K) Oil shale composition and characterization:
Costs, $300,000.
Changes in selected resources, $0.
(L) Magnetohydrodynamics.
Costs, $6,700,000.
Changes in selected resources, $1,700,000.
(2) SOLAR ENERGY DEVELOPMENT.—
Costs, $24,500,000.
Changes in selected resources, $19,203,000.
(3) GEOTHERMAL ENERGY DEVELOPMENT.—
Costs, $10,100,000.
Changes in selected resources, $850,000.

(4) CONSERVATION RESEARCH AND DEVELOPMENT.—
(A) Electric Power Transmission:
Costs, $2,673,000.
Changes in selected resources (minus) $100,000.
(B) Advanced Transportation Power Systems:
Costs, $4,750,000.
Changes in selected resources, $1,060,000.
(C) Energy Storage Systems:
Costs, $5,400,000.
Changes in selected resources, $900,000.
(D) End-use Conservation:
Costs, $8,000,000.
Changes in selected resources, $2,000,000.
(E) Improved Conversion Efficiency:
Costs, $3,475,000.
Changes in selected resources, $1,100,000.
(F) Urban Waste Conversion:
Costs, $2,500,000.
Changes in selected resources, $1,250,000.

(5) NUCLEAR ENERGY AND OTHER PROGRAMS.—$914,849,000, of which a sum of dollars for the following programs equal to the total of the following amounts is included:

(A) Scientific and technical education in support of Nonnuclear Energy Technologies:
Costs, $1,125,000.
Changes in selected resources, $337,000.

(B) General new programs in Environmental and Safety Research in support of nonnuclear energy technology:
Costs, $5,525,000.
Changes in selected resources, $1,919,000.

(C) For use as provided in section 316 of this Act:
Costs, $1,000,000.
Changes in selected resources, $250,000.

(D) Nonpulmonary health studies on miners and people living in areas subjected to a high incidence of sulphur oxides and trace elements:
Costs, $100,000.
Changes in selected resources, $25,000.

(E) New programs of physical research in molecular and materials sciences in support of nonnuclear technologies:
Costs, $3,931,000.
Changes in selected resources, $1,168,000.

(F) $687,000 shall be available pursuant to sections 14 and 16 of the Federal Nonnuclear Energy Research and Development Act of 1974 (42 U.S.C. 5913 and 5915) as follows:
(i) $312,000 for the National Bureau of Standards;
(ii) $125,000 for the Council on Environmental Quality; and
(iii) $250,000 for the Water Resources Council.

(b) For "Plant and capital equipment", including construction, acquisition, or modification of facilities, including land acquisition; and acquisition and fabrication of capital equipment not related to construction, a sum of dollars equal to the total of the incremental amounts of the following:

FOSSIL ENERGY DEVELOPMENT

(1) COAL.—

Project 76–1–a, clean boiler fuel demonstration plant (A–E and long-lead procurement), $8,000,000.

Project 76–1–b, High Btu synthetic pipeline gas demonstration plant (A–E and long-lead procurement), $5,000,000.

Project 76–1–c, Low Btu fuel gas demonstration plant (A–E and long-end procurement), $3,750,000.

Project 76–1–d, Fluidized bed direct combustion demonstration plant, $3,250,000.

SOLAR, GEOTHERMAL, AND ADVANCED ENERGY SYSTEMS DEVELOPMENT

(2) SOLAR ENERGY DEVELOPMENT.—

Project 76–2–a, Five megawatt solar thermal test facility, $1,250,000.

Project 76–2–b, Ten megawatt central receiver solar thermal powerplant (A–E and long-lead procurement), $1,250,000.

(3) GEOTHERMAL ENERGY DEVELOPMENT.—

Project 76–3–a, Geothermal powerplant (steam) (A–E and long-lead procurement), $1,250,000.

Project 76–3–b, Geothermal powerplant (A–E and long-lead procurement), $1,250,000.

(4) PHYSICAL RESEARCH.—

Project 76–4–a, accelerator and reactor improvements and modifications, $1,000,000.

NUCLEAR ENERGY DEVELOPMENT

(5) FUSION POWER RESEARCH AND DEVELOPMENT.—

Project 76–5–a, tokamak fusion test reactor, Princeton Plasma Physics Laboratory, Plainsboro, New Jersey, $7,000,000.

(6) GENERAL PLANT PROJECTS.—$15,900,000.

(7) CONSTRUCTION PLANNING AND DESIGN.—$1,500,000.

CAPITAL EQUIPMENT NOT RELATED TO CONSTRUCTION

(8) CAPITAL EQUIPMENT.—

Acquisition and fabrication of capital equipment not related to construction, for the following programs, a sum of dollars equal to the total of the following amounts:

(A) Fossil energy development, $200,000.

(B) Geothermal energy development, $200,000.

(C) Conservation research and development including improved conversion efficiency, $2,900,000.

(D) Physical research in molecular and materials sciences in support of nonnuclear energy technology, $1,037,000.

(E) Environmental and safety research in support of nonnuclear energy technologies, $500,000.

(F) Nuclear energy and other programs, $58,086,000.

SEC. 202. LIMITATIONS.—(a) The Administration is authorized to start any project set forth in subsections 201(b) (4) and (5) only if the currently estimated cost of that project does not exceed by more than 25 per centum the estimated cost set forth for that project.

(b) The Administration is authorized to start any project under subsection 201(b) (6) only if it is in accordance with the following:

(1) The maximum currently estimated cost of any project shall be $750,000 and the maximum currently estimated cost of any building included in such project shall be $300,000: *Provided*,

That the building cost limitation may be exceeded if the Administration determines that it is necessary in the interest of efficiency and economy.

(2) The total cost of all projects undertaken under subsection 201(b)(6) shall not exceed the estimated cost set forth in that subsection by more than 10 per centum.

(c) The total cost of any project undertaken under subsection 201 (b) (4) and (5) shall not exceed the estimated cost set forth for that project by more than 25 per centum, unless and until additional appropriations are authorized under section 261 of the Atomic Energy Act of 1954, as amended: *Provided*, That this subsection will not apply to any project with an estimated cost less than $5,000,000.

SEC. 203. AMENDMENT OF PRIOR YEAR ACTS.—(a) Section 101 of Public Law 91–273, as amended, is further amended by striking from subsection (b)(1), project 71–1–f, process equipment modifications, gaseous diffusion plants, the figure "$478,100,000" and substituting therefor the figure "$510,100,000".

(b) Section 101 of Public Law 93–60, as amended, is further amended by striking from subsection (b)(1), project 74–1–g, cascade uprating program, gaseous diffusion plants, the figure "$259,600,000" and substituting therefor the figure "$270,400,000".

TITLE III—GENERAL PROVISIONS

PART A—PROVISIONS RELATING TO PROGRAMS OTHER THAN FOSSIL ENERGY DEVELOPMENT

SEC. 301. The Administrator is authorized to perform construction design services for any Administration construction project whenever (1) such construction project has been included in a proposed authorization bill transmitted to the Congress by the Administrator, and (2) the Administrator determines that the project is of such urgency that construction of the project should be initiated promptly upon enactment of legislation appropriating funds for its construction.

SEC. 302. Any moneys received by the Administration may be retained and used for operating expenses (except sums received from disposal of property under the Atomic Energy Community Act of 1955 and the Strategic and Critical Materials Stockpiling Act, as amended, and fees received for tests or investigations under the Act of May 16, 1910, as amended (42 U.S.C. 2301; 50 U.S.C. 98h; 30 U.S.C. 7)), notwithstanding the provisions of section 3617 of the Revised Statutes (31 U.S.C. 484), and may remain available until expended.

SEC. 303. Transfers of sums from the "Operating expenses" appropriation may be made to other agencies of the Government for the performance of the work for which the appropriation is made, and in such cases the sums so transferred, may be merged with the appropriation to which transferred.

SEC. 304. Sections 301, 302, and 303 of this Act do not apply to fossil energy development programs of the Administration.

PART B—PROVISIONS RELATING TO NONNUCLEAR ENERGY DEVELOPMENT

SEC. 305. REPROGRAMING AUTHORITY.—Except as provided in part C of this title—

(1) no amount appropriated pursuant to this Act may be used for any nonnuclear program in excess of the amount actually authorized for that particular program by this Act,

(2) no amount appropriated pursuant to this Act may be used for any nonnuclear program which has not been presented to, or requested of, the Congress,

unless (A) a period of thirty calendar days (not including any day in which either House of Congress is not in session because of adjournment of more than three calendar days to a day certain) has passed after the receipt by the Committee on Science and Technology of the House of Representatives and the Committee on Interior and Insular Affairs of the Senate of notice given by the Administrator containing a full and complete statement of the action proposed to be taken and the facts and circumstances relied upon in support of such proposed action, or (B) each such committee before the expiration of such period has transmitted to the Administrator written notice to the effect that such committee has no objection to the proposed action: *Provided*, That the following categories may not, as a result of reprograming, be decreased by more than 10 per centum of the sums appropriated pursuant to this Act for such categories: Coal, petroleum and natural gas, oil shale, solar, geothermal, and conservation.

SEC. 306. The Administrator shall submit to the Committee on Science and Technology of the House of Representatives and the Committee on Interior and Insular Affairs of the Senate a detailed explanation of the allocation of the funds appropriated pursuant to sections 101(a) and 201(a) of this Act for nonnuclear energy programs and subprograms, reflecting the relationships, consistencies, and dissimilarities between those allocations and (a) the comprehensive program definition transmitted pursuant to section 102 of the Geothermal Energy Research, Development, and Demonstration Act, (b) the comprehensive program definition transmitted pursuant to section 15 of the Solar Energy Research, Development, and Demonstration Act of 1974 (42 U.S.C. 5564), (c) the comprehensive nonnuclear energy research development, and (d) demonstrations transmitted pursuant to section 6 of the Federal Nonnuclear Energy Research and Development Act of 1974 (42 U.S.C. 5905).

SEC. 307. When so specified in an appropriation Act, any amount appropriated pursuant to this Act for "Operating expenses" or for "Plant and capital equipment" for nonnuclear energy may remain available until expended.

SEC. 308. The Administrator shall, by June 30, 1976, and by the end of each fiscal year thereafter, submit a report to the Committee on Science and Technology of the House of Representatives and the Committee on Interior and Insular Affairs of the Senate detailing the extent to which small business and nonprofit organizations are being funded by the nonnuclear research, development, and demonstration programs of the Administrator, and the extent to which small business involvement pursuant to section 2(d) of the Energy Reorganization Act of 1974 (42 U.S.C. 5801(d)) is being encouraged by the Administrator.

SEC. 309. The Administrator shall coordinate nonnuclear programs of the Administration with the heads of relevant Federal agencies in order to minimize unnecessary duplication of programs, projects, and research facilities.

SEC. 310. The Administrator shall, as soon as practicable and consistent with design, economic, and feasibility studies, include in an annual authorization proposal a recommendation on construction of at least one demonstration offshore wind-electric generating facility.

SEC. 311. As a part of the annual report required by section 15(a)(1) of the Federal Nonnuclear Energy Research and Development Act of 1974 (42 U.S.C. 5914(a)(1)), the Administrator shall:

(a) detail the Solar Energy Division personnel level recommended for the current fiscal year by the Administrator and submitted to the Office of Management and Budget, and the personnel level authorized upon review by that Office; and

(b) detail progress toward completion by January 1, 1980, of the objectives of the Solar Energy Research Development, and Demonstration Act of 1974 (42 U.S.C. 5551, et seq.).

SEC. 312. The Federal Nonnuclear Energy Research and Development Act of 1974 (42 U.S.C. 5901) is amended by adding at the end thereof the following new section:

"CENTRAL SOURCE OF NONNUCLEAR ENERGY INFORMATION

"SEC. 17. The Administrator shall promptly establish, develop, acquire, and maintain a central source of information on all energy resources and technology in furtherance of the Administrator's research, development, and demonstration mission carried out directly or indirectly under this Act. When the Administrator determines that such information is needed to carry out the purposes of this Act, he may acquire proprietary and other information (a) by purchase through negotiation or by donation from any person, or (b) from another Federal agency. The information maintained by the Administrator shall be made available to the public, subject to the provisions of section 552 of title 5, United States Code, and section 1905 of title 18, United States Code, and to other Government agencies in a manner that will facilitate its dissemination: *Provided*, That upon a showing satisfactory to the Administrator by any person that any information, or portion thereof, obtained under this section by the Administrator directly or indirectly from such person, would, if made public, divulge (1) trade secrets or (2) other proprietary information of such person, the Administrator shall not disclose such information and disclosure thereof shall be punishable under section 1905 of title 18, United States Code: *Provided further*, That the Administrator shall, upon request, provide such information to (A) any delegate of the Administrator for the purpose of carrying out this Act, and (B) the Attorney General, the Secretary of Agriculture, the Secretary of the Interior, the Federal Trade Commission, the Federal Energy Administration, the Environmental Protection Agency, the Federal Power Commission, the General Accounting Office, other Federal agencies, when necessary to carry out their duties and responsibilities under this and other statutes, but such agencies and agency heads shall not release such information to the public. This section is not authority to withhold information from Congress or any committee of Congress upon request of the chairman.".

SEC. 313. The Federal Nonnuclear Energy Research and Development Act of 1974 (42 U.S.C. 5901) is amended by adding at the end thereof (after the new section added by section 312 of this Act) the following new section:

"ENERGY INFORMATION

"SEC. 18. The Administrator is, upon request, authorized to obtain energy information under section 11(d) of the Energy Supply and Environmental Coordination Act of 1974, as amended (15 U.S.C. 796(d)).".

PART C—PROVISIONS RELATING TO FOSSIL ENERGY DEVELOPMENT

SEC. 314. Funds appropriated pursuant to this Act for "Operating expenses" for fossil energy purposes may be used for (1) any facilities which may be required at locations, other than installations of the Administration, for the performance of research and development contracts, and (2) grants to any organization for purchase or construction of research facilities. No such funds shall be used for the acquisition of land. Fee title to all such facilities shall be vested in the United States, unless the Administrator determines in writing that the programs of research and development authorized by this Act shall best be implemented by vesting fee title in an entity other than the United States: *Provided*, That, before approving the vesting of title in such entity, the Administrator shall (A) transmit such determination, together with all pertinent data, to the Committee on Science and Technology of the House of Representatives and the Committee on Interior and Insular Affairs of the Senate, and (B) wait a period of thirty calendar days (not including any day in which either House of Congress is not in session because of adjournment of more than three calendar days to a day certain), unless prior to the expiration of such period each such committee has transmitted to the Administrator written notice to the effect that such committee has no objection to the proposed action. Each grant shall be made under such conditions as the Administrator deems necessary to insure that the United States will receive therefrom benefits adequate to justify the making of the grant. No such funds shall be used under clause (1) of the first sentence of this section for the construction of any major facility the estimated cost of which, including collateral equipment, exceeds $250,000 unless the Administrator shall (i) transmit a report on such major facility showing the nature, purpose, location, and estimated cost of such facility to the Committee on Science and Technology of the House of Representatives and the Committee on Interior and Insular Affairs of the Senate, and (ii) wait a period of thirty calendar days (not including any day in which either House of Congress is not in session because of adjournment of more than three calendar days to a day certain), unless prior to the expiration of such period each such committee has transmitted to the Administrator written notice to the effect that such committee has no objection to the proposed action.

SEC. 315. Not to exceed three per centum of all funds appropriated pursuant to this Act for "Operating expenses" for fossil energy purposes may be used by the Administrator to construct, expand, or modify laboratories and other facilities, including the acquisition of land, at any location under the control of the Administrator, if the Administrator determines that (1) such action would be necessary because of changes in the national programs authorized to be funded by this Act or because of new scientific or engineering developments, and (2) deferral of such action until the enactment of the next authorization Act would be inconsistent with the policies established by Congress for the Administration. No portion of such sums may be obligated for expenditure or expended for such activities, unless (A) a period of thirty calendar days (not including any day in which either House of Congress is not in session because of adjournment of more than three calendar days to a day certain) has passed after the Administrator has transmitted to the Committee on Science and Technology of the House of Representatives and the Committee on Interior and Insular Affairs of the Senate a written report containing a full and complete statement concerning (i) the nature of construction, expan-

sion, or modification, (ii) the cost thereof, including the cost of any real estate action pertaining thereto, and (iii) the reason why such construction, expansion, or modification is necessary and in the national interest, or (B) each such committee before the expiration of such period has transmitted to the Administrator written notice to the effect that such committee has no objection to the proposed action.

SEC. 316. The Administrator shall conduct an environmental and safety research, development, and demonstration program related to fossil fuels.

TITLE IV—OAK RIDGE HOLIFIELD NATIONAL LABORATORY

SEC. 401. The Holifield National Laboratory at Oak Ridge, Tennessee, shall hereafter be known and designated as the "Oak Ridge National Laboratory". Any reference in any law, map, regulation, document, record, or other paper of the United States to the Holifield National Laboratory or to the Oak Ridge National Laboratory shall be held to be a reference to the "Oak Ridge National Laboratory".

SEC. 402. The Heavy Ion Research Facility under construction at Oak Ridge, Tennessee, is hereby designated as the "Holifield Heavy Ion Research Facility". Any reference in any law, regulation, map, record, or other document of the United States to the Heavy Ion Research Facility shall be considered a reference to the "Holifield Heavy Ion Research Facility".

TITLE V—AIR TRANSPORTATION OF PLUTONIUM

SEC. 501. The Energy Research and Development Administration shall not ship plutonium in any form by aircraft whether exports, imports, or domestic shipment: *Provided*, That any exempt shipments of plutonium, as defined by section 502, are not subject to this restriction. This restriction shall be in force until the Energy Research and Development Administration has certified to the Joint Committee on Atomic Energy of the Congress that a safe container has been developed and tested which will not rupture under crash and blast testing equivalent to the crash and explosion of a high-flying aircraft.

SEC. 502. For the purposes of this title, the term "exempt shipments of plutonium" shall include the following:

(1) Plutonium shipments in any form designed for medical application.

(2) Plutonium shipments which pursuant to rules promulgated by the Administrator of the Energy Research and Development Administration are determined to be made for purposes of national security, public health and safety, or emergency maintenance operations.

(3) Shipments of small amounts of plutonium deemed by the Administrator of the Energy Research and Development Administration to require rapid shipment by air in order to preserve the chemical, physical, or isotopic properties of the transported item or material.

TITLE VI—ASSISTANCE PAYMENTS AMENDMENTS

SEC. 601. Chapter 9 of the Atomic Energy Community Act of 1955 (42 U.S.C. 2391 et seq.) is amended—

(1) by striking out "Commission" each time it appears in sections 91 and 94, the first time it appears in section 92, and where

it appears in section 93, and inserting in each instance in lieu thereof the following: "Administrator";

(2) by striking out "atomic energy" in section 91a (2) and inserting "Energy Research and Development Administration" in lieu thereof;

(3) by striking out "its" in section 91d;

(4) by striking out "itself" in section 91e;

(5) by striking out the period at the end of the first sentence of section 91a, and inserting in lieu thereof the following: ": *Provided further*, That the Administrator is also authorized to make payments of just and reasonable sums to Anderson County and Roane County, Tennessee.";

(6) by inserting immediately after "Richland School District" in section 91d, but before the closing of parentheses, the following: "; or not less than six months prior to June 30, 1986, in the case of Anderson County and Roane County, Tennessee";

(7) by striking out "Commission" in the catchlines of sections 92 and 94;

(8) by striking out "Commission" the second time it appears in section 92, and inserting "Energy Research and Development Administration" in lieu thereof; and

(9) by striking out the final period in section 93 and inserting in lieu thereof the following: "; and in the case of Anderson County and Roane County, Tennessee, shall not extend beyond June 30, 1986."

Speaker of the House of Representatives.

Vice President of the United States and
President of the Senate.

94TH CONGRESS } HOUSE OF REPRESENTATIVES { REPORT
1st Session } { No. 94-696

AUTHORIZING APPROPRIATIONS FOR THE ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION

DECEMBER 8, 1975.—Ordered to be printed

Mr. TEAGUE, from the committee of conference, submitted the following

CONFERENCE REPORT

[To accompany H.R. 3474]

The committee of conference on the disagreeing votes of the two Houses on the amendment of the Senate to the bill (H.R. 3474) to authorize appropriations to the Energy Research and Development Administration in accordance with section 261 of the Atomic Energy Act of 1954, as amended, section 305 of the Energy Reorganization Act of 1974, and section 16 of the Federal Nonnuclear Energy Research and Development Act of 1974, and for other purposes, having met, after full and free conference, have agreed to recommend and do recommend to their respective Houses as follows:

That the House recede from its disagreement to the amendment of the Senate and agree to the same with an amendment as follows:

In lieu of the matter proposed to be inserted by the Senate amendment insert the following:

TITLE I—AUTHORIZATION OF APPROPRIATIONS FOR FISCAL YEAR 1976

SEC. 101. There is hereby authorized to be appropriated to the Energy Research and Development Administration in accordance with the provisions of section 261 of the Atomic Energy Act of 1954, as amended (42 U.S.C. 2017), section 305 of the Energy Reorganization Act of 1974 (42 U.S.C. 5875), and section 16 of the Federal Nonnuclear Energy Research and Development Act of 1974 (42 U.S.C. 5915):

(a) For "Operating expenses", for the following programs, a sum of dollars equal to the total of the following amounts:

(1) FOSSIL ENERGY DEVELOPMENT.—

(A) Coal liquefaction:

Costs, $96,897,000.

Changes in selected resources, $665,000.

(B) *High Btu gasification (coal):*
Costs, $37,838,000.
Changes in selected resources, $20,526,000.
(C) *Low Btu gasification (coal):*
Costs, $54,671,000.
Changes in selected resources, (minus) $4,282,000.
Provided, That not less than 20 per centum of the funds appropriated pursuant to this subparagraph (C) shall be used for in situ processes.
(D) *Advanced power systems (coal):*
Costs, $8,261,000.
Changes in selected resources, $2,340,000.
(E) *Direct combustion (coal):*
Costs, $32,645,000.
Changes in selected resources, $5,451,000.
(F) *Advanced research and supporting technology (coal), for the following:*
(i) *Advanced coal conversion process:*
Costs, $13,000,000.
Changes in selected resources, $1,000,000.
(ii) *Advanced direct coal utilization process:*
Costs, $4,600,000.
Changes in selected resources, $400,000.
(iii) *Advanced supporting research:*
Costs, $8,374,000.
Changes in selected resources, $119,000.
(iv) *System studies:*
Costs, $9,087,000.
Changes in selected resources, $2,813,000.
(G) *Demonstration plants (coal):*
Costs, $18,100,000.
Changes in selected resources, $18,900,000
(H) *Natural gas and oil extraction:*
Costs, $32,865,000.
Changes in selected resources, $8,564,000.
(I) *Natural gas and oil utilization:*
Costs, $1,582,000.
Changes in selected resources, $215,000
(J) *Oil shale in situ processing:*
Costs, $16,000,000.
Changes in selected resources, $3,000,000.
(K) *Oil shale composition and characterization:*
Costs, $1,113,000.
Changes in selected resources, $152,000.
(L) *Magnetohydrodynamics:*
Costs, $22,340,000.
Changes in selected resources, $12,160,000.
(2) SOLAR ENERGY DEVELOPMENT:
Costs, $97,100,000.
Changes in selected resources, $62,425,000.

(3) GEOTHERMAL ENERGY DEVELOPMENT:
Costs, $34,750,000.
Changes in selected resources, $8,520,000.
(4) CONSERVATION RESEARCH AND DEVELOPMENT.—
(A) *Electric Power Transmission:*
Costs, $11,830,000.
Changes in selected resources, $300,000.
(B) *Advanced Transportation Power Systems:*
Costs, $19,000,000.
Changes in selected resources, $4,500,000.
(C) *Energy Storage Systems:*
Costs, $23,100,000.
Changes in selected resources, $5,700,000.
(D) *End- use Conservation:*
Costs, $31,000,000.
Changes in selected resources, $18,650,000.
(E) *Improved Conversion Efficiency:*
Costs, $12,625,000.
Changes in selected resources, $3,000,000.
(F) *Urban Waste Conversion:*
Costs, $10,000,000.
Changes in selected resources, $5,000,000.
(5) NUCLEAR ENERGY AND OTHER PROGRAMS.—*$3,158,970,000, of which a sum of dollars for the following programs equal to the total of the following amounts is included:*
(A) *Scientific and technical education in support of Nonnuclear Energy Technologies:*
Costs, $4,500,000.
Changes in selected resources, $1,350,000.
(B) *General new programs in Environmental and Safety Research in support of nonnuclear energy technology:*
Costs, $22,100,000.
Changes in selected resources, $7,700,000.
(C) *For use as provided in section 316 of this Act:*
Costs, $4,000,000.
Changes in selected resources, $1,000,000.
(D) *Nonpulmonary health studies on miners and people living in areas subjected to a high incidence of sulphur oxides and trace elements:*
Costs, $400,000.
Changes in selected resources, $100,000.
(E) *New programs of physical research in molecular and materials sciences in support of nonnuclear technologies:*
Costs, $15,725,000.
Changes in selected resources, $3,750,000.
(F) *$2,750,000 shall be available pursuant to sections 14 and 16 of the Federal Nonnuclear Energy Research and Development Act of 1974 (42 U.S.C. 5913 and 5915) as follows:*
(i) *$1,250,000 for the National Bureau of Standards;*
(ii) *$500,000 for the Council on Environmental Quality; and*
(iii) *$1,000,000 for the Water Resources Council.*

(b) For "Plant and capital equipment", including construction, acquisition, or modification of facilities, including land acquisition; and acquisition and fabrication of capital equipment not related to construction, a sum of dollars equal to the total of the following amounts:

FOSSIL ENERGY DEVELOPMENT

(1) COAL.—
Project 76–1–a, clean boiler fuel demonstration plant (A–E and long-lead procurement), $20,000,000.
Project 76–1–b. High Btu synthetic pipeline gas demonstration plant (A–E and long-lead procurement), $20,000,000.
Project 76–1–c, Low Btu fuel gas demonstration plant, (A–E and long-lead procurement), $15,000,000.
Project 76–1–d, Fluidized bed direct combustion demonstration plant, $13,000,000.

SOLAR, GEOTHERMAL, AND ADVANCED ENERGY SYSTEMS DEVELOPMENT

(2) SOLAR ENERGY DEVELOPMENT.—
Project 76–2–a, Five megawatt solar thermal test facility, $5,000,000.
Project 76–2–b, Ten megawatt central receiver solar thermal powerplant, (A–E and long-lead procurement), $5,000,000.
(3) GEOTHERMAL ENERGY DEVELOPMENT.—
Project 76–3–a, Geothermal powerplant (steam) (A–E and long-lead procurement), $5,000,000.
Project 76–3–b, Geothermal powerplant (A–E and long-lead procurement), $5,000,000.
(4) PHYSICAL RESEARCH.—
Project 76–4–a, accelerator and reactor improvements and modifications, $4,000,000.

NUCLEAR ENERGY DEVELOPMENT

(5) FUSION POWER RESEARCH AND DEVELOPMENT.—
Project 76–5–a, Tokamak fusion test reactor, Princeton Plasma Physics Laboratory, Plainsboro, New Jersey, $23,000,000.
Project 76–5–b, 14 Mev intense neutron source facility, Los Alamos Scientific Laboratory, New Mexico, $22,100,000.
Project 76–5–c, 14 Mev high intensity neutron facility, Lawrence Livermore Laboratory, California, $5,000,000.
(6) FISSION POWER REACTOR DEVELOPMENT.—
Project 76–6–a, modifications to reactors, $4,000,000.
Project 76–6–b, sodium components test installation steam and feedwater system modification, Liquid Metal Engineering Center, Santa Susana, California, $7,700,000.
(7) FISSION POWER REACTOR DEVELOPMENT.—
Project 76–7–a, test reactor area fire main replacement, Idaho National Engineering Laboratory, Idaho, $2,200,000.
(8) NUCLEAR MATERIALS.—
Project 76–8–a, additional facilities, high level waste storage, Savannah River, South Carolina, $68,000,000.

Project 76–8–b, additional high level waste storage facilities, Richland, Washington, $35,000,000.
Project 76–8–c, supplemental N reactor irradiated fuel storage, Richland, Washington, $2,500,000.
Project 76–8–d, uprate electrical switchyards for Roane substation, Oak Ridge, Tennessee, $8,100,000.
Project 76–8–e, conversion of existing steam plants to coal capability, gaseous diffusion plants and Feed Materials Production Center, Fernald, Ohio, $12,200,000.
Project 76–8–f, radioactive liquid waste system improvements, Idaho Chemical Processing Plant, Idaho National Engineering Laboratory, Idaho, $5,800,000.
Project 76–8–g, additional facilities, enriched uranium production, locations undetermined, $25,000,000.

NATIONAL SECURITY

(9) WEAPONS.—
Project 76–9–a, MK–12A MINUTEMAN III production facilities, various locations, $3,000,000.
Project 76–9–b, plutonium metallurgy building modifications, Lawrence Livermore Laboratory, California, $1,000,000.
Project 76–9–c, limited life component exchange facility, Charleston, South Carolina, $13,900,000.
Project 76–9–d. water control and recycle project, Rocky Flats, Colorado, $3,100,000.
(10) WEAPONS.—
Project 76–10–a, fire wall construction, Bendix Plant, Kansas City, Missouri, $2,000,000.
Project 76–10–b, fire protection improvements, Los Alamos Scientific Laboratory, New Mexico, $4,450,000.
Project 76–10–c, PHERMEX enhancement, Los Alamos Scientific Laboratory, New Mexico, $6,150,000.

ENVIRONMENTAL AND SAFETY RESEARCH

(11) BIOMEDICAL AND ENVIRONMENTAL RESEARCH.—
Project 76–11–a, modifications and additions to biomedical and environmental research facilities, $3,200,000.
Project 76–11–b, inhalation toxicology research facilities, $6,800,000.
(12) GENERAL PLANT PROJECTS.—$64,670,000.
(13) CONSTRUCTION PLANNING AND DESIGN.—$6,000,000.
(14) SAFEGUARDS AND FACILITY UPGRADING.—
Project 76–14, safeguard and security upgrading, various locations, $32,800,000.

CAPITAL EQUIPMENT NOT RELATED TO CONSTRUCTION

(15) CAPITAL EQUIPMENT.—Acquisition and fabrication of capital equipment not related to construction, for the following programs, a sum of dollars equal to the total of the following amounts:
(A) Fossil energy development, $425,000.

(B) Solar energy development, $3,000,000.

(C) Geothermal energy development, $3,120,000.

(D) Conservation research and development including improved conversion efficiency $11,500,000.

(E) Physical research in molecular and materials sciences in support of nonnuclear energy technology, $4,600,000.

(F) Environmental and safety research in support of nonnuclear energy technology, $2,000,000.

(G) Nuclear energy and other programs, $237,502,000.

SEC. 102. IN SITU OIL SHALE DEMONSTRATION.—(a) The Administrator shall, in consultation with the Secretary of the Interior, select an appropriate tract of public lands in accordance with section 21 of the Mineral Lands Leasing Act of 1920, as amended (30 U.S.C. 241) and other applicable provisions of such Act for the demonstration of production of oil from shale by in situ methods. The Administrator shall, by regulation, establish procedures for review of, and comment on, the proposed demonstration by States and local political subdivisions which may be impacted by such facility and the general public. As soon as the Administrator knows the geographic location of a proposed tract, he shall inform the Governor of the State and the officials of the political subdivision where the in situ demonstration facility would be located or which would be impacted by such facility. The Administrator shall not select such tract if the Governor of the State in which the proposed tract would be located recommends against such selection, unless the Administrator finds that there is an overriding national interest in selecting such tract. If the Administrator decides to select a tract despite a Governor's recommendation not to take such action, he shall communicate, in writing, to the Governor his reasons for not concurring with such recommendation. The Administrator's decision, pursuant to this subsection, shall be final unless determined upon judicial review to be arbitrary and capricious. Such review shall take place in the United States court of appeals for the circuit in which the State is located upon application made within ninety days from the date of such decision.

(b) Upon selection of such tract pursuant to subsection (a) of this section, the Administrator, pursuant to the authority of the Federal Nonnuclear Energy Research and Development Act of 1974 (42 U.S.C. 5901, et seq.), shall invite proposals from potential non-Federal participants to enter into a cooperative arrangement for the demonstration of in situ production of oil from shale wherein the Federal share of costs of such demonstration shall include the value of the right to lease the tract selected without payment of royalties or other consideration during the demonstration periods: Provided, That a portion of any amounts received by such participant in excess of costs from the sale of products produced during the demonstration shall be paid to the United States in proportion to the amounts contributed to the demonstration by the non-Federal participant and the United States, as determined by the Administrator, and such payments shall be covered into miscellaneous receipts of the Treasury: Provided further, That the United States' share shall include the value of use of the selected tract, as determined by the Administrator, during such demonstration.

(c) The demonstration shall be for, among other things, the purpose of performing necessary tests and pilot operations and ultimately for the in situ production of oil from shale upon the selected tract by the lessee with the objective of operating a facility sufficiently large to demonstrate the commercial viability of the process taking into account such considerations as water usage, profitability levels, environmental effects, waste disposal, labor conditions, and the socioeconomic impacts on local communities. The community impact financial assistance program authorized in section 17(k) of the Federal Nonnuclear Energy Research and Development Act of 1974, as added to said Act by this Act, shall be applicable to the program authorized by this section.

(d) After the cooperative agreement authorized by this section is executed, the Secretary shall issue a lease for such tract to such non-Federal entity pursuant to section 21 of the Mineral Lands Leasing Act of 1920, as amended (30 U.S.C. 241) and other applicable provisions of such Act, except that such lease shall not require payment of bonus, rent, or royalty during the demonstration period. The lease shall (1) require diligent development and production immediately after the demonstration period, (2) provide for the termination of the lease if the Secretary of the Interior determines that the lessee is not acting diligently, and (3) contain such adequate provisions for environmental protection as the Secretary shall determine to be necessary in the public interest. The lease shall also contain such terms and conditions applicable during the demonstration period as the Administrator determines are necessary to carry out the purposes of this section and the Federal Nonnuclear Energy Research and Development Act of 1974 (42 U.S.C. 5901, et seq.). During the demonstration period, the Administrator shall have administrative jurisdiction over the lease. When the Administrator determines that the demonstration period has ended, the Administrator shall so notify the non-Federal entity and the Secretary of the Interior. Upon such notification, the Secretary shall assume administrative jurisdiction over the lease in accordance with the Mineral Lands Leasing Act of 1920, as amended (30 U.S.C. 181, et seq.): Provided, That such lease shall include consideration for the Administrator's share of financial, managerial, and material contribution to the demonstration: Provided further, That such consideration as required herein shall be based on financially sound, customary commercial formulas for the development and operation of a major extractive industry joint venture/project and may include equity, profit, or cash flow participation, a share of the facility's production, or any other generally accepted method of payment which fairly compensates the United States for the Administrator's contribution to the demonstration. Such consideration shall be treated as royalties and offset against any royalties required to be paid to the United States pursuant to said 1920 Act.

(e) Before such cooperative arrangement pursuant to this section is finalized, the Administrator shall transmit a detailed report to the Committee on Science and Technology of the House of Representatives and the Committee on Interior and Insular Affairs of the Senate describing the arrangement and setting forth the schedule for the demonstration and wait a period of sixty calendar days (not including any day in which either House of Congress is not in session because

of adjournment of more than three calendar days to a day certain) from the date on which the Administrator's report is received by such Committees, unless prior to the expiration of such period each such committee receiving the report has transmitted written notice to the effect that such committee has no objection to the proposed arrangement.

(f) Nothing in this section shall be construed as preventing the Secretary of the Interior or the Administrator from pursuing alternative means for encouraging demonstrations of in situ production of oil from shale.

SEC. 103. LOAN GUARANTEE PROGRAM FOR COMMERCIAL DEMONSTRATION FACILITIES.—(a) Section 7(a) of the Federal Nonnuclear Energy Research and Development Act of 1974 (42 U.S.C. 5906) is amended—

(1) by striking out "and" after the semicolon at the end of paragraph (5),

(2) by striking out the period at the end of paragraph (6) and inserting in lieu thereof "; and", and

(3) by adding at the end thereof the following new paragraph:

"(7) Federal loan guarantees and commitments thereof as provided in section 17.".

(b) The Federal Nonnuclear Energy Research and Development Act of 1974 (42 U.S.C. 5901, et seq.) is further amended by adding at the end thereof the following new section:

"LOAN GUARANTEES FOR COMMERCIAL DEMONSTRATION FACILITIES

"SEC. 17. (a) It is the purpose of this section—

"(1) to assure adequate Federal support to foster a commercial demonstration program to produce synthetic fuels from coal, oil shale, and other domestic resources, to employ biomass and renewable and geothermal energy sources to produce synthetic fuels and other desirable forms of energy on a commercial scale, and to assure the availability of energy-efficient industrial equipment and facilities;

"(2) to authorize loan guarantees for the construction and start-up and related costs of commercial demonstration facilities (A) for the conversion of domestic coal, oil shale, biomass, and other domestic resources into synthetic fuels; (B) for the commercial demonstration of synthetic fuels and other desirable forms of energy from renewable and geothermal sources; and (C) for the commercial demonstration of energy-efficient industrial equipment and facilities; and

"(3) to gather information about the technological, economic, environmental, and social costs, benefits, and impacts of such commercial demonstration facilities.

"(b)(1) The Administrator is authorized, in accordance with such rules and regulations as he shall prescribe after consultation with the Secretary of the Treasury, to guarantee and to make commitments to guarantee, in such manner and subject to such conditions (not inconsistent with the provisions of this Act) as he deems appropriate, the payment of interest on, and the principal balance of, bonds debentures, notes, and other obligations issued by or on behalf of any borrower for the purpose of (A) financing the construction and start-up costs of commercial demonstration facilities for the conversion of domestic coal, oil shale, biomass, and other domestic resources into synthetic fuels, including, but not limited to, such synthetic fuels from coal as high-Btu gaseous fuels compatible for mixture and transportation with natural gas by pipeline; gaseous, liquid, and solid fuels suitable for boiler use in compliance with applicable environmental requirements; liquid fuels for transportation uses; and petrochemicals: Provided, That no oil shale commercial demonstration facility receiving a loan guarantee under this section shall be larger than is necessary, in the judgment of the Administrator, to demonstrate the commercial viability of the process, taking into account such considerations as water usage, profitability levels, environmental effects, waste disposal, labor conditions, health and safety, and the socio-economic impacts on local communities; (B) financing the construction and start-up costs of commercial demonstration facilities to generate desirable forms of energy (including synthetic fuels) in commercial quantities from direct solar, wind, ocean thermal gradient, bioconversion, or other renewable energy resources; (C) financing the purchase, construction, installation, and start-up costs of energy-efficient industrial equipment and facilities for commercial demonstration; and (D) further implementing the financing of geothermal resource development under the Geothermal Energy Research, Development, and Demonstration Act of 1974 (30 U.S.C. 1101, et seq.). The outstanding indebtedness guaranteed and committed to be guaranteed under clauses (A), (B), and (C) of this paragraph shall at no time exceed $6,000,000,000: Provided, That up to $2,500,000,000 of guarantees shall be available for commercial demonstration facilities to produce high-Btu gaseous fuel compatible for mixture and transportation with natural gas by pipeline. Loan guarantees for geothermal resource development under clause (D) of this paragraph shall be carried out pursuant to the authority and provisions of the Geothermal Energy Research, Development, and Demonstration Act of 1974: Provided, That paragraphs (2) and (4) of this subsection, and subsections (g)(2),(h),(j),(n), and (v), of this section, shall also apply to such guarantees: Provided further, That the limitations in section 201(e) of the Geothermal Energy Research, Development, and Demonstration Act of 1974 (30 U.S.C. 1141(e)) shall not apply to such guarantees.

"(2) An applicant for any guarantee under this section shall provide information to the Administrator in such form and with such content as the Administrator deems necessary.

"(3) Prior to issuing any guarantee under this section the Administrator shall obtain the concurrence of the Secretary of the Treasury with respect to the timing, interest rate, and substantial terms and conditions of such guarantee.

"(4) The full faith and credit of the United States is pledged to the payment of all guarantees issued under this section with respect to principal and interest.

"(c) The Administrator, with due regard for the need for competition, shall guarantee or make a commitment to guarantee any obligation under subsection (b) only if—

"(1) the Administrator is satisfied that the financial assistance applied for is necessary to encourage financial participation;

"(2) the amount guaranteed does not exceed 75 per centum of the total cost of the commercial demonstration facility, as determined by the Administrator: Provided, That the amount guaranteed may not exceed 90 per centum of the total cost of the commercial demonstration facility during the period of construction and startup;

"(3) the Administrator has determined that there will be a continued reasonable assurance of full repayment;

"(4) the obligation is subject to the condition that it not be subordinated to any other financing;

"(5) the Administrator has determined, taking into consideration all available forms of assistance under this section and other Federal statutes, that the impacts directly resulting from the proposed commercial demonstration facility have been fully evaluated by the borrower, the Administrator, and others, and that effective steps have been taken or are planned to be taken in a timely manner to finance community planning and development costs directly resulting from such facility under this section, under other provisions of law, or by other means; and

"(6) the maximum maturity of the obligation does not exceed thirty years, or 90 per centum of the projected useful economic life of the physical assets of the commercial demonstration facility covered by the guarantee, whichever is less, as determined by the Administrator.

"(d) At least sixty days prior to submitting a report to Congress pursuant to subsection (m) of this section on each guarantee, the Administrator shall request from the Attorney General and the Chairman of the Federal Trade Commission written views, comments, and recommendations concerning the impact of such guarantee or commitment on competition and concentration in the production of energy and give due consideration to views, comments, and recommendations received: Provided, That if either official recommends against making such guarantee or commitment, the Administrator shall not do so unless he determines in writing that such guarantee or commitment is in the national interest.

"(e)(1) As soon as the Administrator knows the geographic location of a proposed facility for which a guarantee or a commitment to guarantee is sought under this section, he shall inform the Governor of the State, and officials of each political subdivision and Indian tribe, as appropriate, in which the facility would be located or which would be impacted by such facility. The Administrator shall not guarantee or make a commitment to guarantee under subsection (b) of this section if the Governor of the State in which the proposed facility would be located recommends that such action not be taken unless the Administrator finds that there is an overriding national interest in taking such action in order to achieve the purpose of this section. If the Administrator decides to guarantee or make a commitment to guarantee despite a Governor's recommendation not to take such action, the Administrator shall communicate, in writing, to the Governor reasons for not concurring with such recommendation. The Administrator's decision, pursuant to this subsection, shall be final unless determined upon judicial review to be arbitrary and capricious. Such review shall take place in the United States court of appeals for the circuit in

which the State involved is located, upon application made within ninety days from the date of such decision. The Administrator shall, by regulation, establish procedures for review of, and comment on, the proposed facility by States, local political subdivisions, and Indian tribes which may be impacted by such facility, and the general public.

"(2) The Administrator shall review and approve the plans of the applicant for the construction and operation of any commercial demonstration and related facilities constructed or to be constructed with assistance under this section. Such plans and the actual construction shall include such monitoring and other data-gathering costs associated with such facility as are required by the comprehensive plan and program under this section. The Administrator shall determine the estimated total cost of such demonstration facility, including, but not limited to, construction costs, start-up costs, costs to political subdivisions and Indian tribes impacted by such facility, and costs of any water storage facilities needed in connection with such demonstration facility, and determine who shall pay such costs.

"(f) Except in accordance with reasonable terms and conditions contained in the written contract of guarantee, no guarantee issued or commitment to guarantee made under this section shall be terminated, canceled, or otherwise revoked. Such a guarantee or commitment shall be conclusive evidence that the underlying obligation is in compliance with the provisions of this section and that such obligation has been approved and is legal as to principal, interest, and other terms. Subject to the conditions of the guarantee or commitment to guarantee, such a guarantee shall be incontestable in the hands of the holder of the guaranteed obligation, except as to fraud or material misrepresentation on the part of the holder.

"(g)(1) If there is a default by the borrower, as defined in regulations promulgated by the Administrator and in the guarantee contract, the holder of the obligation shall have the right to demand payment of the unpaid amount from the Administrator. Within such period as may be specified in the guarantee or related agreements, the Administrator shall pay to the holder of the obligation the unpaid interest on and unpaid principal of the guaranteed obligation as to which the borrower has defaulted, unless the Administrator finds that there was no default by the borrower in the payment of interest or principal or that such default has been remedied. Nothing in this section shall be construed to preclude any forbearance by the holder of the obligation for the benefit of the borrower which may be agreed upon by the parties to the guaranteed obligation and approved by the Administrator.

"(2) If the Administrator makes a payment under paragraph (1) of this subsection or section 202(b) of the Geothermal Energy Research, Development, and Demonstration Act of 1974 (30 U.S.C. 1142 (b)) the Administrator shall be subrogated to the rights of the recipient of such payment as specified in the guarantee or related agreements including, where appropriate, the authority (notwithstanding any other provision of law) to complete, maintain, operate, lease, or otherwise dispose of any property acquired pursuant to such guarantee or related agreements, or to permit the borrower, pursuant to an agreement with the Administrator, to continue to pursue the purposes of the

commercial demonstration facility if the Administrator determines that this is in the public interest.

"*(3) In the event of a default on any guarantee under this section, the Administrator shall notify the Attorney General, who shall take such action as may be appropriate to recover the amounts of any payments made under paragraph (1) (including any payment of principal and interest under subsection (h)) from such assets of the defaulting borrower as are associated with the commercial demonstration facility, or from any other security included in the terms of the guarantee.*

"*(4) For purposes of this section, patents and technology resulting from the commercial demonstration facility shall be treated as project assets of such facility in accordance with the terms and conditions of the guarantee agreement. Furthermore, the guarantee agreement shall contain a provision specifying that patents, technology, and other proprietary rights which are necessary for the completion or operation of the commercial demonstration facility shall be available to the Government and its designees on equitable terms, including due consideration to the amount of the Government's default payments.*

"*(h) With respect to any obligation guaranteed under this section, the Administrator is authorized to enter into a contract to pay, and to pay, the holders of the obligation, for and on behalf of the borrower, from the fund established by this section or from the Geothermal Resources Development Fund, as applicable, the principal and interest payments which become due and payable on the unpaid balance of such obligation if the Administrator finds that—*

"*(1) the borrower is unable to meet such payments and is not in default; it is in the public interest to permit the borrower to continue to pursue the purposes of such demonstration facility; and the probable net benefit to the Federal Government in paying such principal and interest will be greater than that which would result in the event of a default;*

"*(2) the amount of such payment which the Administrator is authorized to pay shall be no greater than the amount of principal and interest which the borrower is obligated to pay under the loan agreement; and*

"*(3) the borrower agrees to reimburse the Administrator for such payment on terms and conditions, including interest, which are satisfactory to the Administrator.*

"*(i) Regulations required by this section shall be issued within one hundred and eighty days after enactment of this section, except as provided in subsection (t) of this section. All regulations under this section and any amendments thereto shall be issued in accordance with section 553 of title 5, of the United States Code.*

"*(j) The Administrator shall charge and collect fees for guarantees of obligations authorized by clauses (A) (except with respect to community planning and development), (B), (C), and (D) of subsection (b) (1), in amounts sufficient in the judgment of the Administrator to cover the applicable administrative costs and probable losses on guaranteed obligations, but in any event not to exceed 1 per centum per annum of the outstanding indebtedness covered by the guarantee.*

"*(k) (1) In accordance with such rules and regulations as the Administrator in consultation with the Secretary of the Treasury shall prescribe, and subject to such terms and conditions as he deems appropriate, the Administrator is authorized, for the purpose of financing essential community development and planning which directly result from, or are necessitated by, one or more commercial demonstration facilities assisted under this section to—*

"*(A) guarantee and make commitments to guarantee the payment of interest on, and the principal balance of, obligations for such financing issued by eligible States, political subdivisions, or Indian tribes,*

"*(B) guarantee and make commitments to guarantee the payment of taxes imposed on such commercial demonstration facilities by eligible non-Federal taxing authorities which taxes are earmarked by such authorities to support the payment of interest and principal on obligations for such financing, and*

"*(C) require that the applicant for assistance for a commercial demonstration facility under this section advance sums to eligible States, political subdivisions, and Indian tribes to pay for such financing of such development and planning: Provided, That the State, political subdivision, or Indian tribe agrees to provide tax abatement credits over the life of the facilities for such payments by such applicant.*

"*(2) Prior to issuing any guarantee under this subsection, the Administrator shall obtain the concurrence of the Secretary of the Treasury with respect to the timing, interest rate, and substantial terms and conditions of such guarantee.*

"*(3) The total amount guaranteed under paragraph (1) of this subsection shall not exceed $350,000,000 which shall be included in the limitation on outstanding indebtedness set forth in subsection (b) (1) of this section.*

"*(4) In the event of any default by the borrower in the payment of taxes guaranteed by the Administrator under this subsection, the Administrator shall pay out of the fund established by this section such taxes at the time or times they may fall due, and shall be subrogated to the rights of such taxing authority.*

"*(5) If after consultation with the State, political subdivision, or Indian tribe, the Administrator finds that the financial assistance programs of paragraph (1) of this subsection will not result in sufficient funds to carry out the purposes of this subsection, then the Administrator may—*

"*(A) make direct loans to the eligible States, political subdivisions, or Indian tribes for such purposes: Provided, That such loans shall be made on such reasonable terms and conditions as the Administrator shall prescribe: Provided further, That the Administrator may waive repayment of all or part of a loan made under this paragraph, including interest, if the State or political subdivision or Indian tribe involved demonstrates to the satisfaction of the Administrator that due to a change in circumstances there will be net adverse impacts resulting from such demonstration facility that would probably cause such State, subdivision, or tribe to default on the loan; or*

"*(B) require that any community development and planning costs which are associated with, or result from, such commercial*

demonstration facility and which are determined by the Administrator to be appropriate for such inclusion shall be included in the total costs of the commercial demonstration facility.

"*(6) The Administrator is authorized to make grants to States, political subdivisions, or Indian tribes for studying and planning for the potential economic, environmental, and social consequences of such commercial demonstration facilities.*

"*(7) At any time the Administrator may, with the concurrence of the Secretary of the Treasury, redeem, in whole or in part, out of the fund established by this section, the debt obligations guaranteed or the debt obligations for which tax payments are guaranteed under this subsection.*

"*(8) When one or more States, political subdivisions, or Indian tribes would be eligible for assistance under this subsection but for the fact that construction and operation of the commercial demonstration facility occurs outside its jurisdiction, the Administrator is authorized to provide, to the greatest extent possible, arrangements for equitable sharing of such assistance.*

"*(9) Such amounts as may be necessary for direct loans and grants pursuant to this subsection shall be available as provided in annual authorization Acts and shall be requested in fiscal year 1977, and in subsequent fiscal years.*

"*(10) The Administrator, if appropriate, shall provide assistance in the financing of up to 100 per centum of the costs of the required community development and planning pursuant to this subsection.*

"*(l)(1) The Administrator is directed to submit a report to the Congress within one hundred and eighty days after the enactment of this section setting forth his recommendations on the best opportunities to implement a program of Federal financial assistance with the objective of demonstrating production and conservation of energy.*

"*(2) The report submitted under paragraph (1) of this subsection shall include a comprehensive plan and program to acquire information and evaluate the environmental, economic, social, and technological impacts of the demonstration program under this section. In preparing such a comprehensive plan and program, the Administrator shall consult with the Environmental Protection Agency, the Federal Energy Administration, the Department of Housing and Urban Development, the Department of the Interior, and the Department of Agriculture.*

"*(3) The comprehensive plan and program described in paragraph (2) shall include, but not be limited to—*

"*(A) information about potential commercial demonstration facilities proposed in the program under this section;*

"*(B) any significant adverse impacts which may result from any activity included in the program;*

"*(C) proposed regulations required to carry out the purposes of this section;*

"*(D) a list of Federal agencies, governmental entities, and other persons that will be consulted or utilized to implement the program; and*

"*(E) methods and procedures by which the information gathered under the program will be analyzed and disseminated.*

"*(4) The report required under paragraph (1) of this subsection shall be updated and submitted to the Congress at least annually for the duration of the program under this section.*

"*(m) Prior to issuing any guarantee or commitment to guarantee pursuant to subsection (b) of this section, the Administrator shall submit to the Committee on Science and Technology of the House of Representatives and the Committee on Interior and Insular Affairs of the Senate a full and complete report on the proposed commercial demonstration facility and such guarantee. Such guarantee or commitment to guarantee shall not be finalized under the authority granted by this section prior to the expiration of ninety calendar days (not including any day on which either House of Congress is not in session because of an adjournment of more than three calendar days to a day certain) from the date on which such report is received by such committees: Provided, That, where the cost of such commercial demonstration facility exceeds $350,000,000, such guarantee or commitment to guarantee shall not be finalized if prior to the close of such ninety-day period either House passes a resolution stating in substance that such House does not favor the making of such guarantee or commitment.*

"*(n)(1) There is hereby created within the Treasury a separate fund (hereafter in this section called the 'fund') which shall be available to the Administrator without fiscal year limitation as a revolving fund for the purpose of carrying out the program authorized by clauses (A), (B), and (C) of subsection (b)(1) and subsections (g), (h), and (k) of this section. The Geothermal Resources Development Fund established by the Geothermal Energy Research, Development, and Demonstration Act of 1974 shall be available for the purpose of carrying out the geothermal loan guarantee program as established by that Act and as further implemented by this section.*

"*(2) There are authorized to be appropriated to the fund from time to time such amounts as may be necessary to carry out the purposes of the applicable provisions of this section, including, but not limited to, the payments of interest and principal and the payment of interest differentials and redemption of debt. All amounts received by the Administrator as interest payments or repayments of principal on loans which are guaranteed under this section, fees, and any other moneys, property, or assets derived by him from operations under this section shall be deposited in the fund or in the Geothermal Resources Development Fund, as applicable.*

"*(3) All payments on obligations, appropriate expenses (including reimbursements to other government accounts), and repayments pursuant to operations of the Administrator under this section shall be paid from the fund subject to appropriations or from the Geothermal Resources Development Fund, as applicable. If at any time the Administrator determines that moneys in the fund exceed the present and reasonably foreseeable future requirements of the fund, such excess shall be transferred to the general fund of the Treasury.*

"*(4) If at any time the moneys available in the fund or in the Geothermal Resources Development Fund are insufficient to enable the Administrator to discharge his responsibilities as authorized by subsections (b)(1), (g), (h), and (k) of this section, or the Geothermal*

Energy Research, Development, and Demonstration Act of 1974 (30 U.S.C. 1101), as the case may be, the Administrator shall issue to the Secretary of the Treasury notes or other obligations in such forms and denominations, bearing such maturities, and subject to such terms and conditions as may be prescribed by the Secretary of the Treasury. Redemption of such notes or obligations shall be made by the Administrator from appropriations or other moneys available under paragraph (2) of this subsection for loan guarantees authorized by clauses (A), (B), and (C) of subsection (b) (1) and subsections (g), (h), and (k) of this section, and from appropriations or other moneys available under section 204 of the Geothermal Energy Research, Development, and Demonstration Act of 1974 for loan guarantees described in clause (D) of subsection (b) (1) of this section. Such notes or other obligations shall bear interest at a rate determined by the Secretary of the Treasury, which shall be not less than a rate determined by taking into consideration the average market yield on outstanding marketable obligations of the United States of comparable maturities during the month preceding the issuance of the notes or other obligations. The Secretary of the Treasury shall purchase any notes or other obligations issued hereunder and for that purpose he is authorized to use as a public debt transaction the proceeds from the sale of any securities issued under the Second Liberty Bond Act; and the purpose for which securities may be issued under that Act are extended to include any purchase of such notes or obligations. The Secretary of the Treasury may at any time sell any of the notes or other obligations acquired by him under this subsection. All redemptions, purchases, and sales by the Secretary of the Treasury of such notes or other obligations shall be treated as public debt transactions of the United States.

"(5) The provisions of this subsection do not apply to direct loans or planning grants made under subsection (k) of this section.

"(o) For the purposes of this section, the term—

"(1) 'State' means any State of the United States, the District of Columbia, the Commonwealth of Puerto Rico, Guam, the Virgin Islands, American Samoa, or any territory or possession of the United States,

"(2) 'United States' means the several States, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, and American Samoa, and

"(3) 'borrower' or 'applicant' shall include any individual, firm, corporation, company, partnership, association, society, trust, joint venture, joint stock company, or other non-Federal entity.

"(p) An applicant seeking a guarantee under subsection (b) of this section must be a citizen or national of the United States. A corporation, partnership, firm, or association shall not be deemed to be a citizen or national of the United States unless the Administrator determines that it satisfactorily meets all the requirements of section 802 of title 46, United States Code, for determining such citizenship, except that the provisions in subsection (a) of such section 802 concerning (1) the citizenship of officers or directors of a corporation, and (2) the interest required to be owned in the case of a corporation, association, or partnership operating a vessel in the coastwise trade, shall not be applicable.

"(q) No part of the program authorized by this section shall be transferred to any other agency or authority, except pursuant to Act of Congress enacted after the date of enacted of this section.

"(r) Inventions made or conceived in the course of or under a guarantee authorized by this section shall be subject to the title and waiver requirements and conditions of section 9 of this Act.

"(s) With respect to any obligation which is issued after the enactment of this section by, or in behalf of, any State, political subdivision, or Indian tribe and which is either guaranteed under, or supported by taxes levied by said issuer which are guaranteed under, this section, the interest paid on such obligation and received by the purchaser thereof (or the purchaser's successor in interest) shall be included in gross income for the purposes of chapter 1 of the Internal Revenue Code of 1954, as amended: Provided, That the Administrator shall pay to such issuer out of the fund established by this section such portion of the interest on such obligations, as determined by the Secretary of the Treasury to be appropriate after taking into account current market yields (1) on obligations of said issuer, if any, or (2) on other obligations with similar terms and conditions the interest on which is not so included in gross income for purposes of chapter 1 of said Code, and in accordance with such terms and conditions as the Secretary of the Treasury shall require.

"(t) (1) Each officer or employee of the Energy Research and Development Administration who—

"(A) performs any function or duty under this section; and

"(B) (i) has any known financial interest in any person who is applying for or receiving financial assistance for a commercial demonstration facility under this section; or

"(ii) has any known financial interest in property from which coal, natural gas, oil shale, crude oil, or other energy resources are commercially produced in connection with any commercial demonstration facility receiving financial assistance under this section,

shall, beginning on February 1, 1977, annually file with the Administrator a written statement concerning all such interests held by such officer or employee during the preceding calendar year. Such statement shall be available to the public.

"(2) The Administrator shall—

"(A) act within ninety days after the date of enactment of this Act—

"(i) to define the term 'known financial interest' for purposes of paragraph (1) of this subsection; and

"(ii) to establish the methods by which the requirement to file written statements specified in paragraph (1) will be monitored and enforced, including appropriate provisions for the filing by such officers and employees of such statements and the review by the Administrator of such statements; and

"(B) report to the Congress on June 1 of each calendar year with respect to such disclosures and the actions taken in regard thereto during the preceding calendar year.

"(3) In the rules prescribed in paragraph (2) of this subsection, the Administrator may identify specific positions within the Admin-

istration which are of a nonpolicymaking nature and provide that officers or employees occupying such positions shall be exempt from the requirements of this subsection.

"(4) Any officer or employee who is subject to, and knowingly violates, this subsection shall be fined not more than $2,500 or imprisoned not more than one year, or both.

"(u) Nothing in this section shall be construed as affecting the obligations of any borrower receiving a guarantee pursuant to this section to comply with Federal and State environmental, land use, water, and health and safety laws and regulations or to obtain applicable Federal and State permits, licenses, and certificates.

"(v) The information maintained by the Administrator under this section shall be made available to the public, subject to the provisions of section 552 of title 5, United States Code, and section 1905 of title 18, United States Code, and to other Government agencies in a manner that will facilitate its dissemination: Provided, That upon a showing satisfactory to the Administrator by any person that any information, or portion thereof, obtained under this section by the Administrator directly or indirectly from such person would, if made public, divulge (1) trade secrets or (2) other proprietary information of such person, the Administrator shall not disclose such information and disclosure thereof shall be punishable under section 1905 of title 18, United States Code: Provided further, That the Administrator shall, upon request, provide such information to (A) any delegate of the Administrator for the purpose of carrying out this Act, and (B) the Attorney General, the Secretary of Agriculture, the Secretary of the Interior, the Federal Trade Commission, the Federal Energy Administration, the Environmental Protection Agency, the Federal Power Commission, the General Accounting Office, other Federal agencies, or heads of other Federal agencies, when necessary to carry out their duties and responsibilities under this and other statutes, but such agencies and agency heads shall not release such information to the public. This section is not authority to withhold information from Congress, or from any committee of Congress upon request of the chairman. For the purposes of this subsection, the term 'person' shall include the borrower.

"(w) Notwithstanding any other provision of this section, the authority to make guarantees or commitments to guarantee under subsection (b)(1), the authority to make guarantees or commitments to guarantee, or to make loans or grants, under subsection (k), the authority to make contracts under subsection (h), the authority to charge and collect fees under subsection (j), and the authorities under subsection (n) of this section shall be effective only to the extent provided, without fiscal year limitation, in appropriation Acts enacted after the date of enactment of this section."

SEC. 104. LIMITATIONS.—(a) The Administration is authorized to start any project set forth in subsections 101(b) (4), (5), (6), (8), (9), (11), and (14) only if the currently estimated cost of that project does not exceed by more than 25 per centum the estimated cost set forth for that project.

(b) The Administration is authorized to start any project set forth in subsections 101(b)(7) and (10) only if the currently estimated cost of that project does not exceed by more than 10 per centum the estimated cost set forth for that project.

(c) The Administration is authorized to start any project under subsection 101(b)(12) only if it is in accordance with the following:

(1) The maximum currently estimated cost of any project shall be $750,000 and the maximum currently estimated cost of any building included in such project shall be $300,000: Provided, That the building cost limitation may be exceeded if the Administration determines that it is necessary in the interest of efficiency and economy.

(2) The total cost of all projects undertaken under subsection 101(b)(12) shall not exceed the estimated cost set forth in that section by more than 10 per centum.

(d) The total cost of any project undertaken under subsections 101 (b)(4), (5), (6), (8), (9), (11), and (14) shall not exceed the estimated cost set forth for that project by more than 25 per centum unless and until additional appropriations are authorized under section 261 of the Atomic Energy Act of 1954, as amended: Provided, That this subsection will not apply to any project with an estimated cost less than $5,000,000.

(e) The total cost of any project undertaken under subsection 101 (b) (7) and (10) shall not exceed the estimated cost set forth for that project by more than 10 per centum, unless and until additional appropriations are authorized under section 261 of the Atomic Energy Act of 1954, as amended: Provided, That this subsection will not apply to any project with an estimated cost less than $5,000,000.

SEC. 105. AMENDMENT OF PRIOR YEAR ACTS.—(a) Section 101 of Public Law 91-273, as amended, is further amended by (1) striking from subsection (b)(1), project 71-1-f, process equipment modifications, gaseous diffusion plants, the figure "$295,100,000" and substituting therefor the figure "$478,100,000"; and (2) striking from subsection (b)(9), project 71-9, fire, safety, and adequacy of operating conditions projects, various locations, the figure "$193,000,000" and substituting therefor the figure "$240,000,000".

(b) Section 101 of Public Law 93-60, as amended, is further amended by (1) striking from subsection (b)(1), project 74-1-g, cascade uprating program, gaseous diffusion plants, the figure "$183,-100,000" and substituting therefor the figure $259,600,000"; and (2) striking from subsection (b)(2), project 74-2-c, high energy laser facility, Lawrence Livermore Laboratory, California, the figure "$20,000,000" and substituting therefor the figure "$25,000,000".

(c) Section 101 of Public Law 93-276 is amended by (1) striking from subsection (b)(1), project 75-1-a, additional facilities, high level waste handling and storage, Savannah River, South Carolina, the figure "$30,000,000" and substituting therefor the figure "$33,000,000"; (2) striking from subsection (b)(1), project 75-1-c, new waste calcining facility, Idaho Chemical Processing Plant, National Reactor Testing Station, Idaho, the figure "$20,000,000" and substituting therefor the figure "$27,500,000"; (3) striking from subsection (b)(3), project 75-3-e, addition to building 350 for safeguards analytical laboratory, Argonne National Laboratory, Illinois, the figure "$3,500,000" and substituting therefor the figure "$4,300,000"; (4) striking from sub-

section (b) (6), project 75–6–c. positron-electron joint project, Lawrence Berkeley Laboratory and Stanford Linear Accelerator Center, the figure "$900,000" and substituting therefor the figure "$11,900,000"; and (5) striking from subsection (b) (7), project 75–7–c, intermediate-level waste management facilities, Oak Ridge National Laboratory, Tennessee, the figure "$9,500,000" and substituting therefor the figure "$10,500,000".

(d) Section 106 of Public Law 91–273, as amended, is further amended by deleting the present text thereof and substituting therefor the following:

"SEC. 106. LIQUID METAL FAST BREEDER REACTOR DEMONSTRATION PROGRAM—FOURTH ROUND.—(a) The Energy Research and Development Administration (ERDA) is hereby authorized to enter into cooperative arrangements with reactor manufacturers and others for participation in the research and development, design, construction, and operation of a Liquid Metal Fast Breeder Reactor powerplant, in accordance with criteria approved by the Joint Committee on Atomic Energy, without regard to the provisions of section 169 of the Atomic Energy Act of 1954, as amended. Appropriations are hereby authorized for the period consisting of the fiscal year ending June 30, 1976, and the interim period following that fiscal year and ending September 30, 1976, for the aforementioned cooperative arrangements as shown in the basis for arrangements as submitted in accordance with subsection (b) hereof. In addition, ERDA may agree to provide assistance in the form of waiver of use charges during the term of the cooperative arrangements without regard to the provisions of section 53 of the Atomic Energy Act, as amended, by waiving use charges in an amount not to exceed $10,000,000.

"(b) Before ERDA enters into any arrangement or amendment thereto under the authority of subsection (a) of this section, the basis for the arrangement or amendment thereto which ERDA proposes to execute (including the name of the proposed participating party or parties with which the arrangement is to be made, a general description of the proposed powerplant, the estimated amount of cost to be incurred by ERDA and by the participating parties, and the general features of the proposed arrangement or amendment) shall be submitted to the Joint Committee on Atomic Energy, and a period of forty-five days shall elapse while Congress is in session (in computing such forty-five days, there shall be excluded the days on which either House is not in session because of adjournment for more than three days): Provided, however, That the Joint Committee, after having received the basis for a proposed arrangement or amendment thereto, may by resolution in writing waive the conditions of all, or any portion of, such forty-five-day period: Provided, further, That such arrangement or amendment shall be entered into in accordance with the basis for the arrangement or amendment submitted as provided herein: And provided further, That no basis for arrangement need be resubmitted to the Joint Committee for the sole reason that the estimated amount of the cost to be incurred by ERDA exceeds the estimated cost previously submitted to the Joint Committee by not more than 15 per centum. Nothwithstanding the foregoing, ERDA, in each of its annual budget submissions, shall submit for the information and review

of the Joint Committee in the exercise of its oversight responsibility, the anticipated obligations and costs for the ensuing fiscal year for the project authorized under subsection (a) of this section.

"(c) The ERDA is hereby authorized to agree, by modification to the definitive cooperative arrangement reflecting such changes therein as it deems appropriate for such purpose, to the following: (1) to execute and deliver to the other parties to the definitive contract, the special undertakings of indemnification specified in said contract, which undertakings shall be subject to availability of appropriations to ERDA and to the provisions of section 3679 of the Revised Statutes, as amended; and (2) to acquire ownership and custody of the property constituting the Liquid Metal Fast Breeder Reactor powerplant or parts thereof, and to use, decommission, and dispose of said property, as provided for in the definitive contract."

SEC. 106. RESCISSIONS.—(a) Public Law 92–314, as amended, is further amended by rescinding therefrom authorization for a project, except for funds heretofore obligated, as follows:

Project 73–5–d, modifications to TREAT facility, National Reactor Testing Station, Idaho, $1,500,000.

(b) Public Law 93–60, as amended, is further amended by rescinding therefrom authorization for a project, except for funds heretofore obligated, as follows:

Project 74–3–e, modifications to TREAT facility, National Reactor Testing Station, Idaho, $2,500,000.

(c) Public Law 93–276, as amended, is further amended by rescinding therefrom authorization for projects, except for funds heretofore obligated, as follows:

Project 75–13–a, hydrothermal pilot plant, $1,000,000.

Project 75–5–e, high temperature gas reactor fuel reprocessing facility, National Reactor Testing Station, Idaho, $10,100,000.

Project 75–5–f, high temperature gas reactor fuel refabrication pilot plant, Oak Ridge National Laboratory, Tennessee, $3,000,000.

TITLE II—AUTHORIZATION OF APPROPRIATIONS FOR THE PERIOD JULY 1, 1976, THROUGH SEPTEMBER 30, 1976

SEC. 201. There is hereby authorized to be appropriated to the Energy Research and Development Administration in accordance with the provisions of section 261 of the Atomic Energy Act of 1954, as amended (42 U.S.C. 2017), section 305 of the Energy Reorganization Act of 1974 (42 U.S.C. 5875), and section 16 of the Federal Nonnuclear Energy Research and Development Act of 1974 (42 U.S.C. 5915):

(a) For "Operating expenses", for the following programs, a sum of dollars equal to the total of the following amounts:

(1) FOSSIL ENERGY DEVELOPMENT.—

(A) Coal liquefaction:
Costs, $16,000,000.
Changes in selected resources, $12,750,000.

(B) High Btu gasification (coal):
Costs, $7,450,000.
Changes in selected resources, $1,800,000.

(C) *Low Btu gasification (coal):*
Costs, $7,300,000.
Changes in selected resources, $5,350,000.
Provided, That not less than 20 per centum of the funds appropriated pursuant to this subparagraph (C) shall be used for in situ processes.
(D) *Advanced power systems (coal):*
Costs, $2,050,000.
Changes in selected resources, $1,450,000.
(E) *Direct combustion (coal):*
Costs, $5,100,000.
Changes in selected resources, $9,800,000.
(F) *Advanced research and supporting technology (coal), for the following:*
(i) *Advanced coal conversion process:*
Costs, $2,100,000.
Changes in selected resources, $1,900,000.
(ii) *Advanced direct coal utilization process:*
Costs, $500,000.
Changes in selected resources, $500,000.
(iii) *Advanced supporting research:*
Costs, $1,400,000.
Changes in selected resources, $450,000.
(iv) *Systems studies:*
Costs, $1,400,000.
Changes in selected resources, $1,600,000.
(G) *Demonstration plants (coal):*
Costs, $4,100,000.
Changes in selected resources, $4,900,000.
(H) *Natural gas and oil extraction:*
Costs, $9,930,000.
Changes in selected resources, $600,000.
(I) *Natural gas and oil utilization:*
Costs, $500,000.
Changes in selected resources (minus) $50,000.
(J) *Oil shale in situ processing:*
Costs, $4,241,000.
Changes in selected resources, $529,000.
(K) *Oil shale composition and characterization:*
Costs, $300,000.
Changes in selected resources, $0.
(L) *Magnetohydrodynamics.*
Costs, $6,700,000.
Changes in selected resources, $1,700,000.

(2) SOLAR ENERGY DEVELOPMENT.—
Costs, $24,500,000.
Changes in selected resources, $19,203,000.

(3) GEOTHERMAL ENERGY DEVELOPMENT.—
Costs, $10,100,000.
Changes in selected resources, $850,000.

(4) CONSERVATION RESEARCH AND DEVELOPMENT.—
(A) *Electric Power Transmission:*
Costs, $2,673,000.
Changes in selected resources (minus) $100,000.
(B) *Advanced Transportation Power Systems:*
Costs, $4,750,000.
Changes in selected resources, $1,060,000.
(C) *Energy Storage Systems:*
Costs, $5,400,000.
Changes in selected resources, $900,000.
(D) *End-use Conservation:*
Costs, $8,000,000.
Changes in selected resources, $2,000,000.
(E) *Improved Conversion Efficiency:*
Costs, $3,475,000.
Changes in selected resources, $1,100,000.
(F) *Urban Waste Conversion:*
Costs, $2,500,000.
Changes in selected resources, $1,250,000.

(5) NUCLEAR ENERGY AND OTHER PROGRAMS.—*$914,849,000, of which a sum of dollars for the following programs equal to the total of the following amounts is included:*
(A) *Scientific and technical education in support of Nonnuclear Energy Technologies:*
Costs, $1,125,000.
Changes in selected resources, $337,000.
(B) *General new programs in Environmental and Safety Research in support of nonnuclear energy technology:*
Costs, $5,525,000.
Changes in selected resources $1,919,000.
(C) *For use as provided in section 316 of this Act:*
Costs, $1,000,000.
Changes in selected resources, $250,000.
(D) *Nonpulmonary health studies on miners and people living in areas subjected to a high incidence of sulphur oxides and trace elements:*
Costs, $100,000.
Changes in selected resources, $25,000.
(E) *New programs of physical research in molecular and materials sciences in support of nonnuclear technologies:*
Costs, $3,931,000.
Changes in selected resources, $1,168,000.
(F) *$687,000 shall be available pursuant to sections 14 and 16 of the Federal Nonnuclear Energy Research and Development Act of 1974 (42 U.S.C. 5913 and 5915) as follows:*
(i) $312,000 for the National Bureau of Standards;
(ii) $125,000 for the Council on Environmental Quality; and
(iii) $250,000 for the Water Resources Council.

(b) *For "Plant and capital equipment", including construction, acquisition, or modification of facilities, including land acquisition;*

and acquisition and fabrication of capital equipment not related to construction, a sum of dollars equal to the total of the incremental amounts of the following:

FOSSIL ENERGY DEVELOPMENT

(1) COAL.—

Project 76–1–a, clean boiler fuel demonstration plant (A–E and long-lead procurement), $8,000,000.

Project 76–1–b, High Btu synthetic pipeline gas demonstration plant (A–E and long-lead procurement), $5,000,000.

Project 76–1–c, Low Btu fuel gas demonstration plant (A–E and long-end procurement), $3,750,000.

Project 76–1–d, Fluidized bed direct combustion demonstration plant, $3,250,000.

SOLAR, GEOTHERMAL, AND ADVANCED ENERGY SYSTEMS DEVELOPMENT

(2) SOLAR ENERGY DEVELOPMENT.—

Project 76–2–a, Five megawatt solar thermal test facility, $1,250,000.

Project 76–2–b, Ten megawatt central receiver solar thermal powerplant (A–E and long-lead procurement), $1,250,000.

(3) GEOTHERMAL ENERGY DEVELOPMENT.—

Project 76–3–a, Geothermal powerplant (steam) (A–E and long-lead procurement), $1,250,000.

Project 76–3–b, Geothermal powerplant (A–E and long-lead procurement), $1,250,000.

(4) PHYSICAL RESEARCH.—

Project 76–4–a, accelerator and reactor improvements and modifications, $1,000,000.

NUCLEAR ENERGY DEVELOPMENT

(5) FUSION POWER RESEARCH AND DEVELOPMENT.—

Project 76–5–a, tokamak fusion test reactor, Princeton Plasma Physics Laboratory, Plainsboro, New Jersey, $7,000,000.

(6) GENERAL PLANT PROJECTS.—$15,900,000.

(7) CONSTRUCTION PLANNING AND DESIGN.—$1,500,000.

CAPITAL EQUIPMENT NOT RELATED TO CONSTRUCTION

(8) CAPITAL EQUIPMENT.—

Acquisition and fabrication of capital equipment not related to construction, for the following programs, a sum of dollars equal to the total of the following amounts:

(A) Fossil energy development, $200,000.

(B) Geothermal energy development, $200,000.

(C) Conservation research and development including improved conversion efficiency, $2,900,000.

(D) Physical research in molecular and materials sciences in support of nonnuclear energy technology, $1,037,000.

(E) Environmental and safety research in support of nonnuclear energy technologies, $500,000.

(F) Nuclear energy and other programs, $58,086,000.

SEC. 202. LIMITATIONS.—(a) The Administration is authorized to start any project set forth in subsections 201(b) (4) and (5) only if the currently estimated cost of that project does not exceed by more than 25 per centum the estimated cost set forth for that project.

(b) The Administration is authorized to start any project under subsection 201(b)(6) only if it is in accordance with the following:

(1) The maximum currently estimated cost of any project shall be $750,000 and the maximum currently estimated cost of any building included in such project shall be $300,000: Provided, That the building cost limitation may be exceeded if the Administration determines that it is necessary in the interest of efficiency and economy.

(2) The total cost of all projects undertaken under subsection 201(b)(6) shall not exceed the estimated cost set forth in that subsection by more than 10 per centum.

(c) The total cost of any project undertaken under subsection 201 (b) (4) and (5) shall not exceed the estimated cost set forth for that project by more than 25 per centum, unless and until additional appropriations are authorized under section 261 of the Atomic Energy Act of 1954, as amended: Provided, That this subsection will not apply to any project with an estimated cost less than $5,000,000.

SEC. 203. AMENDMENT OF PRIOR YEAR ACTS.—(a) Section 101 of Public Law 91–273, as amended, is further amended by striking from subsection (b)(1), project 71–1–f, process equipment modifications, gaseous diffusion plants, the figure "$478,100,000" and substituting therefor the figure "$510,100,000".

(b) Section 101 of Public Law 93–60, as amended, is further amended by striking from subsection (b)(1), project 74–1–g, cascade uprating program, gaseous diffusion plants, the figure "$259,600,000" and substituting therefor the figure "$270,400,000".

TITLE III—GENERAL PROVISIONS

PART A—PROVISIONS RELATING TO PROGRAMS OTHER THAN FOSSIL ENERGY DEVELOPMENT

SEC. 301. The Administrator is authorized to perform construction design services for any Administration construction project whenever (1) such construction project has been included in a proposed authorization bill transmitted to the Congress by the Administrator, and (2) the Administrator determines that the project is of such urgency that construction of the project should be initiated promptly upon enactment of legislation appropriating funds for its construction.

SEC. 302. Any moneys received by the Administration may be retained and used for operating expenses (except sums received from disposal of property under the Atomic Energy Community Act of 1955 and the Strategic and Critical Materials Stockpiling Act, as amended, and fees received for tests or investigations under the Act of May 16, 1910, as amended (42 U.S.C. 2301; 50 U.S.C. 98h; 30 U.S.C. 7)), notwithstanding the provisions of section 3617 of the Revised Statutes (31 U.S.C. 484), and may remain available until expended.

SEC. 303. Transfers of sums from the "Operating expenses" appropriation may be made to other agencies of the Government for the performance of the work for which the appropriation is made, and in such cases the sums so transferred, may be merged with the appropriation to which transferred.

SEC. 304. Sections 301, 302, and 303 of this Act do not apply to fossil energy development programs of the Administration.

PART B—PROVISIONS RELATING TO NONNUCLEAR ENERGY DEVELOPMENT

SEC. 305. REPROGRAMING AUTHORITY.—Except as provided in part C of this title—

(1) no amount appropriated pursuant to this Act may be used for any nonnuclear program in excess of the amount actually authorized for that particular program by this Act,

(2) no amount appropriated pursuant to this Act may be used for any nonnuclear program which has not been presented to, or requested of, the Congress,

unless (A) a period of thirty calendar days (not including any day in which either House of Congress is not in session because of adjournment of more than three calendar days to a day certain) has passed after the receipt by the Committee on Science and Technology of the House of Representatives and the Committee on Interior and Insular affairs of the Senate of notice given by the Administrator containing a full and complete statement of the action proposed to be taken and the facts and circumstances relied upon in support of such proposed action, or (B) each such committee before the expiration of such period has transmitted to the Administrator written notice to the effect that such committee has no objection to the proposed action: Provided, That the following categories may not, as a result of reprograming, be decreased by more than 10 per centum of the sums appropriated pursuant to this Act for such categories: Coal, petroleum and natural gas, oil shale, solar, geothermal, and conservation.

SEC. 306. The Administrator shall submit to the Committee on Science and Technology of the House of Representatives and the Committee on Interior and Insular Affairs of the Senate a detailed explanation of the allocation of the funds appropriated pursuant to sections 101(a) and 201(a) of this Act for nonnuclear energy programs and subprograms, reflecting the relationships, consistencies, and dissimilarities between those allocations and (a) the comprehensive program definition transmitted pursuant to section 102 of the Geothermal Energy Research, Development, and Demonstration Act, (b) the comprehensive program definition transmitted pursuant to section 15 of the Solar Energy Research, Development, and Demonstration Act of 1974 (42 U.S.C. 5564), (c) the comprehensive nonnuclear energy research development, and (d) demonstrations transmitted pursuant to section 6 of the Federal Nonnuclear Energy Research and Development Act of 1974 (42 U.S.C. 5905).

SEC. 307. When so specified in an appropriation Act, any amount appropriated pursuant to this Act for "Operating expenses" or for "Plant and capital equipment" for nonnuclear energy may remain available until expended.

SEC. 308. The Administrator shall, by June 30, 1976, and by the end of each fiscal year thereafter, submit a report to the Committee on Science and Technology of the House of Representatives and the Committee on Interior and Insular Affairs of the Senate detailing the extent to which small business and nonprofit organizations are being funded by the nonnuclear research, development, and demonstration programs of the Administrator, and the extent to which small business involvement pursuant to section 2(d) of the Energy Reorganization Act of 1974 (42 U.S.C. 5801(d)) is being encouraged by the Administrator.

SEC. 309. The Administrator shall coordinate nonnuclear programs of the Administration with the heads of relevant Federal agencies in order to minimize unnecessary duplication of programs, projects, and research facilities.

SEC. 310. The Administrator shall, as soon as practicable and consistent with design, economic, and feasibility studies, include in an annual authorization proposal a recommendation on construction of at least one demonstration offshore wind-electric generating facility.

SEC. 311. As a part of the annual report required by section 15(a)(1) of the Federal Nonnuclear Energy Research and Development Act of 1974 (42 U.S.C. 5914(a)(1)), the Administrator shall:

(a) detail the Solar Energy Division personnel level recommended for the current fiscal year by the Administrator and submitted to the Office of Management and Budget, and the personnel level authorized upon review by that Office; and

(b) detail progress toward completion by January 1, 1980, of the objectives of the Solar Energy Research Development, and Demonstration Act of 1974 (42 U.S.C. 5551, et seq.).

SEC. 312. The Federal Nonnuclear Energy Research and Development Act of 1974 (42 U.S.C. 5901), as amended by section 103 of this Act, is amended by adding at the end thereof the following new section:

"CENTRAL SOURCE OF NONNUCLEAR ENERGY INFORMATION

"SEC. 18. The Administrator shall promptly establish, develop, acquire, and maintain a central source of information on all energy resources and technology in furtherance of the Administrator's research, development, and demonstration mission carried out directly or indirectly under this Act. When the Administrator determines that such information is needed to carry out the purposes of this Act, he may acquire proprietary and other information (a) by purchase through negotiation or by donation from any person, or (b) from another Federal agency. The information maintained by the Administrator shall be made available to the public, subject to the provisions of section 552 of title 5, United States Code, and section 1905 of title 18, United States Code, and to other Government agencies in a manner that will facilitate its dissemination: Provided, That upon a showing satisfactory to the Administrator by any person that any information, or portion thereof, obtained under this section by the Administrator directly or indirectly from such person, would, if made public, divulge (1) trade secrets or (2) other proprietary information of

such person, the Administrator shall not disclose such information and disclosure thereof shall be punishable under section 1905 of title 18, United States Code: Provided further, That the Administrator shall, upon request, provide such information to (A) any delegate of the Administrator for the purpose of carrying out this Act, and (B) the Attorney General, the Secretary of Agriculture, the Secretary of the Interior, the Federal Trade Commission, the Federal Energy Administration, the Environmental Protection Agency, the Federal Power Commission, the General Accounting Office, other Federal agencies, when necessary to carry out their duties and responsibilities under this and other statutes, but such agencies and agency heads shall not release such information to the public. This section is not authority to withhold information from Congress or any committee of Congress upon request of the chairman.".

SEC. 313. The Federal Nonnuclear Energy Research and Development Act of 1974 (42 U.S.C. 5901) is amended by adding at the end thereof (after the new section added by section 312 of this Act) the following new section:

"*ENERGY INFORMATION*

"*SEC. 19. The Administrator is, upon rejuest, authorized to obtain energy information under section 11(d) of the Energy Supply and Environmental Coordination Act of 1974, as amended (15 U.S.C. 796(d)).*".

PART C—PROVISIONS RELATING TO FOSSIL ENERGY DEVELOPMENT

SEC. 314. Funds appropriated pursuant to this Act for "Operating expenses" for fossil energy purposes may be used for (1) any facilities which may be required at locations, other than installations of the Administration, for the performance of research and development contracts, and (2) grants to any organization for purchase or construction of research facilities. No such funds shall be used for the acquisition of land. Fee title to all such facilities shall be vested in the United States, unless the Administrator determines in writing that the programs of research and development authorized by this Act shall best be implemented by vesting fee title in an entity other than the United States: Provided, That, before approving the vesting of title in such entity, the Administrator shall (A) transmit such determination, together with all pertinent data, to the Committee on Science and Technology of the House of Representatives and the Committee on Interior and Insular Affairs of the Senate, and (B) wait a period of thirty calendar days (not including any day in which either House of Congress is not in session because of adjournment of more than three calendar days to a day certain), unless prior to the expiration of such period each such committee has transmitted to the Administrator written notice to the effect that such committee has no objection to the proposed action. Each grant shall be made under such conditions as the Administrator deems necessary to insure that the United States will receive therefrom benefits adequate to justify the making of the grant. No such funds shall be used

under clause (1) of the first sentence of this section for the construction of any major facility the estimated cost of which, including collateral equipment, exceeds $250,000 unless the Administrator shall (i) transmit a report on such major facility showing the nature, purpose, location, and estimated cost of such facility to the Committee on Science and Technology of the House of Representatives and the Committee on Interior and Insular Affairs of the Senate, and (ii) wait a period of thirty calendar days (not including any day in which either House of Congress is not in session because of adjournment of more than three calendar days to a day certain), unless prior to the expiration of such period each such committee has transmitted to the Administrator written notice to the effect that such committee has no objection to the proposed action.

SEC. 315. Not to exceed three per centum of all funds appropriated pursuant to this Act for "Operating expenses" for fossil energy purposes may be used by the Administrator to construct, expand, or modify laboratories and other facilities, including the acquisition of land, at any location under the control of the Administrator, if the Administrator determines that (1) such action would be necessary because of changes in the national programs authorized to be funded by this Act or because of new scientific or engineering developments, and (2) deferral of such action until the enactment of the next authorization Act would be inconsistent with the policies established by Congress for the Administration. No portion of such sums may be obligated for expenditure or expended for such activities, unless (A) a period of thirty calendar days (not including any day in which either House of Congress is not in session because of adjournment of more than three calendar days to a day certain) has passed after the Administrator has transmitted to the Committee on Science and Technology, of the House of Representatives and the Committee on Interior and Insular Affairs of the Senate a written report containing a full and complete statement concerning (i) the nature of construction, expansion, or modification, (ii) the cost thereof, including the cost of any real estate action pertaining thereto, and (iii) the reason why such construction, expansion, or modification is necessary and in the national interest, or (B) each such committee before the expiration of such period has transmitted to the Administrator written notice to the effect that such committee has no objection to the proposed action.

SEC. 316. The Administrator shall conduct an environmental and safety research, development, and demonstration program related to fossil fuels.

TITLE IV—OAK RIDGE HOLIFIELD NATIONAL LABORATORY

SEC. 401. The Holifield National Laboratory at Oak Ridge, Tennessee, shall hereafter be known and designated as the "Oak Ridge National Laboratory". Any reference in any law, map, regulation, document, record, or other paper of the United States to the Holifield National Laboratory or to the Oak Ridge National Laboratory shall be held to be a reference to the "Oak Ridge National Laboratory".

SEC. 402. The Heavy Ion Research Facility under construction at Oak Ridge, Tennessee, is hereby designated as the "Holifield Heavy Ion Research Facility". Any reference in any law, regulation, map, record, or other document of the United States to the Heavy Ion Research Facility shall be considered a reference to the "Holifield Heavy Ion Research Facility".

TITLE V—AIR TRANSPORTATION OF PLUTONIUM

SEC. 501. The Energy Research and Development Administration shall not ship plutonium in any form by aircraft whether exports, imports, or domestic shipment: Provided, That any exempt shipments of plutonium, as defined by section 502, are not subject to this restriction. This restriction shall be in force until the Energy Research and Development Administration has certified to the Joint Committee on Atomic Energy of the Congress that a safe container has been developed and tested which will not rupture under crash and blast testing equivalent to the crash and explosion of a high-flying aircraft.

SEC. 502. For the purposes of this title, the term "exempt shipments of plutonium" shall include the following:

(1) Plutonium shipments in any form designed for medical application.

(2) Plutonium shipments which pursuant to rules promulgated by the Administrator of the Energy Research and Development Administration are determined to be made for purposes of national security, public health and safety, or emergency maintenance operations.

(3) Shipments of small amounts of plutonium deemed by the Administrator of the Energy Research and Development Administration to require rapid shipment by air in order to preserve the chemical, physical, or isotopic properties of the transported item or material.

TITLE VI—ASSISTANCE PAYMENTS AMENDMENTS

SEC. 601. Chapter 9 of the Atomic Energy Community Act of 1955 (42 U.S.C. 2391 et seq.) is amended—

(1) by striking out "Commission" each time it appears in sections 91 and 94, the first time it appears in section 92, and where it appears in section 93, and inserting in each instance in lieu thereof the following: "Administrator";

(2) by striking out "atomic energy" in section 91a(2) and inserting "Energy Research and Development Administration" in lieu thereof;

(3) by striking out "its" in section 91d;

(4) by striking out "itself" in section 91e;

(5) by striking out the period at the end of the first sentence of section 91a, and inserting in lieu thereof the following: ": Provided further, That the Administrator is also authorized to make payments of just and reasonable sums to Anderson County and Roane County, Tennessee.";

(6) by inserting immediately after "Richland School District" in section 91d, but before the closing of parentheses, the following:

"; or not less than six months prior to June 30, 1986, in the case of Anderson County and Roane County, Tennessee";

(7) by striking out "Commission" in the catchlines of sections 92 and 94;

(8) by striking out "Commission" the second time it appears in section 92, and inserting "Energy Research and Development Administration" in lieu thereof; and

(9) by striking out the final period in section 93 and inserting in lieu thereof the following: "; and in the case of Anderson County and Roane County, Tennessee, shall not extend beyond June 30, 1986.".

And the Senate agree to the same.

OLIN E. TEAGUE,
MELVIN PRICE,
JOHN YOUNG,
THOMAS N. DOWNING,
KEN HECHLER,
DON FUQUA,
GEORGE BROWN, Jr.,
WALTER FLOWERS,
JAMES W. SYMINGTON,
MIKE MCCORMACK,
JOHN B. ANDERSON,
CHARLES A. MOSHER,
ALPHONZO BELL,
BARRY M. GOLDWATER, Jr.,
MANUEL LUJAN, Jr.,
Managers on the Part of the House.

JOHN O. PASTORE,
HENRY M. JACKSON,
STUART SYMINGTON,
FRANK CHURCH,
JOSEPH M. MONTOYA,
J. BENNETT JOHNSTON, Jr.,
FLOYD K. HASKELL,
JOHN GLENN,
CLIFFORD P. CASE,
PAUL J. FANNIN,
HOWARD BAKER, Jr.,
MARK O. HATFIELD,
JIM A. MCCLURE,
Managers on the Part of the Senate.

JOINT EXPLANATORY STATEMENT OF THE COMMITTEE OF CONFERENCE

The managers on the part of the House and the Senate at the Conference on the disagreeing votes of the two Houses on the amendment of the Senate to the bill (H.R. 3474), Energy Research and Development Administration Authorization Act, 1976, and for other purposes, submit the following joint statement to the House and the Senate in explanation of the effect of the action agreed upon by the managers and recommended in the accompanying conference report:

NONNUCLEAR ENERGY

This authorization is the first for the new Energy Research and Development Administration which came into existence January 19, 1975. At the time the original budget request was submitted by the new agency it constituted a compilation of previous programs which had been placed in one agency for the first time. In succeeding months, much information and program direction has occurred on the part of the agency, and the Committees involved in the House and Senate have had an opportunity to evaluate and update their program desires and expectations.

The compromise worked out by the Committee of Conference and reflected in the accompanying amendment which is recommended take into account each of the above considerations.

A. SUMMARY OF NONNUCLEAR PROGRAMS

Titles I and II of the conference report on H.R. 3474 authorize nonnuclear programs, nuclear programs, and joint programs. Sections 101 and 201 authorize funds for those programs in fiscal year 1976 and the transition period.

CONFERENCE RECOMMENDATION OPERATING AND PLANT AND CAPITAL EQUIPMENT BUDGET AUTHORITY

[Dollars in thousands]

	Fiscal year 1976	Transition period
1. The nonnuclear programs are as follows:		
Fossil	$497,821	$132,550
Solar	175,525	46,203
Geothermal	56,390	13,650
Conservation	156,205	35,908
Advanced energy systems	9,150	1,780
2. The increases above the original ERDA request in the other programs are as follows:		
Physical research	24,075	6,136
Environment and safety	44,100	9,319
Scientific and technical education	5,850	1,462
CEQ, WRC, NBS	2,750	687
Program support	9,000	2,250

Section 102 establishes in ERDA an in situ oil shale demonstration program and provides for the transfer to ERDA of the administrative jurisdiction of an oil shale lease, with the lease administration reverting to the Department of the Interior at the end of the demonstration phase. It also provides for consultation with the State and local officials and assistance for communities impacted by the demonstration.

Section 103 authorizes ERDA to provide up to $6 billion in loan guarantees for the construction of commercial demonstration facilities for (1) synthetic fuels from coal, oil shale, biomass, and other domestic resources; (2) energy from solar and other renewable resources; and (3) energy-efficient industrial equipment. It also provides for the further implementation of the geothermal loan guarantee program established under Public Law 93–410.

The following paragraphs discuss the non-geothermal loan guarantees.

Each guarantee must be made in consultation with the Secretary of the Treasury. The Administrator must consult with the Governor and local officials in making his decision. If the Governor objects, the Administrator may override if he decides that it is in the national interest; a judicial review of the override decision is provided. Each guarantee is subject to a Congressional layover of 90 days, and if the project costs over $350 million, either House may disapprove such project during this period.

The Administrator is given a portfolio of financial assistance programs to provide impact aid to affected communities. ERDA, as part of its program report to Congress, must also present a report on the socio-economic effects and their estimated costs.

The title and waiver requirements of the patent policy of the Federal Nonnuclear Energy Research and Development Act of 1974 apply to this program, but not the reporting provisions. All patents and technology resulting from the commercial demonstration facility are treated as part of project assets, in the event of default.

Any employee performing duties under this section and with any financial interest in energy resources associated with an applicant, must make an annual, public disclosure of all such interests.

All applicants or borrowers must be citizens or nationals of the United States.

Title 3 of the Conference Report contains general provisions.

Part A applies to all nuclear programs and to all nonnuclear programs, other than fossil programs. Authority is provided to begin construction design work without specific authorization from Congress for the project; funds may remain available until expended; and ERDA is given the authority to transfer funds to other agencies.

Part B relates to all nonnuclear energy development. It provides for general reprogramming of funds, with Congressional notification, as long as no major category is decreased by more than 10 percent; and a central source of information on all energy resources and technology for R. & D. purposes.

Part C relates to fossil energy development. It provides for reprogramming of operating expenses for construction purposes, and a program of environmental and safety research, development, and demonstration related to fossil fuels.

B. BUDGET ACTIONS

The compromise reflects numerous program decisions to accommodate the views on needed acceleration of nonnuclear programs by the two Houses. Fossil energy programs, for example, were reduced approximately $52 million below the Senate recommendation and increased $85 million over the House figure and solar energy programs were increased $39 million above the Senate recommendation and reduced $25 million below the House recommendation.

U.S. ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION

SUMMARY—FISCAL YEAR 1976 CONFERENCE COMMITTEE RECOMMENDATION

[In thousands of dollars]

	Costs	Changes in selected resources	Construction obligations	Capital equipment obligations	Total	Revised administration request
Fossil energy development:						
Senate authorization	398,733	77,274	73,000	425	549,432	
House authorization	337,040	54,620	20,000	425	412,085	434,485
Conference recommendation	357,373	72,023	68,000	425	497,821	
Original ERDA request	325,040	47,620	20,000	425	393,085	
Amount recommended exceeds original ERDA request	32,333	24,403	48,000	0	104,736	
Solar energy development:						
Senate authorization	97,100	26,248	10,000	0	133,348	
House authorization	96,223	98,577	0	3,000	197,800	89,200
Conference recommendation	97,100	62,425	10,000	3,000	172,525	
Original ERDA request	57,100	13,200	0	0	70,300	
Amount recommended exceeds original ERDA request	40,000	49,225	10,000	3,000	102,225	
Geothermal energy development:						
Senate authorization	33,870	—3,757	10,000	620	40,733	
House authorization	37,650	15,620	0	3,120	56,390	31,390
Conference recommendation	34,750	8,520	10,000	3,120	56,390	
Original ERDA request	28,370	—5,600	0	620	23,390	
Amount recommended exceeds original ERDA request	6,380	14,120	10,000	2,500	33,000	
Conservation research and development:						
Senate authorization	131,280	36,055	0	2,450	169,785	
House authorization	85,862	37,918	0	11,500	135,280	71,820
Conference recommendation	107,555	37,150	0	11,500	156,205	
Original ERDA request	35,020	4,000	0	2,450	41,470	
Amount recommended exceeds original ERDA request	72,535	33,150	0	9,050	114,735	
Physical research (increment only):						
Senate authorization	18,000	6,000	0	5,000	29,000	
House authorization	13,450	2,450	0	4,100	20,000	
Conference recommendation	15,725	3,750	0	4,600	24,075	
Environment and safety (increment only):						
Senate authorization	26,500	8,800	6,800	0	42,100	
House authorization	10,800	2,700	0	2,000	15,500	
Conference recommendation	26,500	8,800	6,800	2,000	44,100	
Advanced energy systems supporting activities:						
Senate authorization	6,550	2,600	0	0	9,150	
House authorization	6,550	2,600	0	0	9,150	11,350
Conference recommendation	6,550	2,600	0	0	9,150	
Scientific and technical education:						
Senate authorization	5,000	1,700	0	0	6,700	
House authorization	4,000	1,000	0	0	5,000	0
Conference recommendation	4,500	1,350	0	0	5,850	
CEQ, WRC, NBS:						
Senate authorization	3,200	0	0	0	3,200	
House authorization	1,500	0	0	0	1,500	2,750
Conference recommendation	2,750	0	0	0	2,750	
Program support (increment only):						
Senate authorization	10,300	0	0	0	10,300	
House authorization	6,600	0	0	0	6,600	
Conference recommendation	9,000	0	0	0	9,000	
Total Senate authorization	730,533	154,920	99,800	8,495	993,748	
Total House authorization	599,675	215,485	20,000	24,145	859,305	
Total conference recommendation	661,803	196,618	94,800	24,645	977,866	
Total original ERDA request	452,080	61,820	20,000	3,495	537,395	
Total amount recommended exceeds original ERDA request	209,723	134,798	74,800	21,150	440,471	

DETAILED FISCAL YEAR 1976 CONFERENCE COMMITTEE RECOMMENDATION

[In thousands of dollars]

	Costs	Changes in selected resources	Construction obligations	Capital equipment obligations	Total	Revised administration request
FOSSIL ENERGY						
Coal liquefaction:						
Senate authorization	96,897	665	20,000	0	117,562	
House authorization	96,897	665	20,000	0	117,562	117,562
Conference recommendation	96,897	665	20,000	0	117,562	
High-Btu gasification:						
Senate authorization	37,838	20,526	20,000	0	78,364	
House authorization	42,838	20,526	0	0	63,364	63,364
Conference recommendation	37,838	20,526	20,000	0	78,364	
Low-Btu gasification:						
Senate authorization	49,171	—3,782	20,000	0	65,389	
House authorization	54,671	—4,282	0	0	50,389	45,389
Conference recommendation	54,671	—4,282	15,000	0	65,389	
Advanced power systems:						
Senate authorization	8,261	2,340	0	0	10,601	
House authorization	5,261	1,340	0	0	6,601	10,001
Conference recommendation	8,261	2,340	0	0	10,601	
Direct combustion:						
Senate authorization	32,645	5,451	13,000	0	51,096	
House authorization	32,645	5,451	0	0	38,096	45,096
Conference recommendation	32,645	5,451	13,000	0	51,096	
Advanced research and supporting technology:						
Coal conversion:						
Senate authorization	13,000	1,000	0	0	14,000	
House authorization	13,000	1,000	0	0	14,000	14,000
Conference recommendation	13,000	1,000	0	0	14,000	
Direct coal utilization:						
Senate authorization	4,600	400	0	0	5,000	
House authorization	4,600	400	0	0	5,000	5,000
Conference recommendation	4,600	400	0	0	5,000	
Supporting research:						
Senate authorization	8,374	119	0	0	8,493	
House authorization	8,374	119	0	0	8,493	8,493
Conference recommendation	8,374	119	0	0	8,493	
Systems studies:						
Senate authorization	6,087	1,813	0	0	7,900	
House authorization	9,087	2,813	0	0	11,900	7,900
Conference recommendation	9,087	2,813	0	0	11,900	
Demonstration plants:						
Senate authorization	18,100	18,900	0	0	37,000	
House authorization	18,100	18,900	0	0	37,000	37,000
Conference recommendation	18,100	18,900	0	0	37,000	
Natural gas and oil extraction:						
Senate authorization	47,065	11,264	0	100	58,429	
House authorization	28,065	6,864	0	100	35,029	35,029
Conference recommendation	32,865	8,564	0	100	41,529	
Natural gas and oil utilization:						
Senate authorization	1,582	215	0	0	1,797	
House authorization	1,582	215	0	0	1,797	1,797
Conference recommendation	1,582	215	0	0	1,797	
Oil shale in-situ processing:						
Senate authorization	24,000	6,318	0	325	30,643	
House authorization	7,034	686	0	325	8,045	14,045
Conference recommendation	16,000	3,000	0	325	19,325	
Oil shale composition and characterization:						
Senate authorization	1,113	152	0	0	1,265	
House authorization	1,113	152	0	0	1,265	1,265
Conference recommendation	1,113	152	0	0	1,265	
Magnetohydrodynamics:						
Senate authorization	50,000	11,893	0	0	61,893	
House authorization	13,773	—229	0	0	13,544	28,544
Conference recommendation	22,340	12,160	0	0	34,500	
Total fossil energy:						
Senate authorization	398,733	77,274	73,000	425	549,432	
House authorization	337,040	54,620	20,000	425	412,085	434,485
Conference recommendation	357,373	72,023	68,000	425	497,821	

DETAILED FISCAL YEAR 1976 CONFERENCE COMMITTEE RECOMMENDATION—Continued

[In thousands of dollars]

	Costs	Changes in selected resources	Construction obligations	Capital equipment obligations	Total	Revised administration request
SOLAR ENERGY DEVELOPMENT						
Solar energy buildings and facilities:						
Senate authorization	31,600	7,780	0	0	39,380	
House authorization	30,885	24,357	0	500	55,742	28,500
Conference recommendation	31,600	16,070	0	500	48,170	
Solar thermal:						
Senate authorization	11,000	2,200	10,000	0	23,200	
House authorization	19,392	19,028	0	750	39,170	17,000
Conference recommendation	11,000	10,610	10,000	750	32,360	
Photovoltaic:						
Senate authorization	21,000	6,460	0	0	27,460	
House authorization	17,239	22,219	0	1,000	40,458	19,000
Conference recommendation	21,000	14,340	0	1,000	36,340	
Wind energy conversion:						
Senate authorization	15,000	4,500	0	0	19,500	
House authorization	12,442	11,925	0	500	24,867	11,500
Conference recommendation	13,720	8,210	0	500	22,430	
Bioconversion to fuels:						
Senate authorization	6,000	1,600	0	0	7,600	
House authorization	4,825	4,174	0	0	8,999	6,000
Conference recommendation	5,780	2,890	0	0	8,670	
Ocean thermal energy conversion:						
Senate authorization	6,000	1,558	0	0	7,558	
House authorization	5,977	9,529	0	0	15,506	3,200
Conference recommendation	6,000	5,545	0	0	11,545	
Resource analysis:						
Senate authorization	1,500	500	0	0	2,000	
House authorization	1,788	2,366	0	0	4,154	3,800
Conference recommendation	1,500	1,660	0	0	3,160	
Solar storage:						
Senate authorization	0	0	0	0	0	
House authorization	1,788	2,366	0	0	4,154	0
Conference recommendation	1,500	1,600	0	0	3,100	
Solar institute:						
Senate authorization	5,000	1,650	0	0	6,650	
House authorization	1,887	2,613	0	250	4,750	200
Conference recommendation	5,000	1,500	0	250	6,750	
Capital equipment not identified to program						
Total solar energy:						
Senate authorization	97,100	26,248	10,000	0	133,348	
House authorization	96,223	98,577	0	3,000	197,800	89,200
Conference recommendation	97,100	62,425	10,000	3,000	172,525	
GEOTHERMAL ENERGY DEVELOPMENT						
Geothermal energy demonstration:						
Senate authorization	0	0	10,000	0	10,000	
House authorization	7,200	15,800	0	0	23,000	0
Conference recommendation	0	0	10,000	0	10,000	
Resource utilization:						
Senate authorization	17,870	—3,070	0	0	14,800	
House authorization	18,750	—1,450	0	500	17,800	12,600
Conference recommendation	18,750	5,200	0	500	24,450	
Supporting research and development:						
Senate authorization	16,000	—687	0	620	15,933	
House authorization	11,700	1,270	0	2,620	15,590	18,790
Conference recommendation	16,000	3,320	0	2,620	21,940	
Total geothermal energy:						
Senate authorization	33,870	—3,757	10,000	620	40,733	
House authorization	37,650	15,620	0	3,120	56,390	31,390
Conference recommendation	34,750	8,520	10,000	3,120	56,390	
CONSERVATION RESEARCH AND DEVELOPMENT						
Electric power transmission:						
Senate authorization	11,830	300	0	1,700	13,830	
House authorization	11,830	300	0	1,700	13,830	21,130
Conference recommendation	11,830	300	0	1,700	13,830	

DETAILED FISCAL YEAR 1976 CONFERENCE COMMITTEE RECOMMENDATION—Continued

[In thousands of dollars]

	Costs	Changes in selected resources	Construction obligations	Capital equipment obligations	Total	Revised administration request
CONSERVATION RESEARCH AND DEVELOPMENT—Continued						
Energy storage systems:						
Senate authorization	23,100	5,700	0	750	29,550	
House authorization	22,932	5,318	0	2,600	30,850	14,850
Conference recommendation	23,100	5,700	0	2,600	31,400	
Advanced transportation power systems:						
Senate authorization	18,000	4,420	0	0	22,420	
House authorization	19,000	4,500	0	1,500	25,000	12,940
Conference recommendation	19,000	4,500	0	1,500	25,000	
End-use conservation:						
Senate authorization	31,000	11,300	0	0	42,300	
House authorization	27,000	26,000	0	5,000	58,000	18,100
Conference recommendation	31,000	18,650	0	5,000	54,650	
Improved conversion efficiency: [1]						
Senate authorization	17,350	4,335	0	0	21,685	
House authorization	5,100	1,800	0	700	7,600	4,800
Conference recommendation	12,625	3,000		700	16,325	
Fuel cells:						
Senate authorization	(10,000)	(3,235)			(13,235)	
House authorization	[2]	[2]			[2]	(600)
Conference recommendation	(9,000)	(1,000)			(10,000)	
Urban Waste conversion:						
Senate authorization	30,000	10,000	0	0	40,000	
House authorization	0	0	0	0	0	0
Conference recommendation	10,000	5,000	0	0	15,000	
Total conservation:						
Senate authorization	131,280	36,055	0	2,450	169,785	
House authorization	85,862	37,918	0	11,500	135,280	71,820
Conference recommendation	107,555	37,150	0	11,500	156,205	
PHYSICAL RESEARCH (INCREMENT ONLY)						
Materials sciences:						
Senate authorization	8,500	2,850	0	2,500	13,850	
House authorization	8,500	1,900	0	2,600	13,000	
Conference recommendation	8,500	1,900	0	2,600	13,000	
Molecular sciences:						
Senate authorization	9,500	3,150	0	2,500	15,150	
House authorization	4,950	550	0	1,500	7,000	
Conference recommendation	7,225	1,850	0	2,000	11,075	
Total physical research:						
Senate authorization	18,000	6,000	0	5,000	29,000	
House authorization	13,450	2,450	0	4,100	20,000	
Conference recommendation	15,725	3,750	0	4,600	24,075	
ENVIRONMENT & SAFETY (INCREMENT ONLY)						
Health studies:						
Senate authorization	4,660	1,540	6,800		13,000	
House authorization	1,120	280	0		1,400	
Conference recommendation	4,660	1,540	6,800		13,000	
Environmental studies:						
Senate authorization	12,672	4,203	0		16,875	
House authorization	5,520	1,380	0		6,900	
Conference recommendation	12,672	4,203	0		16,875	
Biological studies:						
Senate authorization	2,240	760	0		3,000	
House authorization	1,140	285	0		1,425	
Conference recommendation	2,240	760	0		3,000	
Physical and analytical:						
Senate authorization	6,928	2,297	0		9,225	
House authorization	3,020	755	0		3,775	
Conference recommendation	6,928	2,297	0		9,225	
General program capital equipment:						
Senate authorization				0	0	
House authorization				2,000	2,000	
Conference recommendation				2,000	2,000	
Total environment and safety:						
Senate authorization	26,500	8,800	6,800	0	42,100	
House authorization	10,800	2,700	0	2,000	15,500	
Conference recommendation	26,500	8,800	6,800	2,000	44,100	

Footnotes at end of table.

DETAILED FISCAL YEAR 1976 CONFERENCE COMMITTEE RECOMMENDATION—Continued

[In thousands of dollars]

	Costs	Changes in selected resources	Construction obligations	Capital equipment obligations	Total	Revised administration request
ENVIRONMENT & SAFETY (INCREMENT ONLY)—Continued						
Advanced energy systems research supporting activities:						
Senate authorization	6,550	2,600	0	0	9,150	
House authorization	6,550	2,600	0	0	9,150	11,350
Conference recommendation	6,550	2,600	0	0	9,150	
Scientific and technical education:						
Senate authorization	5,000	1,700	0	0	6,700	
House authorization	4,000	1,000	0	0	5,000	0
Conference recommendation	4,500	1,350	0	0	5,850	
CEQ, WRC, NBS:						
Senate authorization	3,200	0	0	0	3,200	
House authorization	1,500	0	0	0	1,500	2,750
Conference recommendation	2,750	0	0	0	2,750	
Program support (increment only):						
Senate authorization	10,300	0	0	0	10,300	
House authorization	6,600	0	0	0	6,600	
Conference recommendation	9,000	0	0	0	9,000	

[1] Includes fuel cells.
[2] House authorization for fuel cells included in improved conversion efficiency total.

SUMMARY—TRANSITION PERIOD CONFERENCE COMMITTEE RECOMMENDATION

[In thousands of dollars]

	Costs	Changes in selected resources	Construction obligations	Capital equipment obligations	Total	Revised administration request
Fossil energy development:						
Senate authorization	76,425	46,625	21,250	200	144,500	
House authorization	61,230	40,850	8,000	200	110,280	113,130
Conference recommendation	69,071	43,279	20,000	200	132,550	
Original ERDA request	58,030	39,300	8,000	200	105,530	
Amount recommended exceeds original ERDA request	11,041	3,979	12,000	0	27,020	
Solar energy development:						
Senate authorization	24,550	9,170	2,500	0	36,220	
House authorization	34,075	14,625	0	0	48,700	26,100
Conference recommendation	24,500	19,203	2,500	0	46,203	
Original ERDA request	14,500	5,900	0	0	20,400	
Amount recommended exceeds original ERDA request	10,000	13,303	2,500	0	25,803	
Geothermal energy development:						
Senate authorization	4,425	2,460	2,500	200	9,585	
House authorization	10,100	3,350	0	200	13,650	7,650
Conference recommendation	10,100	850	2,500	200	13,650	
Original ERDA request	3,050	2,000	0	200	5,250	
Amount recommended exceeds original ERDA request	7,050	—1,150	2,500	0	8,400	
Conservation research and development:						
Senate authorization	32,148	7,795	0	500	40,443	
House authorization	20,873	8,160	0	2,900	31,933	17,740
Conference recommendation	26,798	6,210	0	2,900	35,908	
Original ERDA request	8,083	—250	0	500	8,333	
Amount recommended exceeds original ERDA request	18,715	6,460	0	2,400	27,575	
Physical research (increment only):						
Senate authorization	4,500	1,500	0	1,250	7,250	
House authorization	3,500	900	0	600	5,000	
Conference recommendation	3,931	1,168	0	1,037	6,136	
Environment and safety (increment only):						
Senate authorization	6,625	2,200	0	0	8,825	
House authorization	2,700	675	0	500	3,875	
Conference recommendation	6,625	2,194	0	500	9,319	

SUMMARY—TRANSITION PERIOD CONFERENCE COMMITTEE RECOMMENDATION—Continued

[In thousands of dollars]

	Costs	Changes in selected resources	Construction obligations	Capital equipment obligations	Total	Revised administration request
Advanced energy systems supporting activities:						
Senate authorization	1,480	300	0	0	1,780	
House authorization	1,480	300	0	0	1,780	2,780
Conference recommendation	1,480	300	0	0	1,780	
Scientific and technical education:						
Senate authorization	1,250	425	0	0	1,675	
House authorization	1,000	250	0	0	1,250	0
Conference recommendation	1,125	337	0	0	1,462	
CEQ, NRC, NBS:						
Senate authorization	800	0	0	0	800	
House authorization	375	0	0	0	375	450
Conference recommendation	687	0	0	0	687	
Program support (increment only):						
Senate authorization	2,600	0	0	0	2,600	----
House authorization	1,700	0	0	0	1,700	----
Conference recommendation	2,250	0	0	0	2,250	----
Total Senate authorization	154,803	70,475	26,250	2,150	253,678	----
Total House authorization	137,033	69,110	8,000	4,400	218,543	----
Total conference recommendation	146,567	73,541	25,000	4,837	249,945	----
Total original ERDA request	85,143	47,250	8,000	900	141,293	----
Total amount recommended exceeds original ERDA request	61,424	26,291	17,000	3,937	108,652	----

DETAILED TRANSITION PERIOD CONFERENCE COMMITTEE RECOMMENDATION

[In thousands of dollars]

	Costs	Changes in selected resources	Construction obligations	Capital equipment obligations	Total	Revised administration request
FOSSIL ENERGY DEVELOPMENT						
Coal liquefaction:						
Senate action	16,000	12,750	8,000	0	36,750	
House action	16,000	12,750	8,000	0	36,750	36,750
Conference recommendation	16,000	12,750	8,000	0	36,750	
High-Btu gasification:						
Senate action	7,450	1,800	5,000	0	14,250	
House action	8,700	1,800	0	0	10,500	10,500
Conference recommendation	7,450	1,800	5,000	0	14,250	
Low-Btu gasification:						
Senate action	5,900	5,500	5,000	0	16,400	
House action	7,300	5,350	0	0	12,650	11,400
Conference recommendation	7,300	5,350	3,750	0	16,400	
Advanced power systems:						
Senate action	2,050	1,450	0	0	3,500	
House action	1,300	1,200	0	0	2,500	3,500
Conference recommendation	2,050	1,450	0	0	3,500	
Direct combustion:						
Senate action	5,100	9,800	3,250	0	18,150	
House action	5,100	9,800	0	0	14,900	17,000
Conference recommendation	5,100	9,800	3,250	0	18,150	
Advanced research and supporting technology:						
Coal conversion:						
Senate action	2,100	1,900	0	0	4,000	
House action	2,100	1,900	0	0	4,000	4,000
Conference recommendation	2,100	1,900	0	0	4,000	
Direct coal utilization:						
Senate action	500	500	0	0	1,000	
House action	500	500	0	0	1,000	1,000
Conference recommendation	500	500	0	0	1,000	

DETAILED TRANSITION PERIOD CONFERENCE COMMITTEE RECOMMENDATION—Continued

[in thousands of dollars]

	Costs	Changes in selected resources	Construction obligations	Capital equipment obligations	Total	Revised administration request
FOSSIL ENERGY DEVELOPMENT—Continued						
Supporting research:						
Senate action	1,400	450	0	0	1,850	
House action	1,400	450	0	0	1,850	1,850
Conference recommendation	1,400	450	0	0	1,850	
Systems studies:						
Senate action	600	1,400	0	0	2,000	
House action	1,400	1,600	0	0	3,000	2,000
Conference recommendation	1,400	1,600	0	0	3,000	
Demonstration plants:						
Senate action	4,100	4,900	0	0	9,000	
House action	4,100	4,900	0	0	9,000	9,000
Conference recommendation	4,100	4,900	0	0	9,000	
Natural gas and oil extraction:						
Senate action	12,930	1,800	0	100	14,830	
House action	8,330	600	0	100	9,030	6,530
Conference recommendation	9,930	600	0	100	10,630	
Natural gas and oil utilization:						
Senate action	500	—50	0	0	450	
House action	500	—50	0	0	450	450
Conference recommendation	500	—50	0	0	450	
Oil shale in-situ processing:						
Senate action	6,240	1,330	0	100	7,670	
House action	2,000	—50	0	100	2,050	2,050
Conference recommendation	4,241	529	0	100	4,870	
Oil shale composition and characterization:						
Senate action	300	0	0	0	300	
House action	300	0	0	0	300	300
Conference recommendation	300	0	0	0	300	
Magnetohydrodynamics:						
Senate action	11,255	3,095	0	0	14,350	
House action	2,200	100	0	0	2,300	6,800
Conference recommendation	6,700	1,700	0	0	8,400	
Fossil energy totals:						
Senate action	76,425	46,625	21,250	200	144,500	
House action	61,230	40,850	8,000	200	110,280	113,130
Conference recommendation	69,071	43,279	20,000	200	132,550	
SOLAR ENERGY DEVELOPMENT						
Solar energy buildings and facilities:						
Senate authorization	7,400	3,535	0	0	10,935	
House authorization	9,102	4,905	0	0	14,007	8,400
Conference recommendation	7,400	6,617	0	0	14,017	
Solar thermal:						
Senate authorization	3,200	600	2,500	0	6,300	5,300
House authorization	6,888	2,664	0	0	9,552	
Conference recommendation	3,200	2,702	2,500	0	8,402	
Photovoltaic:						
Senate authorization	5,650	1,710	0	0	7,360	5,200
House authorization	6,901	3,004	0	0	9,905	
Conference recommendation	5,650	3,685	0	0	9,335	
Wind energy:						
Senate authorization	4,000	1,400	0	0	5,400	3,400
House authorization	4,509	1,729	0	0	6,238	
Conference recommendation	3,680	2,327	0	0	6,007	
Bioconversion to fuels:						
Senate authorization	1,150	850	0	0	2,000	1,700
House authorization	1,915	244	0	0	2,159	
Conference recommendation	1,095	1,172	0	0	2,267	
Ocean thermal:						
Senate authorization	1,500	520	0	0	2,020	900
House authorization	2,797	891	0	0	3,688	
Conference recommendation	1,475	1,511	0	0	2,986	
Resource analysis:						
Senate authorization	400	135	0	0	535	1,000
House authorization	553	458	0	0	1,011	
Conference recommendation	375	432	0	0	807	
Solar storage:						
Senate authorization	0	0	0	0	0	0
House authorization	653	358	0	0	1,011	
Conference recommendation	375	425	0	0	800	

DETAILED TRANSITION PERIOD CONFERENCE COMMITTEE RECOMMENDATION—Continued

[In thousands of dollars]

	Costs	Changes in selected resources	Construction obligations	Capital equipment obligations	Total	Revised administration request
SOLAR ENERGY DEVELOPMENT—Continued						
Solar institute:						
Senate authorization	1,250	420	0	0	1,670	200
House authorization	757	372	0	0	1,129	
Conference recommendation	1,250	332	0	0	1,582	
Total solar energy:						
Senate authorization	24,550	9,170	2,500	0	36,220	26,100
House authorization	34,075	14,625	0	0	48,700	
Conference recommendation	24,500	19,203	2,500	0	46,203	
GEOTHERMAL ENERGY DEVELOPMENT						
Geothermal energy demonstration:						
Senate authorization	0	0	2,500	0	2,500	
House authorization	5,500	300	0	0	5,800	0
Conference recommendation	0	0	2,500	0	2,500	
Resource utilization:						
Senate authorization	1,500	1,800	0	0	3,300	
House authorization	2,100	2,000	0	0	4,100	3,300
Conference recommendation	4,500	400	0	0	4,900	
Supporting research and development:						
Senate authorization	2,925	660	0	200	3,785	
House authorization	2,500	1,050	0	200	3,750	4,350
Conference recommendation	5,600	450	0	200	6,250	
Total geothermal energy:						
Senate authorization	4,425	2,460	2,500	200	9,585	7,650
House authorization	10,100	3,350	0	200	13,650	
Conference recommendation	10,100	850	2,500	200	13,650	
CONSERVATION RESEARCH AND DEVELOPMENT						
Electric power transmission:						
Senate authorization	2,673	−100	0	200	2,773	
House authorization	2,673	−100	0	200	2,773	5,180
Conference recommendation	2,673	−100	0	200	2,773	
Energy storage systems:						
Senate authorization	5,500	980	0	300	6,780	
House authorization	5,400	900	0	800	7,100	3,220
Conference recommendation	5,400	900	0	800	7,100	
Advanced transportation power systems:						
Senate authorization	4,500	1,060	0	0	5,560	
House authorization	4,800	1,010	0	400	6,210	3,240
Conference recommendation	4,750	1,060	0	400	6,210	
End-use conservation:						
Senate authorization	8,000	2,320	0	0	10,320	
House authorization	7,100	6,000	0	1,300	14,400	4,900
Conference recommendation	8,000	2,000	0	1,300	11,300	
Improved conversion efficiency:[1]						
Senate authorization	3,975	1,035	0	0	5,010	
House authorization	900	350	0	200	1,450	1,200
Conference recommendation	3,475	1,100		200	4,775	
Fuels cells:						
Senate authorization	(2,575)	(615)	(0)	0	(3,190)	
House authorization	(2)	(2)	(0)	0	(2)	0
Conference recommendation	(2,575)	(615)			(3,190)	
Urban waste conversion:						
Senate authorization	7,500	2,500	0	0	10,000	
House authorization	0	0	0	0	0	0
Conference recommendation	2,500	1,250	0	0	3,750	
Total conservation:						
Senate authorization	32,148	7,795	0	500	40,443	
House authorization	20,873	8,160	0	2,900	31,933	17,740
Conference recommendation	26,798	6,210	0	2,900	35,908	

DETAILED TRANSITION PERIOD CONFERENCE COMMITTEE RECOMMENDATION—Continued

[In thousands of dollars]

	Costs	Changes in selected resources	Construction obligations	Capital equipment obligations	Total	Revised administration request
PHYSICAL RESEARCH (INCREMENT ONLY)						
Materials sciences:						
Senate authorization	2,125	705	0	625	3,455	
House authorization	2,200	600	0	400	3,200	
Conference recommendation	2,125	705	0	625	3,455	
Molecular sciences:						
Senate authorization	2,375	795	0	625	3,795	
House authorization	1,300	300	0	200	1,800	
Conference recommendation	1,806	463	0	412	2,681	
Total physical research:						
Senate authorization	4,500	1,500	0	1,250	7,250	
House authorization	3,500	900	0	600	5,000	
Conference recommendation	3,931	1,168	0	1,037	6,136	
ENVIRONMENT AND SAFETY (INCREMENT ONLY)						
Health studies:						
Senate authorization	1,165	385	0		1,550	
House authorization	280	70	0		350	
Conference recommendation	1,165	385	0		1,550	
Environmental studies:						
Senate authorization	3,168	1,057	0		4,225	
House authorization	1,380	345	0		1,725	
Conference recommendation	3,168	1,051	0		4,219	
Biological studies:						
Senate authorization	560	185	0		745	
House authorization	285	71	0		356	
Conference recommendation	560	185	0		745	
Physical and analytical:						
Senate authorization	1,732	573	0		2,305	
House authorization	755	189	0		944	
Conference recommendation	1,732	573	0		2,305	
General program capital equipment:						
Senate authorization				0	0	
House authorization				500	500	
Conference recommendation				500	500	
Total environment and safety:						
Senate authorization	6,625	2,200	0	0	8,825	
House authorization	2,700	675	0	500	3,875	
Conference recommendation	6,625	2,194	0	500	9,319	
Advanced energy systems research supporting activities:						
Senate authorization	1,480	300	0	0	1,780	
House authorization	1,480	300	0	0	1,780	2,780
Conference recommendation	1,480	300	0	0	1,780	
Scientific and technical education:						
Senate authorization	1,250	425	0	0	1,675	
House authorization	1,000	250	0	0	1,250	0
Conference recommendation	1,125	337	0	0	1,462	
CEQ, WRC, NBS:						
Senate authorization	800	0	0	0	800	
House authorization	375	0	0	0	375	450
Conference recommendation	687	0	0	0	687	
Program support (increment only):						
Senate authorization	2,600	0	0	0	2,600	
House authorization	1,700	0	0	0	1,700	
Conference recommendation	2,250	0	0	0	2,250	

[1] Includes fuel cells.
[2] House authorization for fuel cells included in improved conversion efficiency total.

C. DISCUSSION OF SELECTED PROVISIONS

Section 101(a)(1)(H)—Natural Gas and Oil Extraction

The Conference Committee authorization for natural gas and oil extraction represents an increase in the House bill of $6.5 million and a decrease in the Senate amendment of $16.8 million for fiscal year 1976. The $6.5 million for fiscal year 1976 and $1.6 million for the transition period is added to fund additional projects in gas stimulation in Devonian shale. The increase will provide funding for additional resource appraisal work and one additional massive hydraulic fracturing test in Devonian shale, and represents an addition to the $7 million already available for natural gas stimulation in both Devonian shale and Rocky Mountain formations.

Section 101(a)(1)(L)—MHD

The original ERDA request of $15,844,000 for work in magnetohydrodynamics was subsequently revised by ERDA and a request for $35,344,000 was submitted. The House authorized $15,844,000 and the Senate amendment authorized $76,243,000. The Committee of Conference agreed to recommend a fiscal year 1976 authorization of $34,500,000 and a transition period authorization of $8,400,000, for a total of $42,900,000. This amount represents a total increase of $7,556,000 over the amended ERDA request.

These increased funds for the MHD program will be used to increase work in the program categories of Preliminary Testing and Component Development. For the Preliminary Testing category $3.8 million will be used to (1) inaugurate design and construction of two superconducting magnets to be used to study basic high-field generator phenomena and (2) conduct basic engineering rig tests on arc mode current transport to electrodes and how to optimize electrode design to prevent damage to the electrodes by electric arc action.

For the Component Development category $3.8 million will be used to accelerate the effort on the Component Development and Integration Facility. The funds will be expended on both the basic facility and on additional effort on test equipment to be utilized in that facility.

Section 101(a)(2)—Solar Programs

The Conferees recognize that the large increases above the Administration request approved for the solar energy programs introduce uncertainties in the program plans. They have, at the same time, provided significant management flexibility, subject to the "fully and currently informed" requirements under which ERDA keeps Congressional committees informed. The Conferees note, for example, that concepts alternative to the central receiver plan for solar thermal electric power generation—such as fixed mirror distributed focus systems—may be more attractive for small and rural communities. Similarly, solar heating and cooling systems utilizing air as a heat transfer medium may be more attractive than alternative liquid systems in many cases.

Section 101(a)(2)—Ocean Thermal Energy Conversion

The Senate amendment required that $6 million of the total authorized for the solar program would be available for ocean thermal energy conversion. No comparable provision was included in the House bill, but it included $15,506,000 for such research. The conference recommendation provides a total of $11,545,000 for ocean thermal energy conversion. This authorization includes $6 million in costs and $5,545,000 changes in selected resources. The continued high level of funding for ocean thermal energy conversion is intended to indicate the strong support of the conferees for this program.

Section 101(a)(4)—Fuel Cells

The fuel cell program will be managed entirely within the ERDA program called "Improved Conversion Efficiency" under the Assistant Administrator for Conservation. Of the total amount authorized in this program, the conference recommendation provides that $10 million shall be available for an expanded Federal effort in fuel cell technology. The conferees are informed that $8.9 million would be utilized for the initiation of a fuel cell demonstration powerplant, utilizing as a fuel source natural gas or naphtha. In addition, $1 million would be used for general research and development in the use of clean fuels and $100,000 for work with coal-derived fuels.

Section 101(a)(4)(f), (Sec. 103), Sec. 17(a)(b), and Section 201 (a)(4)(f)—Urban Waste Conversion

The Senate amendment included a separate line item for research, development and demonstration in Urban Waste Conversion under the Assistant Administrator for Conservation. The House bill had no specific amount for this purpose, although Urban Waste Conversion has been a part of the bioconversion activity of the Solar Energy Program in the past. The Fiscal Year 1976 Senate figure of $40 million was reduced to $15 million in the Conference recommendation.

The Conferees recognize the potential for overlap with the programs of other agencies not only for the Urban Waste Conversion program subject to direct funding, but also for the loan guaranties which may be implemented through Section 103.

It is the intent of the Conferees that this ERDA Urban Waste Conversion program be carefully coordinated with other Federal agencies, the EPA in particular. At the present time EPA has the major responsibility in this area. EPA provides significant budget assistance to states and local governments for construction in current state-of-the-art urban waste conversion facilities. The ERDA program is not intended to needlessly duplicate this EPA function but rather to emphasize the need for developing urban waste conversion technology in the context of the nation's energy needs. At the present time solid waste represents not only a costly disposal problem and an environmental insult, but also is an important under-utilized source of energy. ERDA's research and development programs must be coordinated through agreements between ERDA and EPA consistent with Congressional policies contained in the Solid Waste Disposal Act and ERDA's legislative authorities.

It is not the intent of the Conferees to impinge on the current EPA program. Rather, we expect that the relative roles of ERDA and EPA will be decided within the Executive Branch through interagency agreements and coordination. The Conferees expect that unnecessary duplication and overlap in this extremely important pro-

gram will be minimized through close cooperation between the two agencies during the period such an interagency agreement is pending. It is hoped that such an agreement will be reached as soon as feasible. The Conferees feel that ERDA should work closely with EPA in those areas where EPA has special expertise, including, if desirable, the assigning of program management responsibility to EPA by interagency agreement, in order to take advantage of the EPA experience.

Section 101(a)(5)(F)—Authorization for NBS, WRC and CEQ

The Senate bill authorized $1.7 million for the Energy-Related Inventions Evaluation Program conducted by the National Bureau of Standards and $500,000 for the Council of Environmental Quality (CEQ) and $1 million for transfer to the Water Resources Council (WRC). The House bill contained no comparable provision. The conference report provides $1,250,000 for the National Bureau of Standards' program, $500,000 for CEQ, and $1 million for the WRC. Funds transferred to the CEQ and WRC are authorized on a continuing basis by Section 16 of the Federal Nonnuclear Energy Research and Development Act. The conference agreement does not change that provision in any way.

Section 101(b)(1)—Demonstration Plants for Fossil Fuels

The House bill did not contain funding in the plant and capital equipment subsection for the demonstrations included separately in the Senate bill. The conferees accepted the Senate language for the demonstration of high-Btu gasification, $20,000,000; of low-Btu gasification, $15,000,000; and for fluidized bed of $13,000,000.

Section 101(b)(1)—Low-Btu Combined Cycle Demonstration Plant

The Senate bill provided $5 million for plant and capital expenditures for a low-Btu combined cycle plant and an expenditure of $1.250 million for the transition period. The Conference Committee deleted this item from the bill based on advice from ERDA that design work has not yet been undertaken and that a plant and capital equipment authorization at this time would be premature.

It is hoped that by the time of the next budget cycle that ERDA will be in a better position to request funds for such a project.

Section 101(b)(3)—Geothermal

The Senate amendment contained provisions authorizing two geothermal powerplant demonstration projects; one to be located at Raft River, Idaho, and a second to be located at Buffalo Valley, Nevada. The House bill, while authorizing funds for demonstration projects, did not designate specific locations. Specific locations were included in the Senate amendment because the geothermal division of the Atomic Energy Commission, later incorporated into ERDA, requested capital funds for geothermal powerplants for on-going programs in Idaho and Nevada prior to the budgetary review process. In addition, the Senate Interior Committee has conducted public hearings on the Raft River Project on two separate occasions, the most recent hearing conducted in Idaho on October 17, 1975.

While expressing strong support for a demonstration scale project such as that proposed for Raft River, the conference agreed to authorize two geothermal powerplant demonstrations without designating specific sites. The Conferees feel that ERDA should choose the best sites for these and all other demonstration projects. However, the Raft River Project is one of the leading candidates, and is particularly attractive because both private and public entities have already actively participated with ERDA in developing this geothermal resource. In addition, the local electric cooperative as well as other public power entities will require additional power needs in the future and which a successful demonstration powerplant facility could provide much needed information to help meet those demands.

The Conferees agree that at least one of the geothermal powerplants authorized should utilize a geothermal resource with characteristics including medium temperature (below 300 degrees F.) and low salinity, typical of that found in areas of recent volcanic geologic activities such as those associated with observed geothermal phenomena in the northwestern United States. Such a resource is not now proven technologically and is a primary reason why the conference emphasizes the need to demonstrate its practical utilization.

Section 101(b)(11)—Inhalation Toxicology

The Senate authorized $6,800,000 for construction of research facilities for inhalation toxicology at the Lovelace Foundation. The Conferees were subsequently advised that the Administrator has proposed new work at several ERDA facilities to improve the agency's capability to conduct work on inhalation toxicology. The Conferees feel that ERDA should have the flexibility to decide the particular location for use of this increase in funding.

Section 102—In Situ Oil Shale Demonstration on Public Lands

The purpose of section 102 is to expedite the demonstration of technologies for the *in-situ* production of oil from shale in commercial amounts and with sufficient Federal participation in design and monitoring of the demonstration to assure credible evaluation of the results.

The environmental impacts of extensive oil shale development using mining and above-ground retort processes appear to present formidable problems. The disposal of voluminous solid waste products and the collection and disposal of waste water used for material handling are major considerations.

The *in-situ* process offers the possibility of greatly reducing the volumes of material mined and disposed of and virtually eliminating waste water disposal problems. It would also reduce to negligible amounts the water resource demands for oil shale production. But it has not been demonstrated on a large scale and it may also present some unknown serious problems.

In view of the profound public policy questions raised by the potential development of oil shale, an evaluation of the potential for *in situ* development is urgently required. Thus far, private experiments and the incentives of the Federal leasing program have not resulted in activities adequate to evaluate the viability of commercial-scale *in situ* processing.

One requirement for any such undertaking will be a suitable resource base. A second requirement would be sufficient involvement by the Administrator of ERDA in the design of experiments and the monitoring of results to insure credible evaluation of the viability of the *in situ* process as a basis for public policy decisions.

Over three-fourths of the oil shale resource is located on the Federal lands. The opportunity exists, therefore, to propose a cooperative venture in which the Federal participation would include making available for lease a tract of shale suitable for *in situ* development.

Section 102, recommended by the Conferees, authorizes the Administrator of ERDA in consultation with the Secretary of the Interior to select an appropriate tract of public land for an *in situ* oil shale demonstration. The Administrator shall then invite proposals from non-Federal participants to enter into a cooperative arrangement for the demonstration. As a part of the agreement, the Federal government shall lease the oil shale tract to the non-Federal participant without payment of any bonus and without payment of any rents or royalties during the demonstration period. However, any profits accruing from the sale of oil produced during the demonstration phase shall be divided between the Federal Government and the participant in proportion to the value of the contribution of each to the demonstration. The Federal Government's share will be deposited into miscellaneous receipts of the Treasury. During the demonstration, ERDA will administer the lease.

At the conclusion of the demonstration, as determined by ERDA, should the non-Federal participant choose to continue commercial production on the tract, a lease would be issued by the Secretary of the Interior under the Mineral Leasing Law, except that the lease shall provide for profit sharing to the extent that the value of the Federal contribution to the demonstration, including bonus payments and royalties forgone, warrants such payments in excess of usual royalties. Such payments are to be treated as royalties for the purposes of 30 U.S.C. 191.

Provisions are included in Section 102 for State and local governmental consultation, approval of the Governor, and social impact aid assistance similar to those of Section 103.

The Conferees want to emphasize the need for diligent development during and after the demonstration period. Section 102 requires that the lease contain effective provisions toward that end, including provisions for termination of the lease whenever the Secretary of the Interior determines that the lessee is not acting diligently. Frequent criticisms heard by the Conferees during consideration of this section were that Interior's present lease provisions requiring diligence through the use of credits and development plans were not adequate to avoid speculation and encourage early production. Under Interior's prototype oil shale leasing program, the lessee can delay submission of an acceptable development plan for over five years after the lease is issued and even then delay is only "ground" for termination if Interior "so elects."

The Conferees expect that the lease, in the case of Section 102, will require an effective development plan as part of the cooperative agreement with ERDA for the demonstration period and another one for commercial development at the end of the demonstration. If the plans are not acceptable, the lessee should be given a brief period to try to meet objections, but not a year or more as is the case in the prototype program. If a plan is still unacceptable to Interior and ERDA, then the lease should be terminated consistent with existing administrative review procedures.

The lease terms and the cooperative agreement will be the subject of Congressional review under subsection (e) of Section 102.

Section 103—Loan Guarantee Program for Commercial Demonstration Facilities

The Senate amendment included a new section authorizing loan guarantees for up to 75% of the cost of construction and operation of commercial-sized demonstration plants to convert coal and oil shale into synthetic fuels and to generate power or heat in commercial quantities utilizing as their energy source, direct solar, wind, ocean thermal gradient, bioconversion, or geothermal resources. The amendment authorized loan guarantees aggregating $6 billion for this new program. The House bill had no similar provision.

The Conferees recommend a revision of the Senate amendment to add a new Section 17 to the Federal Nonnuclear Energy Research and Development Act of 1974. The new Section 17 limits the guarantees to construction and start-up costs.

The Conferees agree that such a loan guarantee program is needed to initiate a meaningful commercial scale demonstration of promising energy conversion technologies and to generate essential information. A primary objective is to gather data about the technological, economic, environmental, and social costs, benefits, and impacts of these plants.

The Conferees observe that many profound public policy decisions turn upon the viability of replacing imported energy with synthetic fuels created from domestic resources. In the absence of the experience and information which would be provided by the demonstrations assisted by these programs, these decisions will have to be made with inadequate information about their economic viability, their effect on our environment, and their impact on communities and States. This proposal gives the public, through ERDA, the States, local political subdivisions, and Indian Tribes, a say in how, when, and where the first of these plants will be built. With the information gained from these first plants, industry and government at all levels can better plan how, when, and where others will be built.

Section 17(b)(1)(A)—Size of Oil Shale Demonstration Plants

The new section 17(b)(1)(A) includes a proviso that directs ERDA to review carefully applications for loan guarantees to build oil shale commercial demonstration facilities to insure that such demonstration facilities are no larger than actually necessary to demonstrate commercial viability of the technology. Recent hearings by the House Science and Technology Committee have indicated that a full-scale commercial size facility may not be necessary initially to prove the viability of the technology and other factors. It has been suggested that a modular facility may be adequate. The Conferees do not adopt or reject that suggestion, but expect ERDA to examine the matter. The language gives ERDA adequate flexibility to approve whatever facility is reasonable.

The Conferees note that the Administrator's judgment as to the size of the facility would be subject to judicial review under existing law.

Section 17(b)(1)—Geothermal Energy

Loan guarantees for the commercial development of geothermal energy resources will be carried out pursuant to Title II of Public

Law 93–410, the Geothermal Energy Research and Demonstration Act of 1974. Unlike Section 103, which applies only to commercial demonstration facilities, Public Law 93–410 provides for loan guarantees for the purposes of:

(1) The determination and evaluation of the resource base;

(2) Research and development with respect to extraction and utilization technologies;

(3) Acquiring rights in geothermal resources; or

(4) Development, construction, and operation of facilities for the demonstration or commercial production of energy from geothermal resources.

The following paragraphs and subsections of Section 103 do apply to geothermal loan guarantees. These paragraphs and subsections bring the geothermal loan guarantee program and the loan guarantee program of Section 103 into conformity in a number of important aspects:

(b)(1) Removes the limits of $25 million per project and $50 million per borrower.

(b)(2) Relates to information supplied to the Administrator by an applicant for a loan guarantee.

(b)(4) Explicitly pledges the full faith and credit of the United States to the guarantees.

(g)(2) Provides the Administrator with flexibility to provide for the completion and operation of projects in default, if such continuation is in the public interest.

(h) Authorizes the Administrator to pay the lender principle and interest payments if it is in the public interest to prevent default.

(j) Provides authority for the Administrator to collect fees for loan guarantees to cover the applicable administrative costs and probable losses, but not to exceed 1% in any one year of the outstanding indebtedness.

(n) Provides that the geothermal resources fund may have funds made available to it by notes issued by the Administrator to the Secretary of the Treasury.

(v) Provides that information obtained shall be available to public, except where ERDA determines it to be confidential.

Proposed regulations implementing the geothermal loan guarantee program under Public Law 93–410 have been published on October 28, 1975 (40 F.R. 50100). The Conferees intend and expect that the modifications required by Section 103 will not delay promulgation of regulations. This will permit the Geothermal Loan Guarantee Program to be implemented expeditiously.

Section 17(b)(1)—Utilization of Loan Guarantee Authority

Section 103 authorizes a loan guarantee program to assist in the financing of commercial demonstrations of a variety of energy technologies. The total commitment of outstanding guarantees authorized in this measure is limited to $6 billion. The division of this amount among the various technologies has not been included in the bill or arrived at by the Conferees with two exceptions. The total amount included within the $6 billion for loan guarantees in support of social impact assistance to local communities is limited to $350 million.

Additionally, the Conferees agreed to retain a provision of the Senate version of the measure stating "that up to $2,500,000,000 of guarantees shall be available for projects to produce high-Btu gaseous fuel compatible for mixture and transportation with natural gas by pipeline."

The Conferees note that the amount of $2,500,000,000 is a ceiling on the amount to be devoted to high-Btu gas demonstrations, and not a minimum. It was, however, the sense of the conference, as it had been of the Senate committee, to assign a priority to demonstrations of the synthetic production of pipeline quality gas. The advanced state of technology for coal gasification coupled with the critical shortages of natural gas facing many portions of the nation makes the demonstration of viable synthetic gas production technologies an important objective of the Federal research, development and demonstration program.

The Conferees also point out that the scope of the loan guarantee program is not coincident with the scope of the synthetic fuels program which has been outlined by the President's synthetic fuels task force. While the measure provides latitude for the Administrator to apportion the loan guarantees among technologies and to respond to available proposals, the conferees expect the Administrator aggressively to seek and entertain proposals for demonstrations of a full range of technologies. The Administrator will have to make a particular effort to obtain proposals in the less conventional technologies where well established industries do not exist and where the types of potential demonstrations are not widely known.

The Administrator should make a special effort to explore the potential for demonstrations using lignite, peat, and lesser known fossil fuels as an energy source, to demonstrate commercial solar energy applications, and to demonstrate the use of waste products for energy production. This high priority should also extend to significant demonstrations of industrial energy conservation equipment and facilities, since economic energy conservation measures are perhaps the most environmentally attractive technological frontier today. Further implementation of the geothermal loan guarantee program established by Public Law 93–410 is expedited by incorporation of certain parts of this section.

Section 17(b)(1)—Limitation on Indebtedness

The limitation on outstanding indebtedness guaranteed refers to the total liability or fiscal exposure which may be assumed by ERDA under this section in the event that all the outstanding obligations are defaulted.

Section 17(b)(1)(B)—Renewable Resources

Subsection 17(b)(1)(B) authorizes the Administrator to provide loan guarantee assistance in financing the construction and start-up costs of commercial demonstration facilities that will produce, from various renewable energy resources, commercial quantities of desirable forms of energy. Renewable energy resources are generally considered to be all direct and indirect forms of solar energy, as well as tidal energy. These have the characteristic that they are usually replaced

by natural means within a time span on the order of one or two generations. Such resources include but are not limited to direct solar, wind, ocean thermal gradients, biomass grown purposefully for recovery of energy values, and wastes of all types, such as urban, industrial, agricultural, and forestry wastes. Desirable forms of energy include but are not limited to synthetic fuels, direct heat, electricity, low-grade heat, ammonia, and recycled materials originally produced by methods which consume significant amounts of energy.

Section 17(b)(3) and (k)(2)—Treasury to Act Promptly

This subsection was adopted to assure that the loan guarantees are administered with the concurrence of the Secretary of the Treasury so as to minimize the impact on the money market and coordinate these efforts with other Administration programs which affect fiscal policy. It is expected that the Secretary of the Treasury will act promptly so that the concurrence will not delay the implementation of this program and that the Secretary will exercise special care that smaller projects will not be delayed.

Section 17(c)—Competition

Subsection (c) requires that the Administrator have due regard for competition in carrying out loan guarantees. The Conferees are concerned that concentration in the energy business not be further aggravated through Federal loan guarantees. The Administrator is expected to be sensitive to this concern. The Conferees note as well that by-products from a commercial demonstration may have value comparable to the primary product. It is expected that the Administrator will consider these significant by-products when giving due consideration to the maintenance of competition.

Section 17(c)(1)—Financial Participation

The Senate amendment referred to financial participation by private lenders or investors and referenced approval of application for a guarantee by the Secretary of the Treasury. In order to permit the utilization of the Federal Finance Bank, where appropriate, as authorized by the Federal Finance Bank Act of 1973 (Public Law 93–224, 12 U.S.C. 1281), the reference to "private lenders or investors" has been deleted.

Section 17(c)(2)—Project Costs

The Senate amendment authorized ERDA to make guarantees for up to 75% of the total project cost of each facility. It added that during the period of construction this guaranteed amount could exceed this percentage limit until construction is completed as determined by ERDA. Thus, the guarantee could be as high as 100% during construction.

The Conference recommendation is to retain the 75% limitation and to authorize a higher percentage during construction and the start up period but limit this to a maximum of 90%. The conferees emphasize that ERDA must require in the regulations or each guarantee agreement that the total guarantee of the facility when construction and start up ends and commercial operation begins as determined by ERDA does not exceed 75%. The Conferees want to make it clear that at all times the borrower will have a substantial and meaningful

equity in the facility so that the risk will be shared. ERDA will have to examine the form of equity to insure compliance with this intention of the conferees.

The Conferees considered and rejected a provision to exclude from project costs for the purposes of loan guarantees the value of certain payments made to the United States such as bonuses, royalties, and rents. It is the intent of the Conferees, however, that the value of any Federal facilities, property, or other consideration which in certain situations might be made available for use in any demonstration project be excluded from project costs unless the Federal Government has, in fact, been paid the value of such facilities, property, or considerations by the parties financing the project.

Section 17(d)—Competitive Impact

Noting concern about the competitive impact of each commercial demonstration facility, the Conferees included in the new section 17 of the Federal Nonnuclear Energy Research and Development Act of 1974 provisions for consideration of this problem.

In subsection (c) ERDA must consider the need for competition in making loan guarantees.

In subsection (d), ERDA is required to solicit from the Attorney General and the Chairman of the Federal Trade Commission written views, comments, and recommendations concerning the impact of each proposed loan guarantee on competition and concentration in the energy supply industry. ERDA must do this in a timely fashion, but at least 60 days before ERDA sends its report on the proposed guarantee to Congress under subsection (m).

The Conferees expect that Justice and the FTC will act in timely fashion and provide their comments, etc., to ERDA so that ERDA can act upon them and the two Congressional committees can consider them also. In this regard, the Conferees intend that the FTC act expeditiously using its Bureau of Competition in reviewing each guarantee. It is expected, however, that each agency will give serious and meaningful attention and provide a comprehensive and adequate response, including, where appropriate, recommendations. The Conferees note that such recommendations could possibly include suggestions for improving a guarantee contract to overcome any anti-competitive or other problem that may exist.

The Conference Committee in its deliberation on this section emphasized that the Administrator carefully review the effect of approving a loan guarantee on the continued concentration of ownership in existing energy companies, particularly the integrated companies. The Administrator in carrying out the purpose of this section is urged to give appropriate priorities to those applicants for guarantees whose ownership is held by independent users of oil, coal or natural gas.

Section 17(e)(1)—State Review

The new Section 17(e)(1) of the 1974 Act provides that once ERDA has ascertained, after reviewing applications for loan guarantees and determining which are capable of being approved, where a proposed demonstration facility is likely to be located, ERDA must promptly notify the appropriate State and local governmental officials. Before ERDA can approve any such application, however, ERDA must give

the Governor of the State where the facility will be located an opportunity to make a recommendation thereon. For the Governor to act effectively and in a timely manner, ERDA and the applicant will have to provide to the State sufficient data on which the Governor can make an informed judgment.

If the Governor recommends against making the guarantee for the facility, the ERDA must refrain from doing so unless the Administrator finds that there is an overriding national interest and sets forth his reasons for this finding in writing to the Governor. Clearly, if ERDA seeks to override the Governor, the burden is on ERDA to show that this particular facility is indeed in the national interest.

The ERDA decision is subject to judicial review filed within 90 days after the decision.

Provision is also made for ERDA regulations concerning review by States and communities which may be impacted by the facility in any way and by the general public. These regulations must be published within 180 days after enactment.

Section 17(g)(2)—Disposal of Property in Case of Default

In the event of default, the Administrator is provided with the authority to complete the project, maintain the facility, operate the facility, including purchase of necessary feedstock and other material, and the authority to sell the products or energy produced by the facility. Such operation may be by the Federal Government or by other parties or by the defaulting borrower, where the Administrator determines that permitting the borrower to continue pursuing the purposes of the facility is in the public interest.

Section 17(g)(4)—Disposition of Patents on Default

Section 17(g)(4) provides that "patents and technology resulting from the commercial demonstration facility shall be treated as project assets of such facility in accordance with terms and conditions of the guarantee agreement." The purpose of this provision is to make clear that in the event of default intangible assets such as patents and technology are subject to claim by the United States in the same manner as tangible, physical assets. The term technology is intended to be all-inclusive and embrace such items as know-how and trade secrets. Patents and technology may well be extremely valuable assets of a defaulted project, and should be available to the United States upon default.

The phrase "in accordance with the terms and conditions of the guarantee agreement" is not intended to eviscerate this provision. Rather, it is a direction that ERDA should include in the guarantee agreement detailed provisions protecting the rights of the United States and other interested parties. At the same time the conferees appreciate that ERDA must have some flexibility to sort out the rights of all interested parties. This is merely a recognition of the complexities and subtleties attendant to patent and technology rights.

The typical project participant may well own some patents and technology outright while being the licensee of other such rights. One of the government's objectives upon default is to have available, for itself and its designees, the patents and technology necessary to complete and operate the defaulting project. The mixture of owned and licensed patents and technology complicates the simple achievement of this goal.

Another complexity of the disposition of patents and technology upon default is the problem of severing the borrower's background patents and technology from subsequent improvements thereon because of the project. If the improvements are severable, then they can be treated as project assets in a straightforward manner. However, where this is not possible, ERDA must have the flexibility to tailor its guarantee agreement to meet its needs for the continued operation of the project.

Section 17(g)(4) also provides that "the guarantee agreement shall contain a provision specifying that patents, technology, and other proprietary rights which are necessary for the completion or operation of the commercial demonstration facility shall be available to the Government and its designees on equitable terms, including due consideration to the amount of the Government's default payments." The purpose of this authority is to insure that the full complement of patents and technology required for the limited purpose of completing and operating the defaulting project will be available to the government and its designees. Without this provision, it is conceivable that blocking patents and technology of the project participant or patents and technology licensed to the project participant by others might frustrate the ability of the United States or its designee to expeditiously and economically complete the project.

Waivers under Section 17(r) of this Act are not intended to override the applicability of section 17(g)(4) and should be made subject to its provisions.

Section 17(k)—Community Impact Assistance

The Conferees were concerned, based on extensive testimony before the House Science and Technology Committee in September and October of this year, that the construction of commercial demonstration facilities would result in a sudden influx of construction workers, operating personnel, support personnel, and secondary (service) workers and their families. In unanticipated and unplanned circumstances, rapid increases in population can have adverse socioeconomic impacts on a community. In many cases, such adverse effects can be avoided with adequate planning and early construction of public service systems (schools, roads, health care facilities, etc.) and housing.

Under normal circumstances, however, many communities and local governments, even those in more populated areas, probably cannot build the public service system until after the housing has been built and people move in, creating an additional tax base to pay the cost of public services and facilities. The avoidance of these potential adverse effects requires either a slow growth rate—which is not possible, once work on the demonstration facility begins—or some means of financing the construction of needed public service systems in advance of population increase and tax-base growth.

As was made clear in the report of the Senate Committee on Interior and Insular Affairs (page 87), the Senate intended that energy facilities which are assisted by loan guarantees by this measure should provide for the early financing and construction of public service facilities as a part of the cost of demonstrating the energy technology. The

Conferees agreed that existing Federal programs are not adequate in some potential instances to provide for the impacts to local communities which would arise from implementation of the loan guarantee program. The Conferees have provided in subsection (c) of the new section 17 which is added to the Federal Nonnuclear Energy Research and Development Act of 1974 by this conference report that the borrower and the Administrator of ERDA, as well as State and local governmental officials, consider and evaluate these potential impacts before approving a guarantee, and that the Administrator determine that adequate financing of the costs of needed public facilities will be provided for.

The provisions of the conference report amplify and make explicit the intent of the Senate version that the Administrator of ERDA shall assure adequate financial support for local communities to provide essential public facilities required as a direct result of the construction and operation of energy demonstration facilities assisted by loan guarantees. Subsection (b) of the new Section 17 sets forth several alternative forms of assistance to cover essential capital expenditures directly resulting from the proposed commercial demonstration facility for facilities including, but not limited to, public safety, health, education, roads, sewer and water.

First, the subsection authorizes ERDA to extend up to a maximum of 100% guarantees of a local community's obligations for financing such essential public facilities or of the tax revenue stream which is expected from the new commercial demonstration facility. In the former case, the Administrator would guarantee the obligations issued by State, local jurisdictions or Indian Tribes to finance essential public facilities. In the second situation, the Administrator would guarantee to the community the amounts of anticipated tax revenues from the energy demonstration facility. Such revenues could then become a reliable basis for municipal borrowing.

A provision has been included in subsection (s) to make clear that interest paid to a holder of a community's obligations which are guaranteed under the provisions of this measure not be exempt from income taxes. This provision is also designed to make it clear that the conferees are not changing or requiring a community to change the status or type of obligation it issues, but that the holder of the obligation must include the interest arising from the obligation as taxable income.

Because such a provision may result in a higher interest rate upon municipal securities issued by a community, the conferees have provided that ERDA shall pay an interest differential to the community. The amount of the differential will be determined by Treasury. The conferees intend that Treasury have discretion respecting the amount of the differential, the terms and timing of payments, and as to such other conditions as Treasury deems appropriate. An estimate of any such differential payments should be included in the report to Congress required under subsection (m) concerning each guarantee.

The conferees have established a ceiling of $350 million as the maximum outstanding obligation due to guarantees by the Administrator of financing for community development. This amount would be included within the total authorization of $6 billion established for

outstanding obligations to guarantee financing of energy demonstration facilities under this measure. The limitation on the amount of impact assistance which, in the form of guaranteed obligations or the guarantee of the payment of taxes, refers to the principal amount of the obligations involved and not the interest charges on such obligations.

As a further alternative form of community assistance, the entity financing an energy demonstration facility with assistance under this measure could be required by the Administrator to include capital costs for essential public community facilities within the project costs. The funds would then be made available to appropriate public entities under terms and agreements prescribed by the Administrator. payments would be treated as advances on taxes and tax credits would be provided by the public entities to the project to return the amounts over the life of the project.

Additionally, and only if circumstances make the previous approaches impractical or inadequate, the Administrator would be authorized to make direct loans to communities to cover the costs of essential public facilities and to forgive all or part of the repayment of such loans if changes in circumstances, such as failure or partial failure of the demonstration, make repayment by the community from revenues impossible.

A least favored approach is also provided to be used only where the lack of community or other public capability to administer the initial provision of community facilities would necessitate direct construction of community facilities as ancillary facilities of the demonstration itself. The costs of the community facilities would be included within the costs of the demonstration facility and the entity proposing the demonstration would arrange for construction of community facilities under the Administrator's direction and with the greatest possible local public participation.

The Administrator is authorized to provide planning grants to impacted communities to finance up to 100% of the planning of essential public facilities.

Funds for planning grants and loans will be authorized in future annual authorization Acts as required in the way funding for all other ERDA programs is provided.

The community assistance program is also extended to any commercial demonstration of in situ shale oil production which may be undertaken pursuant to the authority granted in Section 102 of this measure.

The conferees noted that the determination by the Administrator of the need for community assistance is to be predicated upon the projected net adverse impacts of the facility on the community, the actual anticipated requirement for essential public facilities made necessary directly as a result of the energy demonstration facility, and the lack of capability for financing such facilities in the absence of assistance taking into account other State and Federal programs. Population increase alone is not to be the measure of need.

The Administrator is expected to work closely in consultation with the impacted States, local governments and public groups in developing an appropriate community assistance program for each situation.

The Administrator, furthermore, is expected to coordinate other applicable Federal assistance programs to avoid duplication and to assist in bringing the full benefits of the programs into effect in each situation.

Section 17(m)—Congressional Oversight

The new section 17(m) provides that before ERDA finally makes a binding commitment to guarantee, or a guarantee of, obligations to any borrower to build a commercial demonstration facility, ERDA must transmit to the House Science and Technology Committee and the Senate Interior and Insular Affairs Committee a complete report on the proposed guarantee and facility.

Each report should be quite detailed. For example, it should include a description of the proposed facility, the expected total costs and benefits, the expected impact, a finding that effective actions have been taken or will be taken to deal with these impacts, the views of the appropriate non-Federal governmental officials and others, a detailed discussion of the extent of Federal financial commitment to the borrower for the facility and to local governmental entities, the terms and conditions of the agreement, a copy of the final environmental impact statement, and other pertinent data. Where the action is taken over the objection of the Governor, the ERDA findings and reasons shall be included. Similarly, the report of the Justice Department and the Federal Trade Commission concerning the impact of such guarantee or commitment on competition and concentration in the production of energy shall be included, together with ERDA's written determination, if any, that despite any objection by such agency the demonstration should proceed from the standpoint of the national interest.

Such report on each proposed guarantee or commitment will lay before the Committees for 90 calendar days, exclusive of days either House adjourns for more than 3 days.

If the estimated cost of proposed commercial demonstration facility will exceed $350 million, ERDA shall not finalize the guarantee or commitment for that facility if either House passes a resolution of disapproval within the 90 day period. These commercial demonstration facilities will often be quite large, have significant environmental and social impacts, and may be controversial. Such projects should require some degree of Congressional scrutiny, short of actual authorization. Those exceeding $350 million in costs require an opportunity for either House to express its disapproval. On these sizeable projects, the Conferees are concerned that they not be built without this opportunity for careful scrutiny by Congress.

Section 17(q)—Transfer of Loan Guarantee Program

It is the expressed intent of the Conferees that the primary responsibility for the entire loan guarantee program remain with the ERDA until otherwise directed by the Congress. The Conferees do not intend to prevent the participation and cooperation of other Federal agencies with the ERDA through normal fund transfers provided that the ERDA maintain the final authority to control the program.

Section 17(r)—Patent Policy

Section 17(r) provides that "inventions made or conceived in the course of or under a guarantee authorized by this section shall be

subject to the title and waiver requirements and conditions of Section 9 of this Act." This compromise provision reflects the intention of the Conference Committee that all of the patent policy provisions, except subsection (b), of Section 9 of the Federal Nonnuclear Energy Research and Development Act of 1974 shall be applicable to the loan guarantee program contained in section 17.

In lieu of the broad reporting requirements of subsection (b), therefore, the Committee determined to provide ERDA with sufficient flexibility to promulgate such rules and regulations pertaining to the filing of reports and information as it believes necessary or appropriate to effectively carry out its mission and to protect the interests of the United States and the public. Exclusion of subsection (b) should not be read as precluding ERDA from promulgating such rules and regulations.

The conferees were concerned about the possible impact of subsection 9(b) on trade secrets and other proprietary rights because of the reports required by the subsection. The concern existed that subsection 9(b) might adversely affect a project participant's background trade secrets and other proprietary rights if such information was made public. Rather than risk discouraging potential project participants from cooperating in the synthetic fuel program because of possible uncertainty with respect to their background rights, the conferees believe that the limited application of Section 9 together with the positive protection contained in Sections 17(v) and 18, will adequately protect the holders of trade secrets and other proprietary rights.

The Conference Committee recognizes that Federal involvement and exposure in research and development programs through loan guarantees is more remote than the immediacy of its involvement and exposure in the case of direct Federal expenditures through grants or loans. The applicable provisions of Section 9 provide sufficient flexibility and safeguards to balance the equities between federal ownership and waiver of title in particular situations. The remote nature of the federal involvement in loan guarantee situations justifies a corresponding adjustment in the balance of equities applied in judging requests for waivers of title. For this reason, the Committee determined that as to section 17 guarantees ERDA be permitted to exercise greater flexibility than previously specified in the Conference Report on the Federal Nonnuclear Energy Research and Development Act of 1974 with respect to the application of the waiver provisions of Section 9 of that Act.

Although the patent policy to be applied by a federal agency is properly the jurisdiction of those committees having legislative jurisdiction over the particular agency, the conferees appreciate the comments and suggestions of other committees having an interest in the general subject area. The conferees believe they have acted to incorporate the major suggestions offered by other committees in such a way as to effectuate the satisfactory resolution of their concerns.

Section 9 (with the exception of subsection (b)) of the Nonnuclear Act is made specifically applicable to the guarantee program under Section 17 of this Act because of the competing interpretations given to whether Section 9 applies generally to loan guarantees under that Act. Some of the House and Senate conferees believe that it does not apply.

Their position is supported by the General Counsel of ERDA, whose letter and memorandum on this issue are reprinted below.

U.S. ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION,
Washington, D.C., October 29, 1975.

Hon. MIKE MCCORMACK,
Chairman, Subcommittee on Energy Research, Development and Demonstration, Committee on Science and Technology, House of Representatives, Washington, D.C.

DEAR CHAIRMAN MCCORMACK: During testimony on the Geothermal Loan Guaranty Program on October 1 before your Subcommittee, Congressman Philip Hayes requested my legal opinion on the applicability of the patent provisions of the Federal Nonnuclear Research and Development Act of 1974 to Federal loan guarantees administered by ERDA. The attached Memorandum for the Record contains my analysis that section 9, the patent provisions of that Act, does not apply to loans, price support or loan guarantees.

Inasmuch as this request arose in the context of the Geothermal Loan Guarantee Program, I would add an additional thought to the attached memorandum. The Geothermal Energy Research, Development, and Demonstration Act of 1974 (Public Law 93–410), of which Geothermal Loan Guaranty Program is a part, contains no specific requirements as to patents. Therefore, the patent provisions utilized in carrying out the research, development and demonstration authorized by the Geothermal Act would depend on the patent policy of the particular Federal agencies conducting the program. Subsequent to ERDA's establishment, the research development and demonstration functions including the Geothermal Loan Guarantee Program as authorized by Public Law 93–410 have been transferred to ERDA.

The Conference Report (No. 93–1563) on the Federal Nonnuclear Research and Development Act specified that all of ERDA's nonnuclear contracts shall be governed by the patent policy of section 9 of that Act. Therefore, ERDA awarded research, development and demonstration contracts under the geothermal program will contain our standard patent provisions which implement the policy required by section 9. However, based on the attached legal opinion, these standard patent provisions will not be included in geothermal loan guarantee agreements but instead special patent provisions will be utilized as appropriate.

Sincerely,

LEONARD RAWICZ,
Deputy General Counsel.

Enclosure.

WASHINGTON, D.C., *October 29, 1975.*

Memorandum for the Record.

Application of Section 9 of the Federal Nonnuclear Research and Development Act of 1974 to Section 7, Forms of Federal Assistance.

Section 7(a) of the Federal Nonnuclear Research and Development Act of 1974 (hereinafter the Act) identifies the following Forms of Federal Assistance which the Administrator may utilize in carrying out the objectives of the Act.

(1) Joint Federal-industry experimental, demonstration, or commercial corporations consistent with the provisions of subsection (b) of this section;

(2) Contractual arrangements with non-Federal participants including corporations, consortia, universities, governmental entities and nonprofit institutions;

(3) Contracts for the construction and operation of federally owned facilities;

(4) Federal purchases or guaranteed price of the products of demonstration plants or activities consistent with the provisions of subsection (c) of the section;

(5) Federal loans to non-Federal entities conducting demonstrations of new technologies; and

(6) Incentives, including financial awards, to individual inventors, such incentives to be designed to encourage the participation of a large number of such inventors.

Section 7(b) of the Act specifically notes that the joint-Federal-industry corporation of (1) above are "subject to the provision of section 9 of this Act."

Subsection 9(a), the Act's patent policy, specifies that "Whenever any invention is made or conceived in the course of or under any contract of the Administration, other than nuclear energy research, development, and demonstration pursuant to the Atomic Energy Act of 1954 (42 U.S.C. 2011 et seq.)" and the Administrator makes certain findings which relate the inventor's activities to the ERDA contract, title to the invention vests in the United States unless the Administrator waives all or any part of the rights of the United States to such invention. Where a waiver is granted, subsection 9(h) requires certain minimum rights to be retained by the Government. These minimum rights include a royalty-free license in the Government, which generally also includes State and municipal governments, and the right to terminate the waiver or to require the licensing of the invention involved in specified circumstances.

The question addressed herein is whether all the Forms of Federal Assistance of section 7 of the Act are subject to its patent policy. Specifically of interest is whether section 9 would apply to inventions made by a party constructing a demonstration facility which receives Government assistance in the form of a loan, price support or a loan guarantee.

The Conference Report (No. 93–1563) accompanying S. 1283, the bill which resulted in the Act, in reference to Forms of Federal Assistance states: Also, the provision in subsection 7(b) was modified by the conference committee to make clear the intention that any joint Federal-industry corporations which may be proposed for Congressional authorization would be subject to the patent policy set forth in section 9 of the compromise version.

This statement refers to a question which arose during the drafting of the patent policy for S. 1283 of whether the Government should own, in the first instance, all inventions made by the joint Federal-industry corporations contemplated by subsections 7(a)(1) and (b). Significantly, the reference to section 9 in section 7 is limited to only one of the Forms of Federal Assistance noted in section 7, the joint

Federal-industry corporation. While this fact in itself suggests a Congressional intent that section 9 is inapplicable to the other Forms of Federal Assistance in section 7, it may nevertheless be argued that section 9 by its own terms is applicable.

As noted above, section 9 specifies that unless waived by the Administrator the Government owns any inventions ". . . made or conceived in the course of or under any contract of the Administration. . . ." Subsection 9(m)(2) defines contract as follows: the term "contract" means any contract, grant agreement, understanding, or other arrangement, which includes research, development or demonstration work, and includes any assignment, substitution of parties, or subcontract executed or entered into thereunder.

The Conference Report emphasizes the breadth of the term "other arrangement" with the following statement: Subsection (m) is the definitional section. Subsection (m)(2), which defines contract as including "other arrangements," is intended to encompass any and all other arrangements. The reference to section 9 in section 7 is intended to make this clear.

While the Report refers to the reference of section 9 in section 7, the correct reference is subsection 7(b), and as noted above this deals only with Federal-industry corporations.

With this background, the relationship of Federal assistance under section 7 to the patent provisions of section 9 will be discussed. The most important legal consideration in determining the applicability of section 9 to section 7 is whether the Federal assistance forms concerned herein, i.e., loans, price support, or loan guarantees, are within the term "contract" as it is defined by subsection 9(m)(2). There are two elements to this definition of "contract." First, ERDA must have an agreement or other arrangement with a party and secondly, the agreement or arrangement must include "research, development, or demonstration work." Ostensibly, Federal assistance in the form of a loan, price support or a loan guarantee may be said to be an "arrangement" and most probably the assistance will be to a party for the purpose of aiding that party conduct a "demonstration" or "commercial demonstration" of an energy related process, system or facility. Therefore the issue is whether these forms of Federal assistance are within the meaning of the term "which include research, development or demonstration work" of subsection (m)(2).

As noted in the Conference Report, section 305 of the National Aeronautic and Space Act of 1958 (NAS Act) and the implementing NASA regulations were used as a model for section 9. The related provisions of section 305 which establishes its applicability is the first phrase of subsection (a) which provides "Whenever any invention is made in the *performance of any work* under any contract of the Administration * * *" (emphasis added) and the definition of the term "contract" in subsection 305(j)(2). This subsection states: The term "contract" means any actual or proposed contract, agreement, understanding or other arrangement, and includes any assignment, substitution of parties, or subcontract executed or entered into thereunder.

In drafting subsection 9(a) changes were made to subsection 305(a) of NAS Act to accommodate the language of section 152 of the Atomic Energy Act of 1954 which refers to "inventions * * * made or conceived in the course of or under any contract, subcontract or arrangement entered into with or for the benefit of the Commission. * * *" This change would permit a greater harmonization of ERDA's patent policy for both its nuclear and nonnuclear work, a goal specified in the Conference Report. However, it was recognized that the resulting subsection 9(a) dropped the words "performance of any work" from subsection 305(a) and these words have been relied upon by NASA in interpreting the applicability of its patent provisions. For example, NASA has defined the word "work" in the NAS Act to limit section 305 to specific types of contracts, i.e., contracts which call for the performance of research and development work, *O'Brien and Parker*, Property Rights in Inventions Under the National Aeronautics and Space Act of 1958, Fed. B.J. Vol. 19, No. 3, July 1959. The NASA procurement regulations applies section 305 to NASA contracts "where research, experimental, design, engineering, or development work is contemplated", 41 C.F.R. 18–9.101–2 and not to fixed price supply contracts; construction contracts, or employment contracts. Further, a contractor's independent research and development program, even though agreed to in an advance agreement and supported by an overhead allowance (an arrangement), has not been interpreted by NASA to be encompassed by its statutory patent policy, see 41 C.F.R. 18–9.101–7. AEC has similarly interpreted the Atomic Energy Act patent provisions, 41 C.F.R. 9–9.5019. The removal of the term "performance of any work" of subsection 305(a) of the NAS Act from subsection 9(a) and a concern that the NASA regulatory provisions as to "design" or "engineering" work were overly broad led to the incorporation into the definition of "contract" in subsection 9(m)(2) the words "which includes research, development or demonstration work." Whether this was necessary is questionable in view of a recent court decision, which equates the term "in the course of or under any contract" with the term in the performance of work under a contract. In *Fitch & Braun* v. *AEC*, 181 USPQ 41 (CCPA 1974), the Court of Customs and Patent Appeals interpreted the phrase "in course of or under" an AEC contract, pursuant to section 152 of the Atomic Energy Act as follows:

> The rule of statutory interpretation requires that the phrase "in the course of" and the word "under" mean different things. In our view, an invention made or conceived in performing, or as a result of performing, the work required by a contract is made or conceived "in the course of" that contract. That would be true even though the invention was not specifically sought in the terms of the contract. An invention is made or conceived "under" a contract when it is made or conceived during the life of the contract and the invention is, in whole or in part, specifically provided for by that contract. Neither of these fact situations applies here.

There is nothing in the legislative history which would establish that Congress in selecting the patent provisions of the NAS Act and the Atomic Energy Act as a model for section 9 intended to disregard the interpretation given to these provisions by NASA and AEC. As noted above, these interpretations include the concept that the type of work called for as well as the nature of the "arrangement" control whether these statutory patent provisions apply. Where only fiscal assistance is provided for the purpose of encouraging the conduct of independent research, development or demonstration which is not for the Government's account, i.e., independent research and development noted above,

these agencies, as well as other Federal agencies, have determined that their statutory patent provisions do not apply.

Loans, price support and price guarantees are "arrangements" or "agreements" for fiscal assistance. In a loan situation the lender usually agrees to provide money to the borrower upon the condition that the money only be used for a specified purpose. Generally, a pledge of security is involved along with other terms and conditions to protect the lender. Consideration for the lender's money is usually the payment of an interest charge by the borrower. The purpose of a loan is of great concern to the lender albeit for the purchase of land, the construction of a facility, the purchase of equipment, the payment of salaries, etc. The property acquired with the money loaned or other value obtained normally accrues only to the borrower just as any liability which flows from the use of the money loaned is on the borrower's and not the lender's behalf. While the lender may monitor the borrower's efforts to assure the adherence to the purpose of the loan and the nature of the security involved, the work in question is done solely by and on behalf of the borrower. This is not at all related to the situation where work is performed by or on the Government's behalf under contract or otherwise.

Government loan guarantees are even further removed than a loan arrangement since in a loan guarantee the loan "agreement" is between the borrower and the lender. The Government's guarantee is in the form of default insurance to protect the lender. The Government's agreement to guarantee the loan is a fiscal arrangement similar to insurance and does not encompass, in itself, the performance of research, development or demonstration work even though that is the purpose for which the loan was made.

Similarly, in my opinion an agreement to guarantee the price of a product which contains the understanding that a new plant is to be built to make the product, is not an "arrangement" which includes research, development, or demonstration work. The party receiving the guarantee does all the demonstration type work on his own behalf. If the plant doesn't work, he takes all the losses. It it only after the standard products are available on market that the Government's fiscal obligation arises. Again the arrangement is fiscal, the purpose of which is to encourge independent demonstration work.

It is a rather unique requirement that a party loaning money, guaranteeing the repayment of a loan, or establish a price support level would end up owning a part of the assets of the party obtaining the loan or the benefit of the price support. If this would be the intent of Congress, it should be stated so explicitly since it has not been a usual consequence of any other similar government or private program.

In summary, it is my opinion that except for joint-Federal industry corporations the applicability of section 9 of the Federal Nonnuclear Research and Development Act to the Forms of Federal Assistance under section 7 of this Act is dependent upon the terminology of section 9. This section is applicable to contracts (i.e., contracts, agreements or other arrangements) which include the conduct of research, development or demonstration work. Section 9 of the Act is not applicable to Federal loans, price support or loan guarantees made for the purpose of encouraging other parties to construct demonstration facilities or the like on their own account since work is performed independently and not on the Government's behalf.

LEONARD RAWICZ.
Deputy General Counsel.

Other House and Senate conferees believe that section 9 of the 1974 Act does apply to all loan guarantees. Their position is supported in the following communication:

U.S. SENATE,
COMMITTEE ON THE JUDICIARY,
SUBCOMMITTEE ON ANTITRUST AND MONOPOLY,
November 14, 1975.

Hon. HENRY M. JACKSON,
Chairman, Committee on Interior and Insular Affairs,
U.S. Senate, Washington, D.C.

DEAR SCOOP: We understand that the Conference Committee considering ERDA's fiscal 1976 authorization (S. 598 and H.R. 3474) has been advised by the Energy Research and Development Administration that the patent provisions of the Federal Nonnuclear Research and Development Act of 1974 (P.L. 93–577), Section 9, do not apply to loans, price supports, or loan guarantees.

We respectfully disagree with ERDA's conclusion, and, as principal sponsors of the patent policy provisions contained in that Act, invite the Committee's attention to Section 9(m) which defines the term contract as meaning "any contract, grant, agreement, understanding, *or other arrangement*, which includes research, development, or demonstration work, and includes any assignment, substitution of parties, or subcontract executed or entered into thereunder." As further evidence of our intention, and that of the Congress, that the patent provisions of Section 9 are all encompassing and apply to all forms of Federal assistance, the Conference Report elaborated that "Subsection (m)(2), which defines contract as including 'other arrangement' is intended to encompass *any and all other arrangements.*" It further stated that "Section 9 (patent policy) is intended to apply to *all non-nuclear contracts* of the Energy Research and Development Administration."

The Conference Committee on the Energy Policy and Conservation Act (S. 622) has already acted to disapprove ERDA's interpretation by amending the patent policy provisions of that Act (which are essentially identical to those in P.L. 93–577) to specifically include "obligation guarantees."

Considering the importance of carrying out the intent of the Congress in enacting the patent provisions of P.L. 93–577, we respectfully suggest that the Conference Committee specifically refer to and reject ERDA's interpretation that Section 9 of P.L. 93–577 does not apply to loans, loan guarantees, or price supports. Alternatively, it may be useful to specifically amend Section 9(m) to include the phrase "loan, obligation guarantee, or price support."

Best personal regards.

Sincerely,

RUSSELL LONG.
PHILIP A. HART.

The Conference Committee does not believe it necessary to resolve this issue in this conference, particularly because of anticipated receipt from ERDA early next year of its report and recommendations on the patent provisions of Section 9.

Section 17(u)—Disclaimer—State Laws, Etc.

Subsection (u) of the amendment contained in subsection (b) of Section 17 makes clear that the granting of a loan guarantee under the authority of that Section would convey no immunity from Federal or State laws to the demonstration projects constructed with the assistance of such guarantees.

The Conferees note that the undertakings which would be assisted will be private or, in some instances, possibly non-Federal, public ventures. Depending upon circumstances of siting, proprietorship, nature of the technology, or type of industry and product involved they will be subject to various laws and regulations of Federal, State, and local government which are now in effect or which may be enacted or imposed in the future. It is the intent of this section that the granting of a guarantee would neither exempt a borrower or a project from such legal obligations which would otherwise apply or to extend any obligation which otherwise would not apply.

The Conferees particularly note that nothing in Section 17 is intended to effect the rights of various parties to water resources which are established under State and Federal law and interstate compact.

In response to the concerns expressed by Western governors, the Conferees considered those situations in which demonstration facilities which are assisted by loan guarantees were located upon Federal lands. As would be the case elsewhere, it is the intent of this measure that a loan guarantee would not in any way change or extend the applicability of any and all Federal, State, and local laws and regulations which would otherwise apply to the demonstration facility absent such loan guarantee.

The management of activities on the public lands is primarily a Federal responsibility, and State jurisdiction has been extended selectively by the Congress. The policy procedure which has ordinarily been adopted is exemplified by the Clean Air Act. This Federal law establishes administrative procedures by which regulations are promulgated by a State and are approved by the Environmental Protection Agency as consistent with Federal minimum requirements, such as Federal new source performance standards. The joint Federal-State implementation plans then become generally applicable to all facilities within the State, including facilities on the public lands. Similar approaches have been taken in the areas of water quality control and occupational and mine health and safety statutes.

Two major areas which are particularly applicable to major demonstration facilities, however, are not yet covered by a Federal-State regulatory regimen. They are surface mining reclamation and energy facilities siting. Some States have adopted rigorous laws and regulations in these areas or may do so in the near future.

The Federal government, thus far, has exercised its management of surface mine reclamation and energy facilities siting on the public

lands primarily through the responsibilities of the Secretary of the Interior to use his discretion in the granting of leases, permits and rights-of-ways and to incorporate into such instruments provisions for the management of the undertaking.

The Conferees recognize the valid concern of the Western governors that major energy demonstration facilities which may be encouraged to come into being on the public lands by loan guarantees under this Act will conform to the standards established by the State for similar facilities elsewhere provided the State standards are more stringent than Federal standards, as provided for in such Federal statutes as the Clean Air Act and Federal Water Pollution Control Act. The conferees have incorporated into the Act provisions for early notice to the Governor of consideration of any loan guarantee within the State, and for close coordination with the Governor during development of the proposal. Prior to approval of any guarantee, by the Administrator, the Governor is also provided a right to express disapproval of the project.

The conferees expect that during the consideration of any proposal which contemplates siting upon the public lands, the Governor will make known to the Administrator any provisions of State law regarding energy facilities siting or surface mine reclamation which he believes should be applicable to the demonstration facility.

The Administrator, in consultation with the Secretary of the Interior and the Administrator of the Environmental Protection Agency and such other Federal officials as the Administrator may deem to have relevant expertise or authority, will determine if such provisions are superior to the provisions of Federal law or regulation which would otherwise apply. If they are, the conferees expect that to the extent possible, ERDA and Interior will incorporate similar provisions into the Federal permits, leases, rights-of-way, guarantees, or other appropriate documents governing the demonstration facility.

In any case, prior to the time when the Governor is requested to make recommendations on a proposed facility, the Administrator shall advise the Governor of the measures which will be taken concerning the provisions recommended by the Governor the conferees expect that the reports submitted to the Congress concerning any proposed assistance for a demonstration facility will include a discussion of such recommendations by the Governor, if any, and the disposition to be made.

If during the life of the demonstration facility, the terms of such documents are revised, the responsible Federal official should obtain the Governor's views concerning the continued applicability of State-sponsored provisions.

Section 17(w)—Appropriations

Subsection 17(w) makes it clear that the appropriations and budget process actions to establish the funding mechanism for the guarantee program must be complete before ERDA makes any commitment or obligation under this Section. Subsection (w) is intended to reflect due regard for the appropriation and budget processes, as well as the obvious lateness at this time of the authorization, appropriation and budget cycles for Fiscal Year 1976.

Additionally, the Conference Committee expects the implementation of the program to begin promptly, utilizing existing funds to initiate the administrative and regulatory steps necessary to carry out the loan guarantee program. In addition, it is important that the Administrator move swiftly in order to prepare a complete, carefully conceived report within 180 days as required by this section, and to request the needed appropriations.

Once the appropriate appropriation action has been taken to establish the mechanism of the fund authorized under Section 17, the Administrator will have fully authority to carry out the directions of Section 17 and to make obligations subject only to the limitations of this Act and the available capabilities of the fund to support such obligations.

Section 17—No Endorsement of Further Programs

The conferees note that the initial action of the Senate to incorporate the authority to guarantee the financing of energy demonstrations was taken prior to any recommendations for similar programs on the part of the Administration. After the Senate acted on this legislation the Administration completed and made public its draft Task Force report on a "Synthetic Fuels Commercialization Program" and the President transmitted to the Congress a legislative proposal for the Energy Independence Authority.

The conferees note that the provisions of Section 103 are not based upon any Administration proposal. The House Committee on Science and Technology has drawn upon the information in the draft Task Force Report and has received testimony from participants in the Task Force study. Some of this information has been of value to the conferees in perfecting Section 103. The section, however, is not modeled after the Task Force recommendations and it differs in many important respects from both the scope and approach of the effort postulated by the Task Force.

The Conferees especially emphasize that the approval of Section 103 in no way constitutes an expression of approval of approaches for assistance beyond loan guarantees. Nothing in Section 103 authorizes construction grants, price supports or price guarantees for the products from demonstration projects nor does the approval of Section 103 constitute any expression of Congressional commitment to other proposals which are pending or may be advanced in the future.

The conferees, furthermore, do not view Section 103 as the initial part of a more ambitious program. The program authorized by this measure is viewed as an independent and complete program as it now stands. Any further energy facility financing arrangements will be considered by the Congress on their merits.

Section 17—Applicability of NEPA

The conferees considered the question of the applicability of the requirements of the National Environmental Policy Act of 1969, including section 102(2)(C) thereof concerning the preparation of environmental impact statements, to the loan guarantee program established by Section 103 of this Act. The conference Committee determined that no statutory language concerning the NEPA was necessary. The conferees intend that the National Environmental

Policy Act of 1969 applies to any loan guarantee made pursuant to this section.

Section 304—Limitations on Reprograming

With the exception of the proviso of subsection 304(2)(b) which sets forth explicit categories, it is the expectation of the conferees that all restrictions upon programming or the utilization of funds in nonnuclear portions of the Act will apply to the lowest levels of funding set forth in the language of the Act. It should be noted that the Environment and Safety program includes both nuclear and nonnuclear activities. While the conferees would expect the Administrator to apply the spirit of the nonnuclear reprogramming restrictions to the nonnuclear activities within Section 101(a)(5(A)-(F) Environment and Safety, they recognize the impracticality of applying statutory restrictions to a portion of a mixed account and do not intend to do so.

The conferees retained in modified form the Senate provisio limiting the reduction of certain budget categories by reprogramming to ten percent of the amount appropriated by the Congress. The categories set forth in the proviso are "coal, petroleum and natural gas, oil shale, solar, geothermal, and conservation."

It is the intention of this proviso to protect the priorities among programs which were assigned by the Congress. The limitation of this proviso was applied to the categories stated in the Act in order to provide greater management flexibility while applying a general restriction upon redefinitions of priorities by the Administrator. Although reprogramming of funds within the categories would not be limited by the proviso, it is the intent of the conferees that the Administrator shall make every effort to carry out each activity to the level of funding which was approved by the Congress. Reductions in the funding of any activity should be made only where circumstances preclude the effective utilization of the funds provided.

The conferees explicitly intend the amounts added to the Environment and Safety program activities to be expended to advance additional research in support of nonnuclear programs. That category was not included in the proviso solely because of the fact that environment and safety programs support both nuclear and nonnuclear programs, making specific identification of all nonnuclear programs impossible.

Section 305—Explanation of Nonnuclear Appropriation Allocations

The House version of H.R. 3474 included Sections 101(c) and 201-(c) which require ERDA to submit an explanation of the allocation of appropriated funds which details the relationship of that allocation to the various comprehensive program definitions required under earlier nonnuclear energy R&D acts. The Senate substitute had not comparable provision.

The conferees adopted the House provisions. This report should be made promptly, but not later than 45 days after the appropriation is enacted as indicated in the House report on H.R. 3474. Standard fiscal year budget documents will not satisfy this requirement, but, with necessary expansion, may be used to submit the explanation.

Section 311—Central Source of Information

Section 311 of the Conference Report adds a new section 18 to the Federal Nonnuclear Energy Research and Development Act of 1974.

A similar provision was included in the House-passed version, but not in the Senate bill. The new provision has been modified by the Conferees.

The new provision directs ERDA to promptly establish and maintain a central source of information on energy resources and technology in furtherance of ERDA's R&D mission under the 1974 Act, other than data on proved and other energy reserves. The primary objective of the provision is to give ERDA a better and more accurate energy data base on which to make decisions concerning its R&D mission. Where necessary, ERDA is authorized to acquire proprietary and other data by negotiated purchase or by donation, but not by condemnation.

Section 309—Coordination

Provision has been made in the amendment directing the Administrator to be aware of other federal programs and to thereby minimize unnecessary duplication. The conferees recognize that different agencies look at given areas of research from diverse points-of-view, and that therefore, no single agency should have exclusive jurisdiction. At the same time, it is certainly important that the Administrator recognize the expertise built up in certain agencies, and not attempt to duplicate unnecessarily this expertise.

Section 316—Environment and Safety

In establishing ERDA, it was the intent of Congress that the agency should have the authority to carry out whatever research is necessary to a comprehensive approach to energy research, development and demonstrations. Where relevant research programs of other agencies were not transferred to ERDA, it was the intent of the Congress that ERDA have the authority to undertake work which was not being accomplished under the ongoing activities of other agencies. ERDA, however, was cautioned not unnecessarily to undertake work which could be accommodated by utilizing the expertise and resources of other agencies.

There are many areas where work of this nature is not being done at all or not being done in a manner adequate to support ERDA's overall mission. ERDA has authority to do this work. This section directs that ERDA do it.

Specifically, we find it extremely important that ERDA be involved in a program of environment and safety research related to the potential impacts of all nonnuclear fuels, and while we recognize that the Nonnuclear Act provided that program authority, the importance has been further emphasized by authorization of $5 million specifically for fossil fuels for this purpose.

D. OPPOSITION TO SECTIONS 102 AND 103 BY REPRESENTATIVE KEN HECHLER

Representative Ken Hechler, although he signed the conference report on the part of the House, emphasized that he is strongly opposed to two sections of the conference recommendation which were not in the bill passed by the House on June 20, 1975—Sections 102 and 103. He opposes Section 102 which establishes a new program, using the public lands free of any bonus, rent, or royalty, for the demonstration

of production of oil from shale by in situ methods. He also opposes Section 103 which establishes a new $6 billion loan guarantee program to provide financial assistance to private industry to build synthetic fuels and other commercial demonstration plants.

E. RESERVATION TO SECTION 102 AND 103 BY GEORGE E. BROWN, JR.

Representative George E. Brown, Jr., although he signed the Conference Report on the part of the House, emphasized that he did so with the reservation that the House should have the opportunity to work its will by separate vote on Sections 102 and 103.

F. RESERVATION TO SECTIONS 102 AND 103 BY BARRY M. GOLDWATER, JR.

Representative Barry M. Goldwater, Jr., although he signed the Conference Report on the part of the House, emphasized that he did so with reservations about enacting at this time Sections 102 and 103, the two major new sections added by the Senate, and the additional reservation that the House should be allowed to have a separate vote on each section.

MANAGERS FOR THE NONNUCLEAR PORTION OF THE JOINT STATEMENT

OLIN E. TEAGUE,
KEN HECHLER,
THOMAS N. DOWNING,
DON FUQUA,
JAMES W. SYMINGTON,
WALTER FLOWERS,
MIKE MCCORMACK,
GEORGE E. BROWN, JR.,
CHARLES A. MOSHER,
ALPHONZO BELL,
BARRY M. GOLDWATER, JR.,
Managers on the Part of the House.

HENRY M. JACKSON,
FRANK CHURCH,
J. BENNETT JOHNSTON, JR.,
FLOYD K. HASKELL,
JOHN GLENN,
PAUL J. FANNIN,
CLIFFORD P. HANSEN,
JIM A. MCCLURE,
Managers on the Part of the Senate.

NUCLEAR

The managers on the part of the House and Senate at the conference on the disagreeing votes of the two Houses on the amendments of the Senate to the bill (H.R. 3474) to authorize appropriations to the Energy Research and Development Administration in accordance with Section 261 of the Atomic Energy Act of 1954, as amended, Section 305 of the Energy Reorganization Act of 1974 and Section 16 of the Federal Nonnuclear Energy Research and Development Act of 1974 and for other purposes, submit the following joint statement to the House and the Senate in explanation of the effect of the action agreed upon by the managers and recommended in the accompanying conference report:

The Senate amended the House bill to increase the operating expenses portion of the ERDA budget for fiscal year 1976 by $114,616,000 and by $13,106,000 for the transition quarter. The increases for the most part are as set forth in a formal amendment to the ERDA budget which was submitted to the Congress on July 25, 1975. The ERDA amendment was anticipated by the House in its action accepting an amendment offered by Mr. McCormack which had the effect of reprogramming $71.2 million which in the original ERDA budget submission would have been used for the Liquid Metal Fast Breeder Reactor program. The substance of that amendment was preserved in the Senate amendment. Although the Senate amendments do not include language in the bill limiting the Liquid Metal Fast Breeder Reactor and Clinch River Breeder Reactor programs to specific authorization levels, they do reflect the reduction of $71.2 million in these programs. This reduction is identical to that included in the formal budget amendment submitted to the Congress on July 25, 1975. Hence, the funding restrictions apply to those programs and there is no need for the limiting language in the bill as passed by the House.

Most of the increases in the ERDA budget amendment relate to programs which were considered and in some instances were emphasized by the Joint Committee during the authorization hearings. The increases are primarily in the areas of (1) $99.5 million for increased electric power cost for the operation of the gaseous diffusion plants, (2) $1.9 million for upgrading the safeguards for the protection of special nuclear materials, and (3) $91.9 million for an expanded research and development program, particularly as related to the nuclear fuel cycle and light water reactor technology.

An item deleted by the Senate from the July 25, 1975, budget amendment is $4 million for fiscal year 1976 and $1.3 million in the transition quarter for conceptual design efforts related to a proposal for a private enrichment facility. This subject is being considered in a separate legislative proposal submitted by the Administration (S. 2035 and

H.R. 8401) which is receiving careful and comprehensive consideration. The Senate amendment would not allow any funds to be used for conceptual design work with one of the prospective private participants. The funds remain available to be used in research and development efforts, independent of those related to private entry into the uranium enrichment business, such as in the area of reprocessing of used nuclear fuel from commercial power reactors, as well as preparing for the contingency in the event the initial additional enrichment capacity would have to be provided by the Government.

The Senate amendment includes an increase of $1.4 million for the Molten Salt Breeder Reactor program and $8 million for the Light Water Breeder Reactor program which are deemed by the Joint Committee to be important backup breeder programs. ERDA sought to include these amounts in the July 25 budget amendment, but was overruled by the Office of Management and Budget.

The House recedes.

The Senate amended Section 101(b)(15) of the bill to increase the authorization for capital equipment by $650,000 for fiscal year 1976 and Section 201(b)(8) to increase that authorization by $60,000 in the transition quarter. The increased amount results from the July 25 budget amendment and would be used for the procurement of administrative equipment such as typewriters, calculators, etc., needed to meet the requirements of ERDA offices.

The House recedes.

The Senate included an amendment which would authorize $25 million for a line item construction project for a new Government-owned uranium enrichment production facility at an undetermined location, Section 101(b)(8), Project 76-8-g.

The purpose of this amendment is simply to provide for the contingency in the event the Government has to build the next increment of uranium enrichment capacity. The authorization does not in any way mean that such a contingency will in fact become a reality. The Administration's proposal for private enterprise to build the next increment of capacity is a matter which is yet to be decided by the Congress. The authorization simply means that ERDA would be prepared to proceed if ultimately it is decided that the Government should provide the next increment of uranium enrichment capacity.

The House recedes.

The Senate added $3.1 million for a water control and recycle project at Rocky Flats, Colorado, Project 76-9-d in Section 101(b)(9), and $32.8 million for construction project to upgrade the safeguards and security at several ERDA installations, Project 76-14 in Section 101(b)(14). These increases were proposed in the July 25 budget amendment.

These programs are in the interest of assuring that the Government's programs in the nuclear area are carried out in a manner which is compatible with appropriate environmental and safety considerations. Among other things, there must be assurance that nuclear material will not be stolen or otherwise diverted for any unauthorized use.

The bill reported by the Joint Committee and passed by each House includes funds for new radioactive waste storage tanks at the Government's Savannah River and Richland sites. The Joint Committee has recently reecived correspondence on these new tanks and on a calcined solids storage addition at the Idaho National Engineering Laboratory (AEC Construction Project 74-1-c). The Joint Committee agrees that these facilities for short-term shortage of radioactive waste are not required to be licensed by the Nuclear Regulatory Commission. This does not, of course, reduce in any way the responsibility of ERDA to assure that all storage of radioactive waste must be completely acceptable from the standpoint of the public health and safety and the protection of the environment. The Joint Committee expects the Administration to make timely plans for the permanent storage of the wastes which will be contained in these tanks.

[The letters on the subject follow:]

U.S. ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION,
Washington, D.C., November 26, 1975.

Hon. JOHN O. PASTORE,
Chairman, Joint Committee on Atomic Energy, Congress of the United States.

DEAR MR. CHAIRMAN: Our November 20, 1975 letter on waste storage facilities provided the Committee with ERDA's response to a November 12, 1975, letter from Senators Jackson and Ribicoff. The paragraph in our letter which discusses the calcined solids storage addition at the Idaho National Engineering Laboratory should be changed as follows: "The above discussion also applies to the calcined solids storage addition at the Idaho National Engineering Laboratory (AEC Construction Project 74-1-c) which was not referred to in the November 12 letter."

The changed paragraph more clearly reflects the project history in that, as JCAE and Congressional Appropriations Committees were notified by letters dated May 16, 1975, additional funds for 74-1-c were required and ERDA was reviewing alternatives to provide the necessary funding. Since that time, additional funds have been provided from within ERDA availability.

Sincerely,

F. P. BARANOWSKI,
Director, Division of Nuclear Fuel Cycle and Production.

U.S. ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION,
Washington, D.C., November 20, 1975.

Re: Additional High-Level Waste Storage Tanks, Richland, Washington, (ERDA Construction Project 76-6-b); Additional High-Level Waste Storage Tanks, Savannah River Plant (ERDA Construction Project 76-6-a)

Hon. JOHN O. PASTORE,
Chairman, Joint Committee on Atomic Energy, Congress of the United States, Washington, D.C.

DEAR MR. CHAIRMAN: By letter dated November 12, 1975, copy attached, Senators Jackson and Ribicoff advised me of their concern that the above referenced facilities be licensed by the Nuclear Regulatory Commission in accordance with section 202 of the Energy Reorganization Act if they were intended to be utilized for long-term storage of high-level radioactive wastes.

I am enclosing our response which attempts to make clear that ERDA does not plan to rely on these facilities for long-term storage, i.e., 20 years or more and therefore does not consider that these facilities are required to be licensed by NRC.

The above discussion also applies to the calcined solids storage addition at the Idaho Nuclear Engineering Laboratory (AEC Construction Project 74–1–c), additional funds for which were requested in ERDA's fiscal year 1976 authorization request but which was not referred to in the November 12 letter.

If you would like any further information on this matter, please let us know.

Sincerely,

ALFRED D. STARBIRD,
(For Robert C. Seamans, Jr.,
Administrator).

Enclosure.

U.S. ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION,
Washington, D.C., November 20, 1975.

Hon. HENRY M. JACKSON,
Committee on Government Operations,
U.S. Senate, Washington, D.C.

DEAR SENATOR JACKSON: We are pleased to respond to the November 12, 1975 letter from Senator Ribicoff and you regarding the proposed new waste tanks at our Savannah River and Richland sites. An identical reply is being sent to Senator Ribicoff. These tanks are required to continue our existing programs for the safest containment of existing and future high level radioactive waste from the chemical processing plants at Savannah River and Richland.

The ERDA waste management program, as discussed with Congress on many occasions, provides for the interim (i.e., short-term) storage of waste in a retrievable form until a suitable long-term disposal process or processes for the very large quantities of waste at the Savannah River and Richland sites have been developed and adopted. Several alternatives are under active consideration at this time. Upon selection of the optimum long-term storage method or methods, the waste would be processed as necessary and transferred to a long-term storage site or stored at a site analogous to a Retrievable Surface Storage Facility proposed for commercial wastes until a long-term site has been made ready.

We would expect to use the planned tanks only until ERDA can implement an approved plan for the long-term storage of the wastes. It is presently anticipated that facilities for long-term storage will be available between 15 and 20 years after construction of the tanks in question has been completed. This period of between 15 and 20 years after construction is complete will allow time to develop the disposal processes, budget for new long-term storage facilities, undergo the licensing procedures which would be required under section 202 of the Energy Reorganization Act and construct and startup such long-term storage facilities.

Thus, we plan to utilize the new waste tanks at Savannah River and Richland for less than 20 years. Accordingly, we would consider that such tanks would not be for "long-term storage" within the meaning of subsection 202(4) of the Energy Reorganization Act of 1974, and would not be subject to licensing.

The above discussion also applies to the calcined solids storage addition at the Idaho National Engineering Laboratory (AEC Construction Project 74–1–c), additional funds for which were requested in ERDA's fiscal year 1976 authorization request.

In summary, our planning on waste management reflects the need to store wastes in tanks (Savannah River or Richland) or stainless steel storage bins (Idaho National Engineering Laboratory) for an interim period to provide the necessary lead time to develop and implement a long-term disposal solution. Implementation of the long-term disposal method will follow the licensing procedures.

Sincerely,

ROBERT C. SEAMANS, Jr.,
Administrator.

U.S. ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION,
Washington, D.C., November 20, 1975.

Hon. ABRAHAM A. RIBICOFF,
Chairman, Committee on Government Operations,
U.S. Senate, Washington, D.C.

DEAR MR. CHAIRMAN: We are pleased to respond to the November 12, 1975 letter from Senator Jackson and you regarding the proposed new waste tanks at our Savannah River and Richland sites. An identical reply is being sent to Senator Jackson. These tanks are required to continue our existing programs for the safest containment of existing and future high level radioactive waste from the chemical processing plants at Savannah River and Richland.

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Sincerely,

ALFRED D. STARBIRD,
(For Robert S. Seamans, Jr.,
Administrator).

U.S. SENATE,
COMMITTEE ON GOVERNMENT OPERATIONS,
Washington, D.C., November 12, 1975.

DR. ROBERT C. SEAMANS, JR.,
Administrator, Energy Research and Development Administration, Washington, D.C.

DEAR DR. SEAMANS: Recently, the staff of the Government Operations Committee received inquiries with respect to the legislative intent of Section 202(4) of the Energy Reorganization Act of 1974, as it was reported by the Subcommittee on Reorganization, Research and International Organizations and sustained unchanged through final passage and enactment.

According to Mr. Stephen Greenleigh of the ERDA General Counsel's Office, these inquiries were intended to help determine whether NRC should have licensing authority over six new double-walled tanks for storage of high-level radioactive wastes to be built by ERDA at Hanford, Washington, and four such new tanks at Savannah River, Georgia.

Mr. Greenleigh was provided with a transcript of the Subcommittee's mark-up of Sec. 202, and was shown the only direct reference to paragraphs (3) and (4) pertaining to the licensing of waste storage facilities, in which Mr. Dan Dreyfus, explaining Senator Jackson's amendment to the other Senators, said:

"And in the waste storage facilities, the intent here would be that new waste storage facilities would be licensed whether their wastes come from licensed reactors or whether they come from ERDA operations, all high level waste facilities which are new facilities which require licensing. Again, that goes slightly beyond the material in the draft bill."

We wish to make clear that it was our intent that any new construction of waste-storage facilities by ERDA, including those built according to an existing design, should be licensed by the NRC.

As stated in the Committee report:

Paragraphs (3) and (4) provide . . . the authority and responsibility for licensing and related regulation of retrievable surface storage facilities and for other facilities for high-level radioactive wastes which are or may be authorized by the Congress to be built by ERDA or with ERDA financial assistance for long-term (tens to hundreds of years) storage for such radioactive wastes generated by the Administration or to which present high-level radioactive wastes may be transferred by the Administration in the future. It is not the intent of the committee to require licensing of such storage facilities which are already in existence or of storage facilities which are necessary for the short-term storage of radioactive materials incidential to ERDA's R&D activities.

The Senate-House Conference Report noted that the Senate language had been retained for Sec. 202 (3) and (4).

Inasmuch as the facilities to be built are "new" facilities, will have a projected useful life of about 30 years and will be used for the transfer from deteriorating tanks of present high-level radioactive wastes from ERDA non-R&D programs, we believe that these new facilities should be licensed as intended under Sec. 202(4).

We know that you share our deep concern that the strictest design standards be applied to ensure the safe, long-term storage of these extremely toxic nuclear waste products.

We are sending an identical letter to Chairman Anders.

Sincerely,

ABE RIBICOFF.
HENRY M. JACKSON.

The House recedes.

Section 106 "Recession" as passed by the Senate includes two additional projects (75–5–e and 75–5–f) in the area of high temperature gas reactors. These rescissions were requested by ERDA in its July 25 ERDA budget amendment.

The Joint Committee strongly endorsed the Government's involvement in the high temperature gas reactor program when it originally authorized these two projects. The funds authorized were limited, however, only to those required for architect-engineering services and the procurement of long lead-time components and equipment. ERDA has now informed the Joint Committee that the total estimated cost for these projects has substantially increased and that a significantly different research and development program may be required which, among other things, may include the possible elimination of one or both of these projects.

The House recedes.

The Senate added a Title V to the bill which imposed restrictions on the air transportation of plutonium until ERDA has certified to the Joint Committee on Atomic Energy that a safe container has been developed and tested which will not rupture under crash and blast testing equal to the crash and explosion of high-flying aircraft.

Exemptions for shipment of plutonium involving the national security, medical applications, and the need for rapid transport are included in the title.

The House recedes.

The Senate included a new Title VI to the bill which would include Roane and Anderson Counties, Tennessee, in the Atomic Energy Community Act of 1955, as amended. This amendment is the product of extensive hearings which the Joint Committee on Atomic Energy held in Oak Ridge in May of tnis year. Under this amendment, Anderson and Roane County, Tennessee would be eligible to receive assistance, as authorized by the Administrator of ERDA, until June 30, 1986.

The House recedes.

MANAGERS FOR THE NUCLEAR PORTION OF THE JOINT STATEMENT

MELVIN PRICE,
JOHN YOUNG,
MIKE MCCORMACK,
JOHN ANDERSON,
MANUEL LUJAN, JR.,
Managers on the Part of the House.

JOHN O. PASTORE,
STUART SYMINGTON,
JOSEPH MONTOYA,
HOWARD BAKER, JR.,
CLIFFORD P. CASE,
Managers on the Part of the Senate.

MANAGERS FOR THE JOINT STATEMENT

OLIN E. TEAGUE,
MELVIN PRICE,
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THOMAS N. DOWNING,
KEN HECHLER,
DON FUQUA,
GEORGE E. BROWN, JR.,
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JAMES W. SYMINGTON,
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JOHN B. ANDERSON,
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JOHN O. PASTORE,
HENRY M. JACKSON,
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J. BENNETT JOHNSTON, JR.,
FLOYD K. HASKELL,
JOHN GLENN,
CLIFFORD P. CASE,
PAUL J. FANNIN,
HOWARD BAKER, JR.,
MARK O. HATFIELD,
JIM A. MCCLURE,
Managers on the Part of the Senate.

94TH CONGRESS
1st Session

SENATE

REPORT
No. 94-104

AUTHORIZING APPROPRIATIONS FOR THE ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION FOR FISCAL YEAR 1976 AND FOR THE TRANSITION QUARTER ENDING SEPTEMBER 30, 1976

REPORT

BY THE

JOINT COMMITTEE ON ATOMIC ENERGY

[To accompany S. 598]

MAY 6 (legislative day, APRIL 21), 1975.—Ordered to be printed

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U.S. GOVERNMENT PRINTING OFFICE

38-010 O WASHINGTON : 1975

94TH CONGRESS } SENATE { REPORT
1st Session } { No. 94-104

AUTHORIZING APPROPRIATIONS FOR THE ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION FOR FISCAL YEAR 1976 AND FOR THE TRANSITION QUARTER ENDING SEPTEMBER 30, 1976

MAY 6 (legislative day, April 21), 1975.—Ordered to be printed

Mr. PASTORE, from the Joint Committee on Atomic Energy, submitted the following

REPORT

[To accompany S. 598]

The Joint Committee on Atomic Energy, having considered the atomic energy related portions of S. 598, a bill to authorize appropriations for the Energy Research and Development Administration for fiscal year 1976 and for the transition quarter ending September 30, 1976, hereby report favorably thereon, with an amendment, and recommend that the bill do pass.

The amendment is as follows:

Strike out all after the enacting clause and insert in lieu thereof the following:

TITLE I—AUTHORIZATION OF APPROPRIATIONS FOR FISCAL YEAR 1976

SEC. 101. There is hereby authorized to be appropriated to the Energy Research and Development Administration in accordance with the provisions of section 261 of the Atomic Energy Act of 1954, as amended, section 305 of the Energy Reorganization Act of 1974, and section 16 of the Federal Nonnuclear Energy Research and Development Act of 1974:

(a) For "Operating expenses", $3,476,729,000.

(b) For "Plant and capital equipment", including construction, acquisition, or modification of facilities, including land acquisition; and acquisition and fabrication of capital equipment not related to construction, a sum of dollars equal to the total of the following amounts:

FOSSIL ENERGY DEVELOPMENT

(1) COAL.—

Project 76-1-a, clean boiler fuel demonstration plant (A-E and long-lead procurement), $20,000,000.

SOLAR, GEOTHERMAL, AND ADVANCED ENERGY SYSTEMS DEVELOPMENT

(2) PHYSICAL RESEARCH.—
Project 76–2–a, accelerator and reactor improvements and modifications, $4,000,000.

NUCLEAR ENERGY DEVELOPMENT

(3) FUSION POWER RESEARCH AND DEVELOPMENT.—
Project 76–3–a, tokamak fusion test reactor, Princeton Plasma Physics Laboratory, Plainsboro, New Jersey, $23,000,000.
Project 76–3–b, 14 mev intense neutron source facility, Los Alamos Scientific Laboratory, New Mexico, $22,100,000.
Project 76–3–c, 14 mev high intensity neutron facility, Lawrence Livermore Laboratory, California, $5,000,000.
(4) FISSION POWER REACTOR DEVELOPMENT.—
Project 76–4–a, modifications to reactors, $4,000,000.
Project 76–4–b, sodium components test installation steam and feed-water system modification, Liquid Metal Engineering Center, Santa Susana, California, $7,700,000.
(5) FISSION POWER REACTOR DEVELOPMENT.—
Project 76–5–a, test reactor area fire main replacement, Idaho National Engineering Laboratory, Idaho, $2,200,000.
(6) NUCLEAR MATERIALS.—
Project 76–6–a, additional facilities, high level waste storage, Savannah River, South Carolina, $68,000,000.
Project 76–6–b, additional high level waste storage facilities, Richland, Washington, $35,000,000.
Project 76–6–c, supplemental N reactor irradiated fuel storage, Richland, Washington, $2,500,000.
Project 76–6–d, uprate electrical switchyards for Roane substation, Oak Ridge, Tennessee, $8,100,000.
Project 76–6–e, conversion of existing steam plants to coal capability, gaseous diffusion plants and Feed Materials Production Center, Fernald, Ohio, $12,200,000.
Project 76–6–f, radioactive liquid waste system improvements, Idaho Chemical Processing Plant, Idaho National Engineering Laboratory, Idaho, $5,800,000.

NATIONAL SECURITY

(7) WEAPONS.—
Project 76–7–a, MK 12A MINUTEMAN III production facilities, various locations, $3,000,000.
Project 76–7–b, plutonium metallurgy building modifications, Lawrence Livermore Laboratory, California, $1,000,000.
Project 76–7–c, limited life component exchange facility, Charleston, South Carolina, $13,900,000.
(8) WEAPONS.—
Project 76–8–a, fire wall construction, Bendix Plant, Kansas City, Missouri, $2,000,000.
Project 76–8–b, fire protection improvements, Los Alamos Scientific Laboratory, New Mexico, $4,450,000.
Project 76–8–c, PHERMEX enhancement, Los Alamos Scientific Laboratory, New Mexico, $6,150,000.

ENVIRONMENTAL AND SAFETY RESEARCH

(9) BIOMEDICAL AND ENVIRONMENTAL RESEARCH.—
Project 76–9–a, modifications and additions to biomedical and environmental research facilities, $3,200,000.
(10) GENERAL PLANT PROJECTS.—$6,670,000.
(11) CONSTRUCTION PLANNING AND DESIGN.—$6,000,000.
(12) CAPITAL EQUIPMENT.—Acquisition and fabrication of capital equipment not related to construction, $240,347,000.
SEC. 102. LIMITATIONS.—(a) The Administration is authorized to start any project set forth in subsections 101(b) (1), (2), (3), (4), (6), (7), and (9), only if the currently estimated cost of that project does not exceed by more than 25 per centum the estimated cost set forth for that project.
(b) The Administration is authorized to start any project set forth in subsection 101(b) (5) and (8) only if the currently estimated cost of that project does not exceed by more than 10 per centum the estimated cost set forth for that project.

(c) The Administration is authorized to start any project under subsection 101(b)(10) only if it is in accordance with the following:
(1) The maximum currently estimated cost of any project shall be $750,000 and the maximum currently estimated cost of any building included in such project shall be $300,000: *Provided,* That the building cost limitation may be exceeded if the Administration determines that it is necessary in the interest of efficiency and economy.
(2) The total cost of all projects undertaken under subsection 101(b)(10) shall not exceed the estimated cost set forth in that subsection by more than 10 per centum.
(d) The total cost of any project undertaken under subsection 101(b) (2), (3), (4), (6), (7), and (9) shall not exceed the estimated cost set forth for that project by more than 25 per centum, unless and until additional appropriations are authorized under section 261 of the Atomic Energy Act of 1954, as amended, provided that this subsection will not apply to any project with an estimated cost less than $5,000,000.
(e) The total cost of any project undertaken under subsection 101(b) (5) and (8) shall not exceed the estimated cost set forth for that project by more than 10 per centum, unless and until additional appropriations are authorized under section 261 of the Atomic Energy Act of 1954, as amended, provided that this subsection will not apply to any project with an estimated cost less than $5,000,000.
SEC. 103. AMENDMENT OF PRIOR YEAR ACTS.—(a) Section 101 of Public Law 91–273, as amended, is further amended by (1) striking from subsection (b)(1), project 71–1–f, process equipment modifications, gaseous diffusion plants, the figure "$295,100,000" and substituting therefor the figure "$478,100,000"; and (2) striking from subsection (b)(9), project 71–9, fire, safety, and adequacy of operating conditions projects, various locations, the figure "$193,000,000" and substituting therefor the figure "$240,000,000".
(b) Section 101 of Public Law 93–60, as amended, is further amended by (1) striking from subsection (b)(1), project 74–1–g, cascade uprating program, gaseous diffusion plants, the figure "$183,100,000" and substituting therefor the figure "$259,600,000"; and (2) striking from subsection (b)(2), project 74–2–c, high energy laser facility, Lawrence Livermore Laboratory, California, the figure "$20,000,000" and substituting therefor the figure "$25,000,000".
(c) Section 101 of Public Law 93–276 is amended by (1) striking from subsection (b)(1), project 75–1–a, additional facilities, high level waste handling and storage, Savannah River, South Carolina, the figure "$30,000,000" and substituting therefor the figure "$33,000,000"; (2) striking from subsection (b)(1), project 75–1–c, new waste calcining facility, Idaho Chemical Processing Plant, National Reactor Testing Station, Idaho, the figure "$20,000,000" and substituting therefor the figure "$27,500,000"; (3) striking from subsection (b)(3), project 75–3–e, addition to building 350 for safeguards analytical laboratory, Argonne National Laboratory, Illinois, the figure "$3,500,000" and substituting therefor the figure "$4,300,000"; (4) striking from subsection (b)(6), project 75–6–c, positron-electron joint project, Lawrence Berkeley Laboratory and Stanford Linear Accelerator Center, the figure "$900,000" and substituting therefor the figure "$11,900,000"; and (5) striking from subsection (b)(7), project 75–7–c, intermediate-level waste management facilities, Oak Ridge National Laboratory, Tennessee, the figure "$9,500,000" and substituting therefor the figure "$10,500,000".
(d) Section 106 of Public Law 91–273, as amended, is further amended by deleting the present text thereof and substituting therefor the following:
"SEC. 106. LIQUID METAL FAST BREEDER REACTOR DEMONSTRATION PROGRAM—FOURTH ROUND.—(a) The Energy Research and Development Administration (ERDA) is hereby authorized to enter into cooperative arrangements with reactor manufacturers and others for participation in the research and development, design, construction, and operation of a Liquid Metal Fast Breeder Reactor powerplant, in accordance with criteria approved by the Joint Committee on Atomic Energy, without regard to the provisions of section 169 of the Atomic Energy Act of 1954, as amended. Appropriations are hereby authorized for the aforementioned cooperative arrangements as shown in the basis for arrangements as submitted in accordance with subsection (b) hereof. In addition, ERDA may agree to provide assistance in the form of waiver of use charges during the term of the cooperative arrangements without regard to the provisions of section 53 of the Atomic Energy Act, as amended, by waiving use charges in an amount not to exceed $10,000,000.
"(b) Before ERDA enters into any arrangement or amendment thereto under the authority of subsection (a) of this section, the basis for the arrangement or amendment thereto which ERDA proposes to execute (including the name of

the proposed participating party or parties with whom the arrangement is to be made, a general description of the proposed powerplant, the estimated amount of cost to be incurred by ERDA and by the participating parties, and the general features of the proposed arrangement or amendment) shall be submitted to the Joint Committee on Atomic Energy, and a period of forty-five days shall elapse while Congress is in session (in computing such forty-five days, there shall be excluded the days on which either House is not in session because of adjournment for more than three days): *Provided, however,* That the Joint Committee, after having received the basis for a proposed arrangement or amendment thereto, may by resolution in writing waive the conditions of all, or any portion of, such forty-five day period: *Provided further,* That such arrangement or amendment shall be entered into in accordance with the basis for the arrangement or amendment submitted as provided herein: *And provided further,* That no basis for arrangement need be resubmitted to the Joint Committee for the sole reason that the estimated amount of the cost to be incurred by ERDA exceeds the estimated cost previously submitted to the Joint Committee by not more than 15 per centum. Notwithstanding the foregoing, ERDA, in each of its annual budget submissions, shall submit for the information and review of the Joint Committee in the exercise of its oversight responsibility, the anticipated obligations and costs for the ensuing fiscal year for the project authorized under subsection (a) of this section.

"(c) The ERDA is hereby authorized to agree, by modification to the definitive cooperative arrangement reflecting such changes therein as it deems appropriate for such purpose, to the following: (1) to execute and deliver to the other parties to the definitive contract, the special undertakings of indemnification specified in said contract, which undertakings shall be subject to availability of appropriations to ERDA and to the provisions of section 3679 of the Revised Statutes, as amended; and (2) to acquire ownership and custody of the property constituting the Liquid Metal Fast Breeder Reactor powerplant or parts thereof, and to use, decommission, and dispose of said property, as provided for in the definitive contract."

SEC. 104. RESCISSION.—(a) Public Law 92–314, as amended, is further amended by rescinding therefrom authorization for a project, except for funds heretofore obligated, as follows:

Project 73–5–d, modifications to TREAT facility, National Reactor Testing Station, Idaho, $1,500,000.

(b) Public Law 93–60, as amended, is further amended by rescinding therefrom authorization for a project, except for funds heretofore obligated, as follows:

Project 74–3–e, modifications to TREAT facility, National Reactor Testing Station, Idaho, $2,500,000.

(c) Public Law 93–276, as amended, is further amended by rescinding therefrom authorization for a project, except for funds heretofore obligated, as follows:

Project 75–13–a, hydrothermal pilot plant, $1,000,000.

TITLE II—AUTHORIZATION OF APPROPRIATIONS FOR THE PERIOD JULY 1, 1976, THROUGH SEPTEMBER 30, 1976

SEC. 201. There is hereby authorized to be appropriated to the Energy Research and Development Administration in accordance with the provisions of section 261 of the Atomic Energy Act of 1954, as amended, section 305 of the Energy Reorganization Act of 1974, and section 16 of the Federal Nonnuclear Energy Research and Development Act of 1974:

(a) For "Operating expenses", $1,014,039,000.

(b) For "Plant and capital equipment", including construction, acquisition, or modification of facilities, including land acquisition; and acquisition and fabrication of capital equipment not related to construction, a sum of dollars equal to the total of the incremental amounts of the following:

FOSSIL ENERGY DEVELOPMENT

(1) COAL.—

Project 76–1–a, clean boiler fuel demonstration plant (A–E and long-lead procurement), $8,000,000.

SOLAR, GEOTHERMAL, AND ADVANCED ENERGY SYSTEMS DEVELOPMENT

(2) PHYSICAL RESEARCH.—

Project 76–2–a, accelerator and reactor improvements and modifications, $1,000,000.

NUCLEAR ENERGY DEVELOPMENT

(3) FUSION POWER RESEARCH AND DEVELOPMENT.—

Project 76–3–a, tokamak fusion test reactor, Princeton Plasma Physics Laboratory, Plainsboro, New Jersey, $7,000,000.

(4) GENERAL PLANT PROJECTS.—$15,900,000.

(5) CONSTRUCTION PLANNING AND DESIGN.—$1,500,000.

(6) CAPITAL EQUIPMENT.—$58,926,000.

SEC. 202. LIMITATIONS.—(a) The Administration is authorized to start any project set forth in subsections 201 (b) (1), (2), and (3) only if the currently estimated cost of that project does not exceed by more than 25 per centum the estimated cost set forth for that project.

(b) The Administration is authorized to start any project under subsection 201(b)(4) only if it is in accordance with the following:

(1) The maximum currently estimated cost of any project shall be $750,000 and the maximum currently estimated cost of any building included in such project shall be $300,000: *Provided,* That the building cost limitation may be exceeded if the Administration determines that it is necessary in the interest of efficiency and economy.

(2) The total cost of all projects undertaken under subsection 201(b)(4) shall not exceed the estimated cost set forth in that subsection by more than 10 per centum.

(c) The total cost of any project undertaken under subsection 101(b), (2) and (3) shall not exceed the estimated cost set forth for that project by more than 25 per centum, unless and until additional appropriations are authorized under section 261 of the Atomic Energy Act of 1954, as amended, provided that this subsection will not apply to any project with an estimated cost less than $5,000,000.

SEC. 203. AMENDMENT OF PRIOR YEAR ACTS.—(a) Section 101 of Public Law 91–273, as amended, is further amended by striking from subsection (b)(1), project 71–1–f, process equipment modifications, gaseous diffusion plants, the figure "$478,100,000" and substituting therefor the figure "$510,100,000".

(b) Section 101 of Public Law 93–60, as amended, is further amended by striking from subsection (b)(1), project 74–1–g, cascade uprating program, gaseous diffusion plants, the figure "$259,600,000" and substituting therefor the figure "$270,400,000".

TITLE III—GENERAL PROVISIONS

SEC. 301. The Administration is authorized to perform construction design services for any Administration construction project whenever (1) such construction project has been included in a proposed authorization bill transmitted to the Congress by the Administration and (2) the Administration determines that the project is of such urgency that construction of the project should be initiated promptly upon enactment of legislation appropriating funds for its construction.

SEC. 302. Any moneys received by the Administration may be retained and used for operating expenses (except sums received from disposal of property under the Atomic Energy Community Act of 1955 and the Strategic and Critical Materials Stockpiling Act, as amended, and fees received for tests or investigations under the Act of May 16, 1910, as amended (42 U.S.C. 2301; 50 U.S.C. 98h; 30 U.S.C. 7)), notwithstanding the provisions of section 3617 of the Revised Statutes (31 U.S.C. 484), and may remain available until expended.

SEC. 303. Transfers of sums from the "Operating expenses" appropriation may be made to other agencies of the Government for the performance of the work for which the appropriation is made, and in such cases the sums so transferred may be merged with the appropriation to which transferred.

SEC. 304. When so specified in an appropriation Act, any amount appropriated for "Operating expenses" or for "Plant and capital equipment" may remain available until expended.

TITLE IV—OAK RIDGE HOLIFIELD NATIONAL LABORATORY

SEC. 401. The Holifield National Laboratory at Oak Ridge, Tennessee, shall hereafter be known and designated as the "Oak Ridge Holifield National Labora-

tory." Any reference in any law, map, regulation, document, record, or other paper of the United States to the Holifield National Laboratory or to the Oak Ridge National Laboratory shall be held to be reference to the "Oak Ridge Holifield National Laboratory."

Purpose of the Bill

The purpose of this bill is to authorize appropriations for the Energy Research and Development Administration for fiscal year 1976 and for the transition quarter ending September 30, 1976, as follows:

	Fiscal year 1976	Transition quarter
Operating expenses	$3,476,729,000	$1,014,039,000
Plant and capital equipment	899,117,000	135,126,000
Total authorization	4,375,846,000	1,149,165,000

Authorization Request

The Energy Research and Development Administration's authorization request for fiscal year 1976 and the transition quarter, as initially submitted to the Congress on February 4, 1975, and subsequently amended on April 9, 1975, called for authorization of (1) $3,418,587,000 for "Operating expenses" and $868,867,000 for "Plant and capital equipment" (including increases in prior-year authorizations) making a total requested authorization for fiscal year 1976 of $4,287,454,000; and (2) $1,001,301,000 for "Operating expenses" and $128,876,000 for "Plant and capital equipment" making a total requested authorization of $1,130,177,000 for the transition quarter.

As noted in the tables that follow, the Joint Committee has recommended both increases and decreases in the funds requested for several of the ERDA's programs to better reflect the Nation's needs in these areas. The committee has realigned the ERDA's request to some extent to provide for a higher level of effort on several of the ERDA's high-priority programs. The recommended authorization for fiscal year 1976 is $4,375,846,000 which is $88,392,000 or about 2 percent more than the amount requested. The recommended authorization for the transition quarter is $1,149,165,000 which is $18,988,000 or about 1.7 percent more than the amount requested.

ERDA submitted its budget requests for fiscal year 1976 and the transition quarter to Congress on February 4, 1975. With respect to appropriations, the Joint Committee estimates that ERDA's fiscal year 1976 budget request will call for a new appropriation of $3,403,987,000 for "Operating expenses" and a new appropriation of $889,717,000 for "Plant and capital equipment" making a total appropriations request of $4,293,704,000. The authorization requested for

operating expenses for fiscal year 1976 is $14,600,000 more than the amount requested for appropriations, since the authorization request includes $16,000,000 for the LMFBR cooperative power reactor demonstration program, appropriations for which amounts will be requested in future years, partially offset by $1,400,000 for the uranium mill tailings remedial action program which was authorized in prior years.

The appropriations requested for "Plant and capital equipment" for fiscal year 1976 are $20,850,000 more than the amount requested for authorization. The difference reflects the inclusion of appropriations requests for projects which were authorized in prior years ($386,550,000), partially offset by the inclusion of authorization requests of $365,700,000 for projects for which appropriations will be requested in future years.

The Joint Committee estimates that ERDA's budget request for the transition quarter will call for a new appropriation of $1,017,301,000 for "Operating expenses" and a new appropriation of $188,476,000 for "Plant and capital equipment," making a total appropriations request of $1,205,777,000. The appropriations requested for operating expenses for the transition period are $16,000,000 more than the authorization request since the appropriations request includes $16,000,000 for the LMFBR cooperative power reactor demonstration program for which authorization is requested in the fiscal year 1976 budget request.

The appropriations requested for "Plant and capital equipment" for the transition period are $59,600,000 more than the amount requested for authorization. The difference reflects the inclusion of appropriations requests for projects which were authorized in prior years ($102,400,000), partially offset by the inclusion of authorization requests of $42,800,000 for projects for which appropriations will be requested in future years.

Generally, the Administration's authorization request reflects estimated costs in two broad categories of effort, namely, military and civilian applications. Military applications include primarily the nuclear weapons and naval propulsion reactors programs as well as a portion of the nuclear materials program. Approximately 39 percent of the Administration's fiscal year 1976 estimated program costs (as compared to about 43 percent of estimated fiscal year 1975 costs), or $1,763 million is attributable to military applications. The estimated cost for civilian applications totals $2,809 million, or about 61 percent of the program costs (as compared to about 57 percent of estimated fiscal year 1975 costs). The amounts shown above reflect total program costs and are exclusive of adjustments for revenues received and for changes in selected resources.

Operating expenses

The following table summarizes the ERDA's request for operating funds authorization under its major programs and the Joint Committee's action thereon:

AUTHORIZATION OF OPERATING EXPENSES[1]

[In thousands of dollars]

Program	ERDA authorization request 1976	ERDA authorization request Transition quarter	Committee recommendations[2] 1976	Committee recommendations[2] Transition quarter	Change 1976	Change Transition quarter	Page No.
Fossil energy development	$311,267	$55,830	$311,267	$55,830	0	0	
Solar, geothermal and advanced energy systems development	108,643	21,580	108,643	21,580	0	0	
Conservation research and development	32,170	7,733	32,170	7,733	0	0	
Physical research							12
High energy physics	148,300	37,800	148,300	37,800	0	0	13
Nuclear science	78,100	19,400	81,100	19,400	+3,000	0	14
Materials sciences	43,600	11,900	43,600	11,900	0	0	14
Molecular sciences	42,500	11,200	42,500	11,200	0	0	14
Total, Physical research	312,500	80,300	315,500	80,300	+3,000	0	
Fusion power research and development	120,000	37,000	140,000	42,000	+$20,000	+$5,000	15
Fission power reactor development							16
Liquid metal fast breeder reactor	211,700	58,000	211,700	58,000	0	0	16
Cooperative power reactor demonstration	168,500	13,000	168,500	13,000	0	0	18
Water cooled reactors	31,900	9,000	31,900	9,000	0	0	20
Gas cooled thermal reactors	31,400	8,170	31,400	8,170	0	0	20
Gas cooled fast breeder reactors	6,000	1,550	6,000	1,550	0	0	21
Molten salt breeder reactors	3,500	900	3,500	900	0	0	21
Reactor safety	45,775	12,145	45,775	12,145	0	0	22
Supporting activities	28,400	7,980	28,400	9,980	0	0	23
Total, Fission power reactor development	527,175	110,745	527,175	110,745	0	0	
Naval reactor development	186,200	52,900	186,200	52,900	0	0	23
Space nuclear systems	30,900	8,000	30,900	8,000	0	0	24
Nuclear materials	828,940	236,494	828,940	236,494	0	0	25
Advanced isotope separation technology	24,200	7,300	24,200	7,300	0	0	28
Weapons	873,515	223,925	877,015	224,925	+3,500	+1,000	29
Laser fusion	54,000	15,100	60,000	16,600	+6,000	+1,500	30
Nuclear materials security	10,945	3,006	13,945	3,806	+3,000	+800	31
Biomedical and environmental research	156,515	40,500	163,015	41,650	+6,500	+1,150	32
Waste management	36,000	10,100	36,000	10,100	0	0	33
Operational safety	3,560	900	3,560	900	0	0	34
Program support							34
Operational program direction	168,614	44,547	168,614	44,547	0	0	35
Community operations	7,650	1,914	9,817	2,204	+2,167	+290	35
Security investigations	12,290	2,825	12,290	2,825	0	0	36
Information services	9,480	2,686	9,555	2,704	+75	+18	36
EEO assigned facilities	1,984	516	1,984	516	0	0	37
Total, program support	200,018	52,488	202,260	52,796	+2,242	+308	
Cost of work for others	12,660	3,095	12,660	3,095	0	0	35
Revenues applied	−675,670	−94,700	−675,670	−94,700	0	0	35
Changes in selected resources	265,049	129,005	278,949	131,985	+13,900	+2,980	36
Unobligated balance brought forward	0	0	0	0	0	0	36
Total authorization	3,418,587	1,001,301	3,476,729	1,014,039	+58,142	+12,738	

[1] A table showing the ERDA's appropriations request for operating expenses for fiscal year 1976 and the transition quarter and the effects of the authorization of the Joint Committee on this request is set forth as an appendix to this report on p. 55

[2] The Joint Committee has not considered the non-nuclear programs of ERDA and does not necessarily endorse the amounts shown for those programs. The amounts requested by ERDA are shown only for completeness. The Senate Interior and Insular Affairs Committee will review and make recommendations on those programs.

Plant and capital equipment

The following table summarizes the ERDA's request for authorization for "Plant and capital equipment" under its major programs and the Joint Committee's action thereon. More detailed information on the specific construction projects proposed, together with the Joint Committee's comments and recommendations thereon, is presented in part XV of this report entitled, "Plant and capital equipment," beginning on p. 39.

PLANT AND CAPITAL EQUIPMENT AUTHORIZATIONS[1]

[In thousands of dollars]

	ERDA authorization request 1976	ERDA authorization request Transition quarter	Committee recommendations[2] 1976	Committee recommendations[2] Transition quarter	Change 1976	Change Transition quarter
New construction projects	$275,220	$29,400	$323,970	$33,400	+$48,750	+$4,000
Capital equipment not related to construction	232,347	56,676	240,347	58,926	+8,000	+2,250
Increases in prior-year authorizations:						
Project 71-1-f, process equipment modifications, gaseous diffusion plants (from $295,100 to $510,100)	183,000	32,000	183,000	32,000	0	0
Project 71-9, fire, safety, and adequacy of operating conditions (from $193,000 to $240,000)	47,000	0	47,000	0	0	0
Project 74-1-g, cascade uprating program, gaseous diffusion plants (from $183,100 to $270,400)	76,500	10,800	76,500	10,800	0	0
Project 74-2-c, high energy laser facility, Lawrence Livermore Laboratory, California (from $20,000 to $25,000)	5,000	0	5,000	0	0	0
Project 75-1-a, additional facilities, high level waste handling and storage, Savannah River, S.C. (from $30,000 to $33,000)	3,000	0	3,000	0	0	0
Project 75-1-c, new waste calcining facility, Idaho Chemical Processing Plant, Idaho (from $20,000 to $65,000)	45,000	0	7,500	0	−37,500	0
Project 75-3-e, addition to building 350 for safeguards analytical laboratory, Argonne National Laboratory, Ill. (from $3,500 to $4,300)	800	0	800	0	0	0
Project 75-6-c, positron-electron joint projects, Lawrence Berkeley Laboratory and Stanford Linear Accelerator Center (from $900 to $11,900)	0	0	11,000	0	+11,000	0
Project 75-7-c, intermediate-level waste management facilities, Oak Ridge National Laboratory, Tenn. (from $9,500 to $16,500)	1,000	0	1,000	0	0	0
Total, plant and capital equipment authorization	868,867	128,876	899,117	135,126	+30,250	+6,250

[1] A table showing the Energy Research and Development Administration's appropriations request for fiscal year 1976 and the transition quarter and the effects of the authorization recommendations of the Joint Committee on this appropriations request is set forth as an appendix to this report on p. 55.

[2] The Joint Committee has not considered the non-nuclear programs of ERDA and does not necessarily endorse the amounts shown for those programs. The amounts requested by ERDA are shown only for completeness. The Senate Interior and Insular Affairs Committee will review and make recommendations on those programs.

The following table presents a capsule summary of the authorization requested by the Administration for fiscal year 1976 and the transition quarter and the effect of the Joint Committee's recommendations thereon:

[In thousands of dollars]

Program	ERDA authorization request 1976	ERDA authorization request Transition quarter	Committee recommendations 1976	Committee recommendations Transition quarter	Change 1976	Change Transition quarter
Operating expenses	$3,418,587	$1,001,301	$3,476,729	$1,014,039	+$58,142	+$12,738
Plant and capital equipment	868,867	128,876	899,117	135,126	+30,250	+6,250
Total	4,287,454	1,130,177	4,375,846	1,149,165	+88,392	+18,988

Background

On February 4, 1975, the Energy Research and Development Administration (ERDA) transmitted to the Congress a proposed bill to authorize appropriations to ERDA for fiscal year 1976, the transition period (July 1, 1976 to September 30, 1976), and fiscal year 1977. On February 7, 1975, the bill was introduced in the Senate as S. 598 by Senator Pastore, for himself and Senator Jackson, by request. By consent agreement, this bill was referred to the Joint Committee on Atomic Energy for action on the nuclear energy program requests, and will be sequentially referred to the Senate Interior and Insular Affairs Committee for action on the nonnuclear programs. On February 20, 1975, the bill was introduced in the House as H.R. 3474 by Mr. Price, for himself and Mr. Teague, by request. H.R. 3474 was referred jointly to the Joint Committee on Atomic Energy and the House Science and Technology Committee. The Joint Committee has legislative jurisdiction over the nuclear programs and the Science and Technology Committee over the nonnuclear programs. Hearings on the proposed authorizations for nuclear programs were held before the Joint Committee on Atomic Energy, as summarized in the next section.

On March 10, 1975, Robert C. Seamans, Jr., Administrator of ERDA, wrote to Chairman Pastore submitting a revised proposal for amending the authorization for the Clinch River Breeder Reactor Demonstration Plant Project in Section 106 of Public Law 91–273. This proposal was in lieu of Section 103(d) of the originally proposed bill.

On April 9, 1975, Robert C. Seamans, Jr., Administrator of ERDA, wrote to Chairman Pastore withdrawing the Administration's authorization request of $55 million for a retrievable surface storage facility construction project.

On April 24, 1975, the Joint Committee met in open session to consider the proposed ERDA authorizations for the nuclear programs for fiscal year 1976 and the transition quarter. At the conclusion of that meeting, the Joint Committee voted to amend S. 598 and to report it favorably as amended and to adopt this Joint Committee report. The committee also voted to prepare a "clean" bill for introduction in the House of Representatives, providing for authorizations for the nuclear programs of ERDA identical to those in the amended version of S. 598, and for authorizations for the nonnuclear programs as recommended by the House Science and Technology Committee. The actions of the Joint Committee were taken by unanimous vote of the members present.

Hearings

The Joint Committee began consideration of the proposed legislation authorizing appropriations to the ERDA for fiscal year 1976 and the transition quarter with a public hearing on February 4, 1975. At this hearing, the Honorable Robert C. Seamans, Jr., Administrator, ERDA, reviewed the overall budget request. Subsequent public hearings occurred on February 18 and 27, and March 4, 6, 11, and 13.

In the course of these hearings the ERDA's programs for fusion power research and development; biomedical and environmental research; waste management; operational safety; physical research; nuclear materials; fission power reactor development; and laser and electron beam pellet fusion research were the subjects considered.

Other hearings were held in executive session on March 5 and 12. ERDA programs reviewed during these hearings were weapons; nuclear materials security; and naval reactors. An unclassified version of the naval reactors hearings held in executive session on February 25, 1974, was published in February of this year as "Naval Nuclear Propulsion Program—1974." Also, an unclassified version of the weapons program hearings held in executive session on February 20, 1974, was published in February of this year as "AEC Weapons Program Authorization Request, Fiscal Year 1975."

During the public and executive hearings the following witnesses from the Energy Research and Development Administration appeared before the Joint Committee to present testimony or to assist in the development of the record: Dr. Robert C. Seamans, Jr., Administrator; Dr. Robert D. Thorne, Acting Deputy Assistant Administrator for Nuclear Energy; Dr. James L. Liverman, Acting Deputy Assistant Administrator for Environment and Safety; Dr. John M. Teem, Acting Deputy Assistant Administrator for Solar, Geothermal, and Advanced Energy Systems; Major General Edward B. Giller (USAF, retired), Deputy Assistant Administrator for National Security; Major General Ernest Graves, USA, Director, Division of Military Application; Thomas A. Nemzek, Director, S. W. Ahrends, Deputy Director for Projects, G. W. Cunningham, Acting Deputy Director for Development and Technology, J. W. Crawford, Assistant Director, Edwin E. Kintner, Special Assistant to the Director, Russell Ritchie, Assistant Director for Administration, Merrill J. Whitman, Assistant Director for Energy Systems Analysis, Melvin A. Rosen, Assistant Director for Programs, Edgar A. Womack, Assistant Director for Gas-Cooled Reactor Projects, Dr. William H. Hannum, Assistant Director for Reactor Safety, and John J. Morabito, Acting Assistant Director for Component Engineering and Development, Division of Reactor Research and Development; Frank P. Baranowski, Director, Robert D. Nininger, Assistant Director for Raw Materials, and Kenneth L. Burson, Assistant Director for Administration, Division of Production and Materials Management; Dr. Robert L. Hirsch, Director, Division of Controlled Thermonuclear Research; Dr. Frank K. Pittman, Director, Division of Waste Management and Transportation; Dr. Martin B. Biles, Director, Division of Operational Safety; Dr. William W. Burr, Jr., Deputy Director, Dr. Charles W. Edington, Associate Director for Research and Development Programs, and Dr. Robert W. Wood, Program Manager, Physical and Analytical Studies, Division of Biomedical and Environmental Research; Adm. H. G. Rickover, Director, William Wegner, Deputy Director, David T. Leighton, Associate Director for Surface Ships and LWBR, and Thomas L. Foster, Associate Director for Fiscal Matters, Division of Naval Reactors; M. C. Greer, Controller; James Culpepper, Acting Assistant Controller for Budgets; Delmar D. Mayhew and Charles Gaffney, Office of the Controller; Hudson B. Ragan, Acting General Counsel; Bruce Mercer, Office of the General Counsel; and H. Hollister Cantus, Director, Office of Congressional Relations

Donald R. Cotter, Assistant to the Secretary of Defense for Atomic Energy; Dr. Harold Agnew, Director, Los Alamos Scientific Laboratory; Dr. Roger Batzel, Director, Lawrence Livermore Laboratory; and Dr. Morgan Sparks, President, Sandia Laboratories, appeared at the weapons program hearing on March 12. The latter three gentlemen also appeared at the laser and electron beam pellet fusion research hearing on March 13, along with Dr. Albert Narath, Vice President, Sandia Laboratories; Dr. Moshe J. Lubin, Director, Laboratory for Laser Energetics, University of Rochester; Dr. Gene H. McCall, Group Leader, Laser Division, Los Alamos Scientific Laboratory; Dr. John L. Emmett, Director, Laser Fusion Division, Lawrence Livermore Laboratory; and Professor Keeve M. Siegel, Chairman of KMS Industries, Inc., Ann Arbor, Michigan.

Dr. Robert R. Wilson, Director, Fermi National Accelerator Laboratory; Dr. Louis Rosen, Director, Clinton P. Anderson Meson Physics Facility; Dr. Andrew M. Sessler, Director, Lawrence Berkeley Laboratory; Dr. Burton Richter, Associate Director, Stanford Linear Accelerator Center; Dr. R. R. Rau, Associate Director, Brookhaven National Laboratory; Dr. Robert D. Moseley, Jr., Department of Radiology, University of New Mexico; Dr. Samuel C. C. Ting, Professor of Physics, Massachusetts Institute of Technology; Dr. John R. Huizenga, University of Rochester; Professor D. Allan Bromley, Chairman, Physics Department, Yale University; and Homer A. Neal, Professor of Physics, Indiana University, appeared at the physical research hearing on March 4.

Committee Comments

INTRODUCTION

Pursuant to section 261 of the Atomic Energy Act of 1954, as amended, and section 305 of the Energy Reorganization Act of 1974, the Joint Committee has reviewed the ERDA authorization request for operating expenses and for plant and capital equipment for fiscal year 1976 and the transition quarter.

The following program sections reflect ERDA's requests for "Operating expenses" and "Plant and capital equipment" and the Joint Committee's recommendations for "Operating expenses." The Joint Committee's recommendations for "Plant and capital equipment" for all programs are contained in part XV beginning on page 39.

I. Physical Research

A. ERDA request

The ERDA requested $312,500,000 for the operating expenses of the physical research program for fiscal year 1976, an increase of $30,900,000 over the estimated costs for this program in fiscal year 1975. The proposed amounts for this program include the following sub-program increases: high energy physics, $16,800,000; nuclear science, $6,400,000; materials sciences, $3,800,000; and molecular sciences, $3,900,000.

The ERDA also requested authorization for plant and capital equipment for the physical research program totaling $42,300,000. Of this amount $4,000,000 is for accelerator and reactor improvements and modifications, $6,000,000 is for general plant projects, and $32,300,000 is for capital equipment not related to construction.

In addition, for the transition quarter the ERDA requested $80,300,000 for the operating expenses and $10,725,000 for plant and capital equipment for the physical research program.

B. Committee action

The following table compares operating costs in the four categories supported by the physical research program for fiscal years 1974 (actual), 1975 (estimated) and 1976 (requested). The last two columns indicate dollar and percentage increases for fiscal year 1976 over fiscal year 1975.

[In thousands of dollars]

	Actual costs fiscal year 1974	Estimated costs fiscal year 1975	ERDA request fiscal year 1976	Increase fiscal year 1976 vs fiscal year 1975	
				Amount	Percent
High energy physics	$125,842	$131,500	$148,300	$16,800	13
Nuclear science	64,360	71,700	78,100	6,400	9
Materials sciences	32,487	39,800	43,600	3,800	10
Molecular sciences	30,136	38,600	42,500	3,900	10
Total, physical research program	252,825	281,600	312,500	30,900	11

The Joint Committee considers the ERDA physical research program to be an excellent combination of research efforts covering the spectrum from visionary to pragmatic. Collectively, the program's four subfields, each properly funded and exploited, promise synergistically expanded results amenable to solving current problems and ameliorating future needs. Energy from the fusion process and significantly improved health care are just two examples of research areas utilizing results from the physical research program.

The Joint Committee recommends that $3.0 million be added to the requested operating costs for fiscal year 1976, thus increasing the authorization to $315.5 million. The committee also recommends that $80.3 million be authorized for the transition quarter.

(*1*) *High energy physics.*—The Joint Committee notes the adoption of a more comprehensive method of measuring accelerator utilization whereby the use of beam channels, the use of experimental stations, and the employment of various beam energies are compared to possible maxima in each category. Projected fiscal year 1976 utilization percentages, based upon the requested increase of $16.8 million for high energy physics, are compared to the fiscal year 1975 percentages in the following table:

	Dollars (in millions)		Utilization (percent)	
	1975	1976	1975	1976
Accelerator:				
FERMILAB	$35.4	$42.6	52	57
AGS (Brookhaven)	24.9	27.8	47	52
ZGS (Argonne)	14.0	15.3	45	50
SLAC (Stanford)	24.8	27.6	45	52
Bevatron (Berkeley)[1]	1.6	.6	(2)	0
Other	30.8	34.4		
	131.5	148.3		

[1] Bevatron is no longer operating under the high energy physics program.
[2] Low.

The recent discovery of two new subnuclear particles, at AGS and SLAC, demonstrates the current vitality of the U.S. high energy physics program. However, the consensus of opinion of the experts in this field is that U.S. leadership will diminish significantly unless new facilities are designed and construction initiated in the immediate future. In consonance with this need, the Joint Committee recommended for fiscal year 1975 that $900,000 be authorized to start design on a joint SLAC–Lawrence Berkeley Laboratory positron electron accelerator facility to be located at SLAC. Funds were authorized (Project 75–6–c) but not appropriated. The Joint Committee most urgently recommends that this project be funded in fiscal year 1976. (See also page 43). The Joint Committee recommends authorization of the requested $148,300,000 for fiscal year 1976 and $37.8 million for the transition quarter for the high energy physics program operating costs.

(*2*) *Nuclear science.*—The ERDA request for the nuclear science subprogram included an increase of $6.4 million or 9 percent over fiscal year 1975. This subprogram includes several of ERDA's most promising pioneering efforts—the Clinton P. Anderson (LAMPF) facility at Los Alamos, the Bevalac at Berkeley, the new heavy ion facility at the Holifield National Laboratory, and the Bates accelerator at MIT. Many of the research efforts at these facilities are related to current and near term problems facing our nation. The Joint Committee recommends that $81.1 million be authorized for fiscal year 1976, an increase of $3.0 million above ERDA's request, which increase is to be used for the LAMPF facility. The committee also recommends that $19.4 million for the transition quarter be authorized for nuclear sciences.

(*3*) *Materials sciences.*—The Joint Committee recommends that the ERDA request for the materials sciences subprogram of $43,600,000 for fiscal year 1976 and $11.9 million for the transition quarter be authorized. The Joint Committee is concerned that this program—which provides much of this nation's basic research on materials related to such efforts as metallurgy, cryogenics, and solid state science—might become a bottleneck for energy research if the applied programs receive large infusions of funds while the basic studies are underfunded. The United States Government must ensure that its citizens' energy needs are provided for and basic research is an important aspect of this effort.

(*4*) *Molecular sciences.*—The Joint Committee recommends that the ERDA request for this subprogram of $42,500,000 for fiscal year 1976 and $11.2 million for the transition quarter be authorized.

The committee is aware that the molecular sciences subprogram is deeply involved with many research efforts basic to energy generation, conversion and storage. Here, again, as with the materials sciences subprogram, the committee is concerned that vast sums could be needlessly expended on systems which will not work properly because the basic research was shortchanged. Mathematical and computer-related endeavors are also supported under this subprogram, as are university—ERDA laboratory cooperation. The importance of the totality of these efforts in the molecular sciences research category is amply recognized.

II. Fusion Power Research and Development Program

A. ERDA request

The ERDA request for the fiscal year 1976 operating expenses of the fusion power research and development program amounted to $120,000,000 which includes: $64,000,000 for confinement systems, $32,000,000 for development and technology, and $24,000,000 for research. The request for operating funds represents a net increase of $34,970,000 over the estimated costs for fiscal year 1975. The ERDA authorization request for operating expenses of this program for the transition quarter was $37,000,000.

The ERDA also requested for fiscal year 1976 authorization of $24,200,000 for plant and capital equipment for this program. Of this amount $700,000 is for general plant projects, $7,500,000 is for a tokamak fusion test reactor, and $16,000,000 is for capital equipment not related to construction. In addition, the ERDA requested for the transition quarter authorization of $7,350,000 for plant and capital equipment for this program, which includes $3,000,000 for the Tokamak fusion test reactor.

B. Committee action

The attainment of safe and economic fusion power will be one of the most sophisticated and difficult scientific and engineering tasks ever attempted. Controlled fusion research has been under investigation since development began on fusion weapons, but with little success until recent years.

The Joint Committee considers it imperative that the fusion power research and development program continue to be strengthened and provided with the funds necessary for an orderly progression to more sophisticated experimental devices. The Joint Committee strongly recommends that the Fusion Power R. & D. operating expenses authorization for fiscal year 1976 be increased by $20,000,000 to a total of $140,000,000, and that the transition quarter authorization be increased by $5.0 million to a total of $42.0 million. It should be noted that this fiscal year 1976 recommended authorization is $10,000,000 below that requested by the Division of Controlled Thermonuclear Research as an optimum amount at the beginning of the fiscal year 1976 budget cycle. The increase could be profitably applied to such programs as neutral beam research, cryogenic and reactor materials characterization, computer modeling and plasma beam behavior.

The Joint Committee is also recommending increases in funding for Tokamak Fusion Test Reactor and this program's capital equipment not related to construction. (See pp. 41 and 42.)

III. Fission Power Reactor Development Program

INTRODUCTION

The ERDA requested authorization of $527,175,000 for the operating expenses of its fission power reactor development program in fiscal year 1976. This is a new program title for those subprograms

previously included under "Civilian Reactor Research and Development" in last year's authorization report.

The ERDA requested authorization of $110,745,000 for the transition quarter operating expenses.

The ERDA also requested authorization of funds for plant and capital equipment for the fiscal year 1976 fission power reactor development program totaling $79,050,000 which includes: $13,750,000 for general plant projects; $13,900,000 for new construction projects; and $51,400,000 for capital equipment not related to construction.

The ERDA requested authorization of $12,100,000 for the transition quarter for plant and capital equipment for the fission program.

The following table summarizes the ERDA's requested authorization for operating expenses and the Joint Committee's recommendations thereon:

[In thousands of dollars]

Program	ERDA authorization request		Committee recommendations		Change	
	Fiscal year 1976	Transition quarter	Fiscal year 1976	Transition quarter	Fiscal year 1976	Transition quarter
Liquid metal fast breeder reactors (LMFBR)	$211,700	$58,000	$211,700	$58,000	0	0
Cooperative power reactor demonstration program	168,500	13,000	168,500	13,000	0	0
Water-cooled reactors	31,900	9,000	31,900	9,000	0	0
Gas-cooled thermal reactors	31,400	8,170	31,400	8,170	0	0
Gas-cooled fast breeder reactors (GCFR)	6,000	1,550	6,000	1,550	0	0
Molten salt breeder reactors (MSBR)	3,500	900	3,500	900	0	0
Reactor safety	45,775	12,145	45,775	12,145	0	0
Supporting activities	28,400	7,980	28,400	7,980	0	0
Total fission power reactor development program	527,175	110,745	527,175	110,745	0	0

The Joint Committee's comments and recommendations on each subprogram follow:

(1) LIQUID METAL FAST BREEDER REACTOR

A. ERDA request

The ERDA's requested authorization of $211,700,000 for the operating expenses of the Liquid Metal Fast Breeder Reactor Program (LMFBR) represents an increase of $3,886,000 over the estimated costs for fiscal year 1975. The ERDA also requested authorization of $58,000,000 for the transition quarter.

B. Committee action

Under this category, funds are provided to develop the base technology for the Liquid Metal Fast Breeder Reactor (LMFBR)—the advanced nuclear reactor being given the highest priority and support within the ERDA program. The work carried out in this subprogram, along with the LMFBR related efforts described below under the cooperative program, safety program, and advanced fuel program are considered essential for achieving safe, reliable, and economical LMFBR power plants. The Administration and the Congress have strongly endorsed and supported the LMFBR since the mid-1960's. In 1971, a Presidential statement gave national priority to this program, and indicated the Administration's viewpoint that it represented "our best hope today for meeting the Nation's growing demand for economical clean energy . . ." This view has been re-affirmed in subsequent energy messages.

The high priority assigned to the fast breeder was in large part due to the fact that, because of its highly efficient use of nuclear fuel, this reactor can extend the life of our national uranium fuel supply from a period of decades to one of centuries. The testimony of responsible Government officials and others over the years supports the position that no other technology which would significantly expand available sources of energy, without even more rapid depletion of the world's finite natural resources available for energy sources, is anywhere near the demonstration stage.

The Congress in 1970 fully authorized the construction of a breeder reactor demonstration plant (Public Law 91-273). The construction and operation of the demonstration plant will mean that data will be available to determine precisely its advantages and disadvantages, so that a decision can then be made on the role the LMFBR should properly have in helping to provide the Nation's electrical energy needs.

There are some who sincerely question the LMFBR program and the need to proceed with the demonstration plant. Over the past several years, several groups and some individuals—many opposed to nuclear power generally—have raised serious questions about this program. Their questions fall basically into two categories:

(a) whether the benefits to be gained from the LMFBR outweigh the costs and risks associated with it; and

(b) whether the program is being implemented in a manner which protects the public interest.

Concern in both of these areas has been intensified by the fact that the costs required to carry the program forward have significantly increased. The overall LMFBR program has been restructured over the past year, and the total estimated program cost for the period through the year 2020 has grown to $10 billion. (The comparable cost estimate in the late 1960s was in the $3–$4 billion range.) The capital cost of the Fast Flux Test Facility—a major test facility for the program—has risen from about $87 million to about $622 million.[1] Total FFTF program cost is now estimated to be close to $1 billion. The cost estimate for the Clinch River demonstration project (discussed further below) as increased from $0.7 billion to $1.7 billion.

The increase in the projected cost of the Clinch River Project is not totally unanticipated. In the Joint Committee's report on the legislation authorizing the cooperative project in 1970, the committee indicated that "the amount requested for the definitive cooperative arrangement for the LMFBR Demonstration Project may well be insufficient . . .".

When the Joint Committee issued its 1972 report on the "Basis for the Proposed Arrangement for Liquid Metal Fast Breeder Reactor Demonstration Plant," following extended hearings on the arrangement, the committee stressed the reviews the project would undergo at periodic intervals including annual appropriations hearings, environmental statements, and a construction permit review. The committee also pointed out that "In effect there will be a distinct point, after considerable design work for a period of about 2 years and prior to construction, which will afford an excellent opportunity for

[1] This amount includes the estimated cost of expense funded hardware of an experimental nature as well as items requiring replacement in a short time.

a detailed review of the conduct of the project . . . . At the distinct point mentioned above, the Joint Committee will review the situation in depth and provide to Congress its findings and views."

That point has now been reached. Accordingly, the Joint Committee has appointed an Ad Hoc Subcommittee to conduct an extensive, indepth review of the LMFBR program and related energy resource questions. A part of this review will include public hearings at which Government witnesses and others representing all points of view will be invited to participate. There are also on-going studies of the LMFBR program by others. The more significant of these are:

1. ERDA is conducting public proceedings in connection with the final environmental statement for the entire LMFBR program. The requirements of the National Environmental Policy Act must be fully satisfied.

2. ERDA, pursuant to Section 6(a) of the Federal Nonnuclear Energy Research and Development Act of 1974 (Public Law 93–577), must transmit to the Congress, on or before June 30, 1975, a comprehensive plan for energy research, development, and demonstration.

3. The General Accounting Office is reviewing a broad range of issues in the total breeder program. This study is not expected to be completed until June 1975.

The results of these studies will be considered in the Ad Hoc Subcommittee's review.

At the time the Joint Committee established its Ad Hoc Subcommittee, it decided that consideration of the Administration's fiscal year 1976 budget request for the LMFBR program should not be delayed because of these ongoing studies. This does not mean, and should not be interpreted by anyone to mean, that the review by the Ad Hoc Subcommittee is to be a mere formality. It simply means that the committee is to be a mere formality. It simply means that the committee has considered the tremendous adverse, and perhaps fatal, impact which the Administrator of ERDA has represented would be caused to the LMFBR program by a delay in the authorization of fiscal year 1976 funds. The committee could and would act promptly to recommend the modification or rescission of any aspect of the LMFBR program, or the program in its entirety, if such action were determined to be in the best interests of the Nation.

Accordingly, the Joint Committee after careful consideration of all factors, recommends that the funds requested for this program by the Administration be authorized. Upon completion of the Ad Hoc Subcommittee review and the various studies listed above, the Joint Committee will be in a better position to know whether the Administration, in fact, believes that this program continues to warrant its high priority and to make its own recommendations as to whether any changes should be made in the program approach or level of funding. In the meantime, the Joint Committee urges ERDA to take aggressive management actions to tighten control of LMFBR program costs.

(2) COOPERATIVE POWER REACTOR DEMONSTRATION PROGRAM

A. ERDA request

The ERDA requested for fiscal year 1976 the sum of $168,500,000 and for the transition quarter $13.0 million for the operating expenses of the Cooperative Power Reactor Demonstration Program, all of

which is for the Clinch River Breeder Reactor Project. The estimated fiscal year 1976 operating costs of this program would be $85.0 million, an increase of $19,091,000 over estimated fiscal year 1975 costs. Estimated operating costs for the transition quarter are $33.0 million.

B. Committee action

The requested funds are for the total governmental assistance in support of the cooperative arrangement for the design, construction, and operation of an LMFBR demonstration plant to be located at a site on the Clinch River near Oak Ridge, Tennessee.

The principal project participants in this major undertaking are the Energy Research and Development Administration (ERDA), the Breeder Reactor Corporation (BRC), the Project Management Corporation (PMC), Commonwealth Edison Company (CE), and the Tennessee Valley Authority (TVA). The design capacity of the plant will be in the range of 350 to 400 electrical megawatts. The program participants believe that this project is an indispensable part of the overall effort to develop the LMFBR to the stage of commercial usefulness.

During the past year, a thorough design review of the project was completed and a major reestimate of the cost and schedule was made. The cost estimate now totals $1,736,000,000 divided as follows: $1,202,000,000 for the plant, $429,000,000 for development, and $105,000,000 for five years of operation. This is a substantial increase from the 1972 cost estimate of $699,000,000. The schedule for criticality date has been changed from 1980 to 1982.

By letter dated March 10, 1975, the Joint Committee was informed of ERDA's proposal to make major changes in the management structure for the Clinch River Project. Included in this correspondence was a proposed revision to section 106(a) of Public Law 91–273, as amended, which is the authorizing legislation for the LMFBR Demonstration Program. The stated purpose of the proposed changes is to enable ERDA to structure the Clinch River project into a single, integrated Government-utility staffed organization, with the capability to utilize all project resources, including both Government and industry personnel, facilities and funds. The principal participants in the project have agreed that such changes are appropriate in order to recognize the Government's increased financial commitments, since the additional costs of the project are to be fully borne by ERDA.

In view of the considerable increase in the governmental assistance needed for this project the committee agrees in principle with the proposed changes which would place ERDA in charge of the management of the project. The committee also requested, and has recently received the views of the Comptroller General of the United States on the proposed changes. The amended criteria for the conduct of the project under the amended authorization herein (p. 50) must be reviewed and approved by the Joint Committee. The amended authorization also includes additional controls for congressional review and control of the project (see p. 48). On the basis of the justification data supplied by ERDA, the Joint Committee finds that funding in the amount of $181,500,000 requested by ERDA for fiscal year 1976 and the three month transition period is a reasonable amount, if work on the project is to proceed in an orderly manner.

The following additional events which must occur before construction of the demonstration plant can actually begin at the Clinch River site should be noted:

1. ERDA must have issued the final environmental statement for the *entire breeder program* (i.e., through the year 2020).
2. The independent Nuclear Regulatory Commission must have issued its final environmental statement on the *Clinch River Demonstration Plant* and held public hearings on the statement.
3. Construction could not begin until authorized by the Nuclear Regulatory Commission.

(3) WATER COOLED REACTORS

A. ERDA request

The ERDA's requested authorization of $31,900,000 for the operating expenses of the water cooled reactor program represents an increase of $1,600,000 over the estimated costs for fiscal year 1975. The ERDA also requested authorization of $9,000,000 for the transition quarter.

B. Committee action

The funds authorized under this subcategory will provide for the continued operation of the Shippingport Atomic Power Station, the development of the light water breeder reactor (LWBR) and the initiation of a program for the development of advanced water breeder applications.

The primary objective of the LWBR program is to confirm the capability of breeding in a pressurized water reactor. ERDA plans to carry out this objective by installing the LWBR core in the Shippingport Atomic Power Station in 1976. In addition, information will be developed in the advanced water breeder applications program that will assist U.S. industry to evaluate and apply the technology developed and confirmed in the LWBR program to existing and future water reactor plants.

The Joint Committee has consistently supported the LWBR program and continues to recognize its potential to help meet the long term energy requirements of the Nation by significantly improving the fuel utilization of existing and future pressurized water reactors. Accordingly, the committee recommends authorization of $31,900,000 in fiscal year 1976 operating funds for these closely related programs of which $8,400,000 is for the Shippingport Atomic Power Station, $18,100,000 is for the light water breeder reactor program, and $5,400,000 is for the advanced water breeder applications program.

The Joint Committee also recommends authorization of the requested $9,000,000 in operating funds to cover the fiscal year transition period from July 1, 1976 to September 30, 1976.

(4) GAS COOLED THERMAL REACTORS

A. ERDA request

The ERDA's requested authorization of $31,400,000 for the operating expenses of the gas cooled thermal reactor program represents an increase of $9,507,000 over the estimated costs for fiscal year 1975. The ERDA also requested authorization of $8,170,000 for the transition quarter.

B. Committee action

The funds being requested for this project for fiscal year 1976 will support developmental work on the High Temperature Gas Reactor (HTGR)—$11,300,000; Very High Temperature Reactors—$1,000,000; Direct Cycle Development—$2,450,000; and Uranium-Thorium Fuel Recycle—$16,650,000. These efforts are primarily directed toward assisting in the commercialization of the HTGR—an advanced reactor which offers the potential of significantly improved fuel utilization over that achieved with present water type reactors.

The major Government participation in this effort relates to the development of the technology for reprocessing and refabricating the thorium-uranium fuel to be used in this reactor concept. As a part of this program, the Joint Committee provided a partial authorization in fiscal year 1975 for two pilot facilities—a fuel reprocessing facility at the Idaho chemical processing plant, and a fuel refabrication facility at Oak Ridge, Tennessee, which together then had an estimated total cost of $40,000,000. By letter dated March 10, 1975, the Joint Committee was advised that the total estimated cost for the two projects now exceeds $200,000,000. The committee was further advised that General Atomic, the reactor supplier for the HTGR, had recently requested a significant expansion of the ERDA fuel recycle program, including the addition of a larger integrated reprocessing and refabrication facility and the possible elimination of one or both of the pilot plants. Early estimates indicate that Government expenditures might be of the order of $700,000,000 instead of the previously projected $300,000,000. ERDA is reviewing the General Atomic proposal, and will submit its recommendations to the Joint Committee. In view of the large increase in funding requirements, the committee intends to closely review the proposal as finally submitted.

The Joint Committee recommends that the full amount requested by ERDA for this program be authorized for fiscal year 1976 and the transition quarter.

(5) GAS COOLED FAST BREEDER REACTORS (GCFR)

A. ERDA request

The ERDA's requested authorization of $6,000,000 for the operating expenses of the gas cooled fast breeder reactor program represents an increase of $1,820,000 over the estimated costs for fiscal year 1975. The ERDA also requested authorization of $1,550,000 for the transition quarter.

B. Committee action

The funds being requested provide for the further development of technology and data related to the basic feasibility of the gas cooled fast breeder reactor (GCFR) concept. The GCFR, although at a much earlier stage of development than the LMFBR, does have significant potential as a backup breeder. The Joint Committee recommends that the funds requested by ERDA for this effort during fiscal year 1976 and the transition quarter be authorized.

(6) MOLTEN SALT BREEDER REACTORS (MSBR)

A. ERDA request

The ERDA's requested authorization of $3,500,000 for the operating expenses of the molten salt breeder reactor program represents a decrease of $500,000 under the estimated costs for fiscal year 1975. The

ERDA also requested authorization of $900,000 for the transition quarter.

B. Committee action

The funds being requested by ERDA for the molten salt breeder reactor (MSBR) will permit the continuation of R. & D. to resolve several technical problems for this promising reactor concept. The MSBR concept is a fluid flow reactor which operates on the thorium-uranium fuel cycle, and has the potential for breeding when coupled with on-line fuel reprocessing. As presently planned, the program will continue through fiscal year 1978, at which time a decision will be made on expanding the program or retaining it in a state of readiness for later expansion if needed. The Joint Committee supports continuation of this R. & D. effort, and accordingly recommends that the full amount requested by ERDA be authorized for fiscal year 1976 and the transition quarter.

Last year, the Joint Committee recommended the addition of Project 75–5–g, molten salt breeder reactor (preliminary planning preparatory to a possible future demonstration project). The Congress acted favorably on this recommendation, but the Administration decided to defer funding for this project as part of the President's overall budget deferral and recession message sent to Congress on November 26, 1974. The deferral decision was apparently made on the basis that ERDA would not be in a position to initiate this project in fiscal year 1975. The Joint Committee urges ERDA to move forward with this project promptly in fiscal year 1976, and to seek the active participation of industry in this undertaking.

(7) REACTOR SAFETY

A. ERDA request

The ERDA's requested authorization of $45,775,000 for the operating expenses of the reactor safety program represents an increase of $6,160,000 over the estimated costs for fiscal year 1975. The ERDA also requested authorization of $12,145,000 for the transition quarter.

This program provides for the conduct of investigations on safety issues and considerations which have applicability to the LMFBR, gas cooled reactors, and other reactor concepts, and must also provide for the development of technology and engineering techniques needed to advance the capability to demonstrate the safety characteristics of the design and the reliability of safety systems and engineered safety features.

B. Committee action

The Joint Committee recommends authorization of the full amount requested by ERDA for the operating expenses of the reactor safety program for advanced reactors. The committee is pleased that close liaison is to be maintained by ERDA with the Nuclear Regulatory Commission to avoid unnecessary duplication between these two organizations. It is noted that conceptual definition and planning is being carried out for an LMFBR Safety Research Experiment Facility (SREF). The Joint Committee urges ERDA to do a very comprehensive review of all aspects of such a facility before requesting authority for a line item construction project. Care should be taken to benefit from the experience gained from the long and involved process of building the LOFT project for water reactor safety research.

(8) SUPPORTING ACTIVITIES

A. ERDA request

The ERDA's requested authorization of $28,400,000 for the operating expenses relating to supporting activities represents an increase of $8,323,000 over the estimated costs for fiscal year 1975. The ERDA also requested authorization of $7,980,000 for the transition quarter operating expenses of this program.

B. Committee action

The funds being requested for this subcategory are for advanced fuel technology; dry cooling towers; desalting and other activities; codes and standards; energy systems analysis; environmental activities; and operational services. Brief summaries of these supporting activities follow:

(1) The advanced fuel technology work is directed towards developing improved fuels for the fast breeder.

(2) The dry cooling tower effort involves a cooperative demonstration program with Pacific Power and Light on this promising alternate method of cooling power plants.

(3) Desalting and other activities involves research on the application of nuclear power to desalting and other process heat applications.

(4) Codes and standards is a cooperative effort with industry to codify nuclear plant experience so as to improve future nuclear plant performance.

(5) Energy systems analysis involves evaluations of how nuclear energy fits into the overall energy situation.

(6) Environmental activities supports the development of information on methods for controlling the environmental impact of nuclear programs.

(7) Operational services provides substantial funds for assuring the security of facilities and special nuclear materials used in the reactor programs.

The Joint Committee believes that all these activities are necessary, and accordingly recommends their authorization at the amounts requested by ERDA for the fiscal year 1976 and the transition quarter.

C. LWR technology

During the committee's authorization hearings ERDA witnesses testified that they were re-examining the desirability of using ERDA facilities to support the technology need of commercial nuclear power plants relative to upgrading and increasing the reliability and efficiency of light water reactors. The Joint Committee concurs in the merit of such re-examination. Plant availability for many of the operating nuclear plants has not been as high as had been expected. The incentive for improvement is great. An increase of 10 percent in plant availability for a single large nuclear plant would result in an equivalent savings of over 1 million barrels of oil per year.

IV. Naval Reactor Development

A. ERDA request

The ERDA requested $186,200,000 in operating funds for the naval reactor development program for fiscal year 1976, including $126,915,000 for development of submarine propulsion reactors,

$46,625,000 for development of surface ship propulsion reactors, and $12,660,000 for supporting research and development activities.

The total request for operating funds represents an increase of $19,200,000 over the estimated costs for fiscal year 1975. During fiscal year 1976, effort will continue on development of an advanced reactor core with longer life for application to nuclear powered guided-missile frigates and on the development of advanced reactors for submarines. An increased level of effort will be directed towards the development of a submarine propulsion plant for the TRIDENT submarines.

The ERDA also requested authorization of $14,700,000 for plant and capital equipment for this program in fiscal year 1976. Of this amount $5,900,000 is for general plant projects and $8,800,000 is for capital equipment not related to construction.

ERDA has requested $52,900,000 in operating funds and $2,000,000 in plant and capital equipment funds to cover the fiscal year transition period from July 1, 1976 to September 30, 1976.

B. Committee action

The objective of the naval reactor development program is the design and development of improved nuclear propulsion plants and reactor cores suitable for installation in naval vessels ranging in size from small submarines to large combatant surface ships. Nuclear propulsion provides the Navy with ships having unlimited high speed endurance, freedom from the logistics umbilical cord for fuel, and greatly increased capabilities for sustained combat operations. The advanced development work being carried out in the naval reactor development program is essential to the nuclear submarine and surface ship programs necessary to maintain the national security of the United States.

The Joint Committee is pleased to note that the Department of Defense Appropriation Authorization Act, 1975, states, "It is the policy of the United States of America to modernize the strike forces of the United States Navy by the construction of nuclear powered major combatant vessels and to provide for an adequate industrial base for the research, development, design, construction, operation and maintenance for such vessels." This is a position long advocated by this committee.

The Joint Committee recommends authorization of the requested $186,200,000 for the operating expenses of this important program during fiscal year 1976. The Joint Committee also recommends authorization of the requested $52,900,000 in operating funds to cover the fiscal year transition period from July 1, 1976 to September 30, 1976.

V. Space Nuclear Systems

A. ERDA request

The ERDA requested authorization of (1) $30,900,000 for the operating expenses of the space nuclear systems program for fiscal year 1976, an increase of $4,300,000 above the estimated costs for fiscal year 1975, and (2) $8,000,000 for the operating expenses of this program during the transition quarter.

The ERDA also requested authorization for capital equipment not related to construction of $2,600,000 for fiscal year 1976 and $650,000 for the transition period.

The current major objectives of this program are (1) to continue the successful application of nuclear electric power to a variety of space missions both in the near term and in the future, and (2) to use the nuclear technology base generated in the space program as a building block for technology advancements which may make a real contribution in the solution of the Nation's terrestrial energy related problems.

B. Committee action

The Joint Committee recommends authorization of the full $30.9 million requested for fiscal year 1976 and the $4.3 million requested for the transition quarter for the operating expenses of the space nuclear systems program.

Experience with nuclear powered electric generators developed under the space nuclear systems program continues to be highly successful. Pioneer–10, launched early in 1972, produced highly valuable scientific data during its encounter with Jupiter late in 1973. Its successor, Pioneer–11, launched early in 1973, has produced equally valuable data during its closer pass by Jupiter late in 1973 and is now on the way toward its expected 1979 encounter with Saturn. Because of the long mission lifetimes and lack of sunlight neither of the aforementioned missions could have been undertaken without nuclear power.

Near term space missions for nuclear electric generators include two NASA Mars landers, two DOD-sponsored Lincoln Experimental Satellites and two Mariner spacecraft to be launched toward Jupiter and Saturn.

Program efforts planned for fiscal year 1976 include emphasis on advanced research, the development of low-cost high-performance systems for space and a modest program of development of power systems for terrestrial use.

VI. Nuclear Materials

A. ERDA request

The ERDA requested authorization of $828,940,000 for the operating expenses of the nuclear materials program for fiscal year 1976, a net increase of $182,860,000 over the estimated costs for fiscal year 1975. The major portion of the increase over fiscal year 1975 is attributable to increased costs for production of enriched uranium (up $138,132,000), and for production of reactor products (up $30,458,000). The ERDA also requested authorization of $236,494,000 for operating expenses for the nuclear materials program during the transition quarter.

The ERDA also requested authorization for fiscal year 1976 of $478,950,000 for plant and capital equipment for this program. Of the amount, $11,750,000 was requested for general plant projects, $131,600,000 for six new construction projects, $28,100,000 for capital equipment not related to construction, and $307,500,000 in additional authorization for projects which were initiated under previous authorizations. Included in these are project 71–1–f, process equipment modifications for the gaseous diffusion plants, which project constitutes part of the ERDA's Cascade Improvement Program (CIP), and project 74–1–g, Cascade Uprating Program (CUP) for the gaseous diffusion plants. The additional authorization requested by the

ERDA for these two projects for fiscal year 1976 amounts to $183,000,000 and $76,500,000 respectively.

The ERDA also requested authorization of $56,650,000 for plant and capital equipment for the nuclear materials program during the transition quarter, which amount includes additional authorization of $32.0 million for project 71–1–f and $10.8 million for project 74–1–g.

B. Committee Action

The Joint Committee recommends authorization of $828,940,000 for fiscal year 1976 and $236,494,000 for the transition quarter, the full amounts requested by ERDA, for the operating expenses of the nuclear materials program. This program is discussed below under four major subheadings: source materials; enriched uranium production; new enrichment capacity; and waste management.

(*1*) *Source materials.*—ERDA has requested $14,000,000 for the source materials program—a substantial increase from the fiscal year 1975 estimate of $5,700,000. These funds will support an expanded effort on developing a comprehensive evaluation of U.S. uranium resources and for supporting R. & D. on resource assessment, exploration, and extraction concepts and technology.

Substantial additional quantities of uranium will be required if nuclear power is to achieve the growth projected for it. Domestic requirements are expected by ERDA to increase from a level of less than 12,000 tons of U_3O_8 in 1975 to around 50,000 tons in 1985 and well over 100,000 tons per year in 2000.

The information obtained from the source materials program will provide a better basis for industry exploration and mining efforts, and will permit a better long-range planning effort in this important area. This information will also be helpful in addressing the issue of when a commercially acceptable fast breeder reactor is needed. ERDA expects to have a preliminary appraisal of domestic uranium resources by January 1976 and a comprehensive in-depth appraisal by January 1980. The committee endorses this program, and urges ERDA to move as expeditiously as possible with its implementation.

(*2*) *Enriched uranium production.*—Well over half of the ERDA operating budget request for the nuclear materials program is for the costs associated with operating the three gaseous diffusion plants to produce uranium hexafloride (UF_6) enriched in the U-235 isotope. Presently the major share of this production is for domestic and foreign customers for use in civilian nuclear power reactor plants. Substantial revenues accrue to the U.S. Government as a result of sales of the enriching services performed in these plants.

Considerable flexibility is available to ERDA to vary the production from these plants to meet anticipated needs by adjusting certain parameters, such as the amount of uranium feed, electrical power input, and the percentage of uranium in the waste stream ("tails assay"). In this regard, ERDA has recently published an operating plan for these plants, and has made a commendable effort to obtain the viewpoints on this plan from its domestic and foreign customers. The Joint Committee fully appreciates that further revisions to the plan will be required from time to time to reflect changes in the demand situation.

In their testimony, ERDA representatives indicated that good progress continues to be made on the two major programs for modernizing and expanding the existing gaseous diffusion plants—the Cascade Improvement Program (CIP) and the Cascade Uprating Program (CUP). When completed in the early 1980's, the upgraded plants will have the capacity to produce 27.7 million separative work units per year, an increase of approximately 60% over the existing capacity of these plants. Essentially all of the additional power required to uprate the plants at this higher level is now under contract. While some difficulties are being encountered due to escalation in costs in labor and materials, these programs are proceeding essentially within the estimated schedule and costs.

The Joint Committee has been advised that the Administration intends to submit to the Congress a revised basis for charges for enrichment services from the Government's plants. It is understood that the proposed price change could involve almost a doubling of the present charge—to as much as $75 per kilogram separative work unit. The Joint Committee intends to examine the rationale and basis for this increase when the proposed legislation is submitted to the Congress.

(*3*) *New capacity.*—The existing gaseous diffusion plants will have a substantial output and will support a total of 363,000 Mwe of nuclear power (assuming plutonium recycle). However, if nuclear power is to achieve the growth expected of it, additional new capacity will be required some time in the early 1980's—probably about 1983.

In view of the long lead times involved in building new capacity, the Joint Committee wishes to urge anew that the Administration reach a decision soon on the course of action to be taken. A major issue is whether the additional capacity should be furnished by the Government, by private industry, or by some combination. It is understood that the various options are under review within ERDA, and the committee is to be advised of the conclusions of this review in the near future. The committee requests that it be informed of ERDA's conclusions, including the need for additional funds, as soon as possible.

The Joint Committee would like to interject a cautionary comment at this point. By letter dated February 26, 1975, ERDA provided the committee with a copy of a December 31, 1974 letter from Uranium Enrichment Associates (UEA) which appears to call for extensive Government commitments and assistance as a condition for undertaking the construction of a private uranium enrichment plant. It is appreciated that the letter is in the nature of a negotiating proposal and that ERDA has not necessarily agreed with the various conditions laid down in the UEA letter. Nevertheless, as brought out in the public hearing on the nuclear materials program, the breadth of the conditions as proposed by UEA raises serious questions as to the appropriateness of the Government's role in such a joint undertaking. The committee intends to closely examine any specific proposal made by the Administration when it is submitted to Congress to assure that the public's interest is fully protected.

(*4*) *Waste management.*—Substantial additional operating and construction funds are requested in fiscal year 1976 for the handling and solidification of radioactive wastes generated at various ERDA production sites. The fiscal year 1976 request includes $47,000,000 for operations and $151,000,000 in authorizations for capital projects.

In this program, liquid radioactive wastes are being transferred into solid form through evaporation-crystallization-calcination techniques. Through this procedure, the mobility of the waste is significantly reduced, thus lessening the possibility of leaks to the environment. Significant volume reduction also is achieved and this importantly reduces the number of tanks required for interim storage of these wastes.

The Joint Committee notes that routine surveillance of the stored waste and maintenance of the associated equipment has been significantly increased during the last two years in an effort to minimize leaks of radioactive liquids. Since June 1973, three additional leaks have occurred, and these were confined to minimum detectable levels. The committee urges ERDA to be continually vigilant to assure that this safety record is maintained and, where possible, improved.

VII. Advanced Isotope Separation Technology Program

A. ERDA request

The ERDA requested authorization of $24,200,000 for the operating expenses of the advanced isotope separation technology program for fiscal year 1976, an increase of $12,500,000 over the estimated costs for fiscal year 1975. The ERDA also requested authorization of $7,300,000 for the operating expenses of this program during the transition quarter.

The ERDA requested authorization of $3,200,000 for capital equipment not related to construction for this program during fiscal year 1976 and $800,000 for such capital equipment during the transition quarter.

B. Committee action

The ERDA advanced isotopes separation technology budget has increased from about $800,000 in fiscal year 1973 to a fiscal year 1976 request of $27,400,000 for operating expenses and capital equipment. The Joint Committee recognizes that the economic benefits from this program could be much greater than the funds expended to develop the separation processes under investigation.

The Joint Committee recommends that the full amount requested for operating expenses for fiscal year 1976 and the transition quarter, $24,200,000 and $7.3 million respectively, be authorized. To better understand the activities underway and the accomplishments in this program, the Joint Committee requests that a semiannual progress report be submitted within 30 days after the end of each half of the fiscal year.

VIII. National Security

A. ERDA request

The ERDA requested $938,460,000 in operating funds for the national security program for fiscal year 1976, including $873,515,000 for weapons activities, $54,000,000 for laser fusion, and $10,945,000 for nuclear materials security. The request for weapons activities includes: Production and surveillance, $378,440,000; research and development, $284,465,000; testing of atomic weapons, $201,500,000; and special test detection activities, $9,110,000. The total request for the national security program operating funds represents an

increase of $71,200,000, or about 8.2 percent, over the estimated cost for fiscal year 1975.

The ERDA requested authorization of $242,031,000 for operating expenses for the national security program for the transition quarter including $223,925,000 for weapons activities, $15,100,000 for laser fusion, and $3,006,000 for nuclear materials security.

The authorization request for the national security program plant and capital equipment for fiscal year 1976 totals $165,520,000, an increase of $6,965,000 from the amount requested for authorization for fiscal year 1975. The authorization request includes $97,650,000 for construction and $67,870,000 for capital equipment not related to construction. The authorization request for construction includes $91,850,000 for weapons, $5,000,000 for laser fusion, and $800,000 for nuclear materials security. The authorization request for capital equipment not related to construction includes $61,150,000 for weapons, $4,500,000 for laser fusion, and $2,220,000 for nuclear materials security.

The ERDA also requested authorization of $21,981,000 for plant and capital equipment for the national security program for the transition quarter.

B. Committee action

(*1*) *Weapons activities.*—The Joint Committee noted during hearings that the ERDA weapons program is affected adversely both by inflation and the Threshold Test Ban Treaty. As a result of inflation, some 2,700 persons are expected to be released from the weapons program during fiscal year 1976, some outright, with others shifted to growing energy programs within the ERDA laboratories. There has been a steady annual personnel reduction in the weapons program over the past 5 years, amounting to about an overall one-third reduction in capability. This is an indication that Safeguard B associated with the Limited Test Ban Treaty (requiring the United States to maintain modern nuclear weapon laboratory programs and facilities) may not be adequately supported. If this condition continues there will be a near-term adverse impact upon our national security at a time when the Soviet Union is making remarkable progress in improving the quality of their strategic nuclear weapons capability. The Joint Committee recommends that the Administrator, ERDA, include in his on-going initial study of the ERDA technical capability this reduced nuclear weapon capability. He should either confirm that this apparent inadvertent reduction in capability reflects national policy or make short-term recommendations for corrective action.

The Threshold Test Ban Treaty, imposing a suspension of nuclear experiments over 150 kilotons after March 31, 1976, apparently has caused ERDA to concentrate its efforts excessively on weaponization at the expense of advanced development projects. As advanced development in nuclear weapons technology is a foundation of our future national security, this deferral of advanced development, if continued, is a mortgaging of our future. The Joint Committee recommends that both the Secretary of Defense and the Administrator of ERDA review the post-threshold date weapons research, development, and test activities carefully to assure resumption of deferred projects, especially those which will improve the safety, security, and reliability of nuclear weapons.

The Energy Reorganization Act of 1974 requires the Administrator of ERDA and the Secretary of Defense to conduct a study to determine the ultimate best organizational location for the ERDA weapons complex. The Joint Committee cautions both agencies to place the highest priority on the conduct of this study in view of its long-range importance to our national security. The Joint Committee would object to any solution which would prohibit the many-faceted talents of the ERDA weapons laboratories from being applied, as appropriate, toward resolution of the Nation's energy and scientific problems.

The Joint Committee recommends authorization of $877,015,000 for the fiscal year 1976 weapons program operating expenses and $224,925,000 for the transition quarter.

The Joint Committee believes that programs in research and development on nuclear weapons safeguards can be profitably expanded beyond the level proposed in the Presidential budget request. Accordingly, increases in the authorization for operating expenses of $3.5 million for fiscal year 1976 and $1 million for the transition quarter are recommended in support of nuclear weapons safeguards programs.

(*2*) *Laser fusion.*—The objective of the laser fusion program is to determine the scientific feasibility of laser and electron beam initiated thermonuclear reactions using principles of inertial confinement. It should be noted that the laser fusion program, which is being reported as a separate entity in the weapons budget for the first time, is separate and distinct from the fusion power research and development program which investigates the utilization of magnetic confinement to produce the thermonuclear—or fusion—process. Both programs have a comparable ultimate goal, a new energy source based on nuclear fusion.

Much of the on-going ERDA laboratories' research still has weapons applications. The Joint Committee notes and concurs with the AEC (ERDA) action in August 1974 to declassify most of the Government data relating to inertial confinement fusion. As a consequence of this declassification action, significant experimental results are being reported at public meetings and in periodicals by persons from Government and nongovernment laboratories. Because of these recent advances, the Joint Committee considers it timely for the beam pellet fusion program to increase sponsored research at additional nongovernment facilities. At the fiscal year 1976 authorization hearings, testimony indicated that additional funding would permit the sponsorship of additional worthy experimental programs. With regard to funding, it should be noted that the fiscal year 1976 divisional budget request for operating expenses was for $65 million, that the request to OMB was reduced by $16 million to $49 million, and, interestingly, that this was increased to $54 million in the budget sent to the Congress. This would tend to indicate OMB recognition of the importance of laser fusion as a possible method of ameliorating a perennial energy shortage.

The Joint Committee concurs with the OMB action to increase operating funds, but strongly recommends that an additional $6 million be added for fiscal year 1976 and $1.5 million be added for the transition quarter thus bringing the amounts authorized for operating expenses for the laser fusion program to $60.0 million for

fiscal year 1976 and $16.6 million for the transition quarter. The committee recommends that the $7.5 million recommended increase be used by ERDA to increase its sponsored research at nongovernment facilities, such as the private firm which has demonstrated its extraordinary expertise in the field of laser fusion.

It should be recognized that an important pacing factor in beam pellet fusion research is the laser-target interaction experiments. The committee is convinced that only by establishing a second 10 kilojoule neodymium glass laser facility would the acquisition of vital data occur at the rate necessary to meet project progress goals.

The committee recommends that this 10 kilojoule neodymium glass laser be used as a national user facility for research in laser fusion and be located on the campus of a university which has demonstrated expertise in optics and high-powered laser fusion experimentation involving industrial and State participation. In this regard, the committee has recommended increases of $4.0 million in fiscal year 1976 and $1.25 million in the transition quarter for the initiation of work on such a facility (see p. 44.).

The Joint Committee notes that $15 million was requested by the Division of Military Application for authorization to initiate the construction of a new electron beam fusion facility at Sandia Laboratory in Albuquerque, but that this request was not submitted to the OMB. In pursuing this matter, the committee learned that the allocation of $400,000 of construction, planning and design funds in fiscal year 1976 would permit the development of an improved design concept for this essential electron beam fusion research facility. The Joint Committee strongly recommends that the requisite funding be provided from construction planning and design resources to permit A&E work to proceed on this important project.

The Joint Committee directs the Administrator of the ERDA to submit to the committee by January 19, 1976, a detailed report on the desirability and feasibility of transferring all of the energy-related part of the laser fusion program from the Assistant Administrator for National Security to the Assistant Administrator for Solar, Geothermal and Advanced Energy, and on the desirability of maintaining the program as a division separate from the Division of Controlled Thermonuclear Research.

(*3*) *Nuclear materials security.*—The Joint Committee continues to believe that an effective program to insure the security and protection of special nuclear material is mandatory. Unless this is evident, the American public will not have adequate confidence in the security aspect of the nuclear power option in resolving our energy problems. The Joint Committee believes that the substantial increase in operating funds for the research and development program in support of the physical protection of special nuclear material at both commercial and government sites is fully justified.

The Joint Committee is particularly concerned that improvements be made on materials control and accountability procedures. This is a necessary foundation for improving both domestic and international safeguards against unauthorized diversion of material.

The Joint Committee intends that research and development methods for improved nuclear materials security should be supported to the maximum prudent extent. The recommended increase beyond the Presidential budget request is $3.0 million for the fiscal year 1976 and $0.8 million for the transition quarter.

The Joint Committee, therefore, recommends authorization of $13,945,000 for the operating expenses of this important program during fiscal year 1976 and $3,806,000 for the transition period.

IX. Environmental and Safety Research

A. ERDA request

The ERDA requested authorization of $196,075,000 for the fiscal year 1976 operating expenses of the environmental and safety research program (formerly the Biomedical and Environmental Research and Safety Program), a net increase of $31,080,000 over the estimated operating costs for fiscal year 1975. The requested amounts are for (1) biomedical and environmental research, $156,515,000, (2) waste management, $36,000,000, and (3) operational safety, $3,560,000.

The net increase over fiscal year 1975 is attributable to an increase for biomedical and environmental research (up $24,300,000), an increase for waste management (up $6,430,000), and an increase for operational safety (up $350,000).

The ERDA requested authorization of $51,500,000 for the operating expenses of this program during the transition quarter.

The ERDA also requested for this program for fiscal year 1976 authorization of $24,200,000 for plant and capital equipment, consisting of $5,620,000 for general plant projects, $3,200,000 for a new construction project, $1,000,000 for a previously authorized construction project, and $14,380,000 for capital equipment not related to construction.

The ERDA requested for this program authorization of $5,050,000 for plant and capital equipment expenses for the transition period.

B. Committee action

(1) Biomedical and environmental research.—The Joint Committee recommends authorization of $163,015,000 for the operating expenses of ERDA's biomedical and environmental research program for fiscal year 1976. This is an increase of $6.5 million above that which was requested. It is an increase of $30.8 million over the estimated operating costs for fiscal year 1975. Also, the Joint Committee recommends that $41,650,000 be authorized for the transition quarter, an increase of $1,150,000 above the amount requested.

The Joint Committee intends that the additional authorization be utilized as follows:

1. $3.5 million in fiscal year 1976 and $900,000 in the transition quarter for continuation of the artificial heart program,
2. $2 million in fiscal year 1976 for additional effort in the ERDA program in nuclear medicine, and
3. $1 million in fiscal year 1976 and $250,000 in the transition quarter to provide for additional traineeships.

In connection with the above, the Joint Committee has the following comments. ERDA did not request any funds in its budget request for fiscal year 1976 for the artificial heart program and, in fact, the President's November 26, 1974, budget deferral message identified this program for which unused fiscal year 1975 authorization would be deferred and the comment in the message was to the effect that a decision had been made to discontinue the program. This program

was intended to develop a plutonium-238 heat source to drive a small engine attached to the artificial heart, the entire package to be implantable within the human body.

The program, which requires only an additional two more years to develop the totally implantable nuclear powered prototype device, has met every milestone to date and has already resulted in the successful implantation of artificial hearts into two calves. The National Heart and Lung Institute is also pursuing several programs ultimately leading toward an implantable heart for humans, but its efforts are currently limited to heart-assist devices. In view of the accomplishments achieved to date with the ERDA artificial heart program, it appears that this particular program merits continuation if this country is to pursue the development of such a device.

One of the most successful aspects of peaceful uses of atomic energy has been the utilization of medical isotopes in nuclear medicine for both diagnostic and therapeutic purposes. The widespread use of nuclear medicine in diagnosis and treatment of human disease often goes unrecognized except within the profession and by those patients who directly benefit from a clinical procedure which they experience. In calendar year 1974, there were over 4,600,000 in-vivo nuclear medicine studies performed within the United States. The Joint Committee believes that additional funding which the committee recommends can be effectively utilized. Recent efforts in this field continue to provide to those in the practice of medicine new and innovative diagnostic techniques which can be utilized in patient examination in a manner which results in substantially less trauma and less physiological injury to the patient.

The Joint Committee's recommended additional authorization of $1 million for fiscal year 1976 and $250,000 for the transition quarter for the traineeship program would in effect restore the program to the level which was requested of OMB. These traineeships are in the fields of nuclear engineering, radiation protection and environmental sciences—all fields where additional skilled personnel are needed for this country's expanding nuclear energy program.

2. Waste management and transportation.—The Joint Committee notes that in addition to the $36,000,000 requested for the operating costs of the Division of Waste Management and Transportation, the ERDA has requested $47,000,000 in operating costs for the waste management program in the Division of Production and Materials Management. The Joint Committee requests that a study be initiated early in fiscal year 1976 on the consolidation of the ERDA nuclear waste management functions under a single manager. The ERDA recommendations should be received by the committee before its consideration has begun on the fiscal year 1977 budget.

The Joint Committee recognizes that questions about acceptable and reasonable approaches to temporary storage and ultimate disposal of high level radioactive waste are facing the Nation today.

The committee believes that funds for underwater and polar ice disposal do not appear justifiable because of difficult environmental, political, and international restrictions which appear to preclude these disposal methods.

The committee believes that the Division of Waste Management and Transportation might look at methods of removing the strontium and cesium from the fission product waste stream to simplify the management of radioactive wastes. The Joint Committee strongly

recommends that a concerted cooperative effort be established by the Division of Waste Management and Transportation and the commercial nuclear waste processors on the feasibility and desirability of removing strontium, cesium and other radioactive isotopes from commercial nuclear waste before the solidification necessary under current rules. Early consultation with the Nuclear Regulatory Commission on characterization and licensability of proposed end products is advisable. Undoubtedly a series of corollary studies, such as the one underway at the Battelle Northwest Laboratories on the many uses of encapsulated radiocative isotopes as energy sources, could be undertaken. Such an application is obviously another plus for this separations concept.

ERDA is presently preparing a draft NEPA environmental impact statement covering commercial nuclear wastes. The committee is of the opinion that this matter requires both prompt and careful in-depth consideration. Therefore, ERDA is directed to expedite and intensify its present NEPA review and to prepare for submission to the Joint Committee on or before March 31, 1976, a comprehensive and detailed analysis of the options for storage or disposal of commercially generated radioactive wastes in the 1975–85, 1985–2000 and 2000 and beyond time intervals. The report shall include recommendations for research and development, and a clear indication to the committee of the appropriate areas which require emphasis if satisfactory solutions to the problems posed by the need to dispose of nuclear wastes are to be found for each of these time intervals.

The Joint Committee recommends that the $36 million for fiscal year 1976 and the $10.1 million for the transition quarter requested for the operating program of the Division of Waste Management and Transportation be authorized.

(3) *Operational safety.*—During committee hearings representatives of ERDA reported continuing satisfactory progress in the conduct of the uranium mill tailings remedial action program in and around Grand Junction, Colorado. This program, previously authorized, is jointly funded by the Federal Government and the State of Colorado. It was stated that no further authorization was needed for the forthcoming fiscal year.

ERDA, in cooperation with the Environmental Protection Agency and the various mid-western States, has completed a Phase I survey of inactive uranium mill tailings piles throughout the western portion of this country. ERDA reported that it had recently received pass-through funding from the EPA in order that the Phase II program could be started. During Phase II, information will be developed concerning the manner in which uranium mill tailings would be disposed of and will provide for a detailed cost estimate in accordance with the particular technique to be utilized. ERDA stated its future intention to recommend legislation to the Congress in accordance with the findings of the Phase II studies.

The committee recommends that the full amounts requested by ERDA for this program, that is $3,560,000 for fiscal year 1976 and $900,000 for the transition quarter, be authorized.

X. Program Support

A. ERDA request

The ERDA requested authorization of $200,018,000 for the fiscal year 1976 operating expenses to carry out those activities relating to program support, an increase of $24,120,000 above the estimated costs for fiscal year 1975. The amount requested for each such activity is as follows: operational program direction, $168,614,000; community operations, $7,650,000; security investigations, $12,290,000; information services, $9,480,000; and equal employment opportunity contract compliance, $1,984,000.

The ERDA's requested authorization of $52,488,000 for the transition quarter operating expenses includes $44,547,000 for program direction, $1,914,000 for community operations, $2,825,000 for security investigations, $2,686,000 for information services, and $516,000 for equal employment opportunity contract compliance.

The ERDA also requested authorization for fiscal year 1976 of $4,652,000 for plant and capital equipment, of which $4,202,000 is for capital equipment not related to construction and $450,000 is for general plant projects.

The ERDA requested authorization of $1,170,000 for plant and capital equipment during the transition quarter, of which $1,070,000 is for capital equipment not related to construction and $100,000 is for general plant projects.

B. Committee action

The Joint Committee recommends authorization of $202,260,000 for fiscal year 1976 and $52,796,000 for the transition quarter for the operating expenses of the activities covered under the category of program support.

There are five categories of activity under "program support". They are as follows:

(1) *Operational program direction.*—The principal programmatic effort associated with operational program direction is the providing of management direction for the various ERDA operating programs conducted through the ERDA field offices and the Washington headquarters.

The ERDA's request for operational program direction for fiscal year 1976 is $168,614,000 which is $20,071,000 above the estimated fiscal year 1975 operating costs. The principal reason for the increase is the increased personal services and personnel benefits costs of $11,815,000, which includes the costs of an additional 176 personnel positions.

The Joint Committee concurs in the ERDA's request for additional personnel and recommends that the full amounts requested by the Administration for fiscal year 1976 and the transition quarter, $168,614,000 and $44,547,000 respectively, be authorized for operational program direction.

(2) *Community operations.*—The Joint Committee recommends that $9,817,000 and $2,204,000 be authorized for fiscal year 1976 and the transition quarter respectively for the Community Operations Program. The increased amounts of $2,167,000 for fiscal year 1976 and $290,000 for the transition quarter over the ERDA request for this program are for the Los Alamos, New Mexico Schools and Los Alamos County, the City of Richland, Washington, and for Roane and Anderson Counties, Tennessee.

The Joint Committee had identified a need for fiscal year 1976 for $415,000 for Los Alamos County and $216,000 for the Los Alamos Schools over and above the budget estimates. Recent enactments by

the New Mexico Legislature will provide an unexpected $203,000 to the county and $72,000 to the schools, thus reducing the supplementary need to $212,000 and $144,000 respectively. It is the intent of the Joint Committee that ERDA permit the county and the schools to use the additional funds without restriction as to purpose and that ERDA not reduce its payments as a result of these additional revenues. Corresponding amounts of $53,000 for the County and $37,000 for the schools have been added by the committee for the transition quarter.

The committee is also adding $1,114,000 for assistance payments to the City of Richland. In fiscal year 1970 the City received $586,000 in assistance payments, a portion of which was to cover on an actuarial basis past services of the General Electric (GE) contractor police and firemen transferred to the City payroll as a result of the termination of Federal ownership and management of the Richland Community. Since that time the City has not requested nor has it received any assistance payments, despite its low tax base resulting from the tax immunity of Federal property. However, it has become increasingly difficult for the City to provide necessary services. The City police and fire pension fund now has an unfunded liability of $3,300,000, of which $1,114,000 is related to the GE personnel transferred to the City. The $1,114,000 now being added to the ERDA budget is for the purpose of correcting this pension liability as it relates to the former government contractor personnel.

The Energy Research and Development Administration has recognized that additional payments of $396,000 to Anderson County and $301,000 to Roane County in fiscal year 1976, and $100,000 for each county for the transition quarter are justified in view of the peculiar fiscal problems the counties face as a result of the Administration's operations at Oak Ridge. It should be noted that $545,000 was authorized and appropriated for such payments for fiscal year 1975. The committee concurs with the Administration and accordingly recommends the authorization of $697,000 for fiscal year 1976 and $200,000 for the transition quarter for these purposes. The committee is also of the view that this problem should continue to receive the attention of the Administration.

(3) *Security investigations.*—This program covers the cost of conducting security investigations of individuals requiring security clearances or access authorization under the provisions of the Atomic Energy Act of 1954, as amended. The funds for this program are used to investigate candidates for employment with both the ERDA and its contractors, and also for selective reinvestigation of previously cleared personnel.

ERDA has requested for this program in fiscal year 1976 an increase of $2,830,000 over the estimated fiscal year 1975 costs because of an increase of 2,159 in the number of security investigations and increases in cost per investigation based on new rates to be charged by the Civil Service Commission. The Joint Committee recommends that $12,290,000 and $2,825,000 for fiscal year 1976 and the transition quarter respectively be authorized for security investigations, the full amounts requested by the Administration.

(4) *Information services.*—The committee recommends authorization of $9,555,000 and $2,704,000 for fiscal year 1976 and the transition quarter respectively for the Administration's information services

activities, increases of $75,000 and $18,000 respectively. These increases are to be used to support the National Atomic Museum at Albuquerque, N. Mex., so that this museum can continue in operation.

Other activities conducted under information services include (a) presentations of general nuclear science demonstrations and exhibits to the general public to enhance an increased understanding of nuclear science, its applications and environmental effects, and (b) the furnishing of services for the effective dissemination of the results of the ERDA's research and development programs to the scientific and industrial communities.

(5) *Equal employment opportunity contract compliance.*—The costs included under this program provide for the staffing and related costs required by the ERDA to carry out its responsibilities for the equal employment opportunity contract compliance—assigned facilities program under Executive Orders 11246 and 11375. The Administration is responsible for EEO contract compliance in private facilities of contractors of all Government agencies which fall into certain standard industrial classifications. The Joint Committee recommends that the full amounts requested for this program, $1,984,000 and $516,000 for fiscal year 1976 and the transition quarter respectively, be authorized.

XI. Cost of Work for Others

A. ERDA request

The ERDA requested $12,660,000 for operating costs under the "cost of work for others" program for fiscal year 1976, an increase of $970,000 above the estimated costs for fiscal year 1975.

Under this program, ERDA budgets for certain costs which it expects to incur in (1) the manufacture of materials which it sells to eligible purchasers, and (2) rendering laboratory, research, and other services to industrial and research organizations. Revenues received by the ERDA from the sale of manufactured products and the rendering of services are shown under the "Revenues applied" program, and are applied to reduce the ERDA's overall funding requirements.

The ERDA requested $3,095,000 for operating costs under the "cost of work for others" program for the transition period.

B. Committee action

The Joint Committee approves the full amount requested by the ERDA for this program for fiscal year 1976 and the transition quarter and endorses the ERDA's general policy of full-cost recovery in connection with the work it performs for others. The expected receipts related to these costs are estimated at $13,680,000 for fiscal year 1976, an excess of $1,020,000 over authorized operating expenses.

XII. Revenues Applied

A. ERDA request

The ERDA estimated that revenues to be received during fiscal year 1976 would total $675,670,000, a net increase of $53,480,000 from the estimated revenues for fiscal year 1975. Revenues applied include income from the sale and lease of products, materials, and services to eligible purchasers, and revenue from hospitals, schools and courses, and other miscellaneous sources. These revenues are applied to reduce ERDA's authorization and appropriations requirements. Some of the related costs are included under the "cost of work for others" program; other related costs are included elsewhere in the budget.

The increase in fiscal year 1976 revenue is primarily related to an increase of $27,780,000 in the estimates for Revenue from Uranium Enrichment Customers and an increase of $30,200,000 in Revenue from the Sale of Steam.

The ERDA estimated that revenues to be received during the transition quarter would total $94,700,000.

B. Committee action

The amount of revenues estimated by the ERDA for fiscal year 1976 and the transition quarter appears reasonable, and the committee recommends that this amount be applied against the total obligations for Administration programs in determining the net amount of authorization approved for "operating expenses" during fiscal year 1976 and the transition quarter.

XIII. Changes in Selected Resources

A. ERDA request

The budget structure for "Operating expenses" reflects the estimated total costs to be incurred for each of ERDA's major functional programs in fiscal year 1976 and the transition quarter. In order to determine the total new obligational authority to be requested from Congress, consideration must be given to (1) funds to be appropriated for fiscal year 1976 and the transition quarter, (2) amounts that must be obligated in fiscal year 1976 and the transition quarter, although used to cover future years' costs, and (3) assets or funds available from prior appropriations. Thus, changes in selected resources is the financial adjustment between estimated operating costs and the new obligational authority requested.

Selected resources consist of inventories, collateral funds and other deposits, and goods and services on order. The latter category includes the cost of materials and services to be delivered after the end of fiscal year 1976 and the transition quarter, and the prefinancing of certain contractors' costs beyond the end of fiscal year 1976 and the transition quarter to insure continuity of operations.

The balance of selected resources expected to be available for future applications at the end of fiscal year 1976 is $332,349,000 more than the balance expected at the end of fiscal year 1975. The total increase consists of a net increase of $47,120,000 in inventory levels and an increase of $285,229,000 in the level of goods and services on order.

The balance of selected resources expected to be available for future applications at the end of the transition quarter is $124,505,000 more than the estimated balance at the end of fiscal year 1976.

B. Committee action

The Joint Committee has recommended increases to the authorization requested for the operating expenses of several of the Administration's programs during fiscal year 1976 and the transition quarter, as reflected elsewhere in this report. The increase in the prefinancing of certain of these programs for fiscal year 1977 is reflected in the selected resources category on the basis of fiscal year 1976 and transition quarter estimated costs. Therefore, the committee recommends an increase of $13,900,000 for fiscal year 1976 and $2,980,000 for the transition quarter in selected resources to properly reflect the related prefinancing requirements.

XIV. Unobligated Balance of Prior-Year Funds

A. ERDA request

When the ERDA submitted its fiscal year 1976 budget, it was estimated that there would not be an unobligated balance of operating funds appropriated in prior years which would be available to reduce the amount of operating expense appropriations requested for fiscal year 1976. When there is such a balance, the ERDA applies the balance available at the start of each fiscal year to the obligations expected to be incurred during the budget year in order to arrive at the total amount of the new request for authorization and appropriations.

The ERDA also estimates that there will be no unobligated balance of operating funds available to reduce the amount of operating expense appropriations requested for the transition quarter.

B. Committee action

The ERDA estimate that there will be no unobligated balance of operating funds appropriated in prior years available to reduce the amount of operating expense appropriations requested for fiscal year 1976 and the transition quarter, appears reasonable to the Joint Committee.

XV. Plant and Capital Equipment

A. ERDA request

The Administration requested authorization totaling $868,867,000 for fiscal year 1976 and $128,876,000 for the transition quarter for plant and capital equipment. The following table shows the various projects for which authorization is requested, and the committee's recommendation on each request:

PLANT AND CAPITAL EQUIPMENT

[In thousands of dollars]

Project	ERDA authorization request		Committee recommendations		Change	
	1976	Transition quarter	1976	Transition quarter	1976	Transition quarter
Fossil energy development:						
76-1-a, clean boiler fuel demonstration plant (A-E and long-lead procurement)	$20,000	$8,000	$20,000	$8,000	0	0
Physical research:						
76-2-a, accelerator and reactor improvements and modifications	4,000	1,000	4,000	1,000	0	0
Fusion power research and development:						
76-3-a, Tokamak fusion test reactor Princeton Plasma Physics Laboratory, Plainsboro, N.J.	7,500	3,000	23,000	7,000	+$15,500	+$4,000
76-3-b, 14 MeV intense neutron source facility, Los Alamos Scientific Laboratory	0	0	22,100	0	+22,100	0
76-3-c, 14 MeV high intensity neutron facility, Lawrence Livermore Laboratory	0	0	5,000	0	+5,000	0
Fission power reactor development:						
76-4-a, modifications to reactors	4,000	0	4,000	0	0	0
76-4-b, sodium components test installation steam and feedwater system modification, Liquid Metal Engineering Center, Santa Susana, Calif	7,700	0	7,700	0	0	0
76-5-a, test reactor area fire main replacement, Idaho National Engineering Laboratory, Idaho	2,200	0	2,200	0	0	0

PLANT AND CAPITAL EQUIPMENT—Continued

[In thousands of dollars]

Project	ERDA authorization request		Committee recommendation		Change	
	1976	Transition quarter	1976	Transition quarter	1976	Transition quarter
Nuclear materials production:						
76-6-a, additional facilities, high level waste storage, Savannah River, S.C	68,000	0	68,000	0	0	0
76-6-b, additional high level waste storage facilities, Richland, Wash	35,000	0	35,000	0	0	0
76-6-c, supplemental N reactor irradiated fuel storage, Richland, Wash	2,500	0	2,500	0	0	0
76-6-d, uprate electrical switchyards for Roane substation, Oak Ridge, Tenn	8,100	0	8,100	0	0	0
76-6-e, conversion of existing steam plants to coal capability, gaseous diffusion plants and Feed Materials Production Center, Fernald, Ohio	12,200	0	12,200	0	0	0
76-6-f, radioactive liquid waste system improvements, Idaho Chemical Processing Plant, Idaho National Engineering Laboratory, Idaho	5,800	0	5,800	0	0	0
Weapons:						
76-7-a, MK-12A Minuteman III production facilities, various locations	3,000	0	3,000	0	0	0
76-7-b, plutonium metallurgy building modifications, Lawrence Livermore Laboratory, California	1,000	0	1,000	0	0	0
76-7-c, limited life component exchange facility, Charleston, S.C	13,900	0	13,900	0	0	0
76-8-a, firewall construction, Bendix Plant, Kansas City, Mo	2,000	0	2,000	0	0	0
76-8-b, fire protection improvements, Los Alamos Scientific Laboratory, New Mexico	4,450	0	4,450	0	0	0
76-8-c, Phermex enhancement, Los Alamos Scientific Laboratory, New Mexico	0	0	6,150	0	+$6,150	0
Biomedical and environmental research:						
76-9-a, modifications and additions to biomedical and environmental research facilities	3,200	0	3,200	0	0	0
General plant projects	64,670	15,900	64,670	15,900	0	0
Construction planning and design	6,000	1,500	6,000	1,500	0	0
Subtotal, new construction projects	275,220	29,400	323,970	33,400	+48,750	+$4,000
Increases in prior-year project authorizations:						
75-1-a, additional facilities, high level waste handling and storage, Savannah River, S.C	3,000	0	3,000	0	0	0
75-1-c, new waste calcining facility, Idaho Chemical Processing Plant, Idaho National Engineering Laboratory, Idaho	45,000	0	7,500	0	−37,500	0
75-3-e, addition to building 350, Argonne National Laboratory, Illinois	800	0	800	0	0	0
75-6-c, positron-electron joint projects, Lawrence Berkeley Laboratory and Stanford Linear Accelerator Center	0	0	11,000	0	+11,000	0
75-7-c, intermediate-level waste management facilities, Oak Ridge National Laboratory, Tennessee	1,000	0	1,000	0	0	0
74-1-g, Cascade uprating program, gaseous diffusion plants	76,500	10,800	76,500	10,800	0	0

PLANT AND CAPITAL EQUIPMENT—Continued

[In thousands of dollars]

Project	ERDA authorization request		Committee recommendations		Change	
	1976	Transition quarter	1976	Transition quarter	1976	Transition quarter
Increases in prior-year project authorization—Continued						
74-2-c, high-energy laser facility, Lawrence Livermore Laboratory, California	5,000	0	5,000	0	0	0
71-1-f, process equipment modifications, gaseous diffusion plants	183,000	32,000	183,000	32,000	0	0
71-9, fire, safety, and adequacy of operating conditions projects, various locations	47,000	0	47,000	0	0	0
Subtotal, construction projects	636,520	72,200	658,770	76,200	+22,250	+4,000
Capital equipment not related to construction:						
Fossil energy development	425	200	425	200	0	0
Solar, geothermal and advanced energy systems	620	200	620	200	0	0
Physical research	32,300	8,000	32,300	8,000	0	0
Conservation research and development	2,450	500	2,450	500	0	0
Fusion power R. & D	16,000	4,100	20,000	5,100	+4,000	+1,000
Fission power reactor development	51,400	8,600	51,400	8,600	0	0
Naval reactor development	8,800	1,325	8,800	1,325	0	0
Space nuclear systems	2,600	650	2,600	650	0	0
Nuclear materials	28,100	10,850	28,100	10,850	0	0
Advanced isotope separation	3,200	800	3,200	800	0	0
National security	67,870	16,681	71,870	17,931	+4,000	+1,250
Environment and safety research	14,380	3,700	14,380	3,700	0	0
Program support	4,202	1,070	4,202	1,070	0	0
Subtotal, capital equipment	232,347	56,676	240,347	58,926	+8,000	+2,250
Total plant and capital equipment authorization	868,867	128,876	899,117	135,126	+30,250	+6,250

B. Committee action

As shown in the preceding table, the Joint Committee is recommending a number of changes to the Administration's request for authorization of plant and capital equipment. The net effect on the amounts requested by the ERDA would be an increase of $30,250,000 for fiscal year 1976 and an increase of $6,250,000 for the transition quarter. The committee comments concerning selected construction projects and the line item for capital equipment not related to construction follow:

(1) *Project 76-3-a, Tokamak fusion test reactor, Princeton Plasma Physics Laboratory, Plainsboro, New Jersey.*—This project is a major milestone required to meet the ERDA goal of a demonstration fusion power reactor in the mid to late 1990's. It is needed as an intermediate step to bridge the gap between current, relatively small, hydrogen plasma confinement experiments and the first experimental power reactor.

The division's fiscal year 1976 authorization request for this project was $23.0 million or $15.5 million more than the ERDA request to the Congress. During the Joint Committee hearings on this project ERDA officials testified that authorization and appropriation of the $23.0 million for fiscal year 1976, and the subsequent timely authorization and appropriation of the remaining funds needed for the project would permit the project to proceed more rapidly with anticipated savings of $10.0 million in costs and completion of the project 1 year earlier. The committee believes that ERDA should have the

opportunity to attempt to realize these dollar and time savings, and accordingly recommends that an additional $15.5 million for fiscal year 1976 and $4.0 million for the transition quarter be authorized and urges that these additional amounts be appropriated for this project. It is the intent of the Joint Committee that this project involve $215.0 million over the next 5 years.

(2) *Project 76–3–b, 14 Mev intense neutron source facility, Los Alamos Scientific Laboratory.*—The Joint Committee recommends full authorization of $22,100,000 for this project and urges that the Congress appropriate $3.1 million for fiscal year 1976 and $.7 million for the transition quarter. This facility and the related 14 mev neutron facility at Lawrence Livermore Laboratory will be used to test the effects of high energy neutrons on materials under consideration for use in fusion reactors. The materials problems associated with radiation effects could easily become a pacing factor in the development of practical fusion power. Delay in the construction and operation of these two facilities could lead to serious delays and increased costs due to unexpected effects arising at advanced stages of the CTR program. The experience with fuel densification, swelling of materials, and other similar problems in fission reactors eloquently demonstrates the potential difficulties.

The LASL facility would take three years to construct and would provide a neutron flux of 10^{14} neutrons per square centimeter per second. This is 10 times the flux that would be provided by the Livermore facility. Data at this higher flux level is essential to a complete understanding of the effects to be encountered in fusion reactors.

(3) *Project 76–3–c, 14 Mev high intensity neutron facility, Lawrence Livermore Laboratory.*—The Joint Committee recommends full authorization of $5,000,000 for this project for fiscal year 1976 and also urges that this amount be appropriated. It is an essential component of the 14 mev neutron radiation effect studies in conjunction with Project 76–3–b. It should be in operation and producing data a year earlier than the LASL facility, and will provide information at lower flux levels. Both facilities are required to permit an efficient and adequate research program on this critical problem.

(4) *Project 76–8–c, PHERMEX enhancement, Los Alamos Scientific Laboratory, New Mexico.*—This is LASL's facility for performing flash radiographic studies of explosive driven systems. It is one of LASL's primary diagnostic tools for research and development related to nuclear weapons. If upgraded as proposed it also shows considerable promise as a diagnostic tool in reactor safety research. As the number of nuclear tests have decreased, the importance of PHERMEX rises for providing higher data levels on weapons functioning from non-nuclear testing. The upgrade increases PHERMEX power, allows more and better data per test to be obtained than is now possible, and allows introduction of improved components made possible by technical advances during the last 12 years. Full authorization and appropriation of $6,150,000 in fiscal year 1976 is proposed rather than delay until fiscal year 1977, thus saving approximately $1 million on the project.

(5) *Project 75–1–c, new waste calcining facility, Idaho Chemical Processing Plant, Idaho National Engineering Laboratory, Idaho.*—This project, for which the Congress authorized $20.0 million for fiscal year 1975, would replace the existing demonstration waste calcining facility at the Idaho Chemical Processing Plant which is used to solidify radioactive liquid wastes. The proposed facility would be used for solidifying radioactive wastes, reducing their volume and immobilizing contained radioactive isotopes. This procedure would make additional space available in existing storage tanks for interim storage of the waste generated during the processing of irradiated fuels.

ERDA believes that this new waste calcining facility is needed to replace the existing facility which became operational in 1963 and which has experienced increasingly frequent equipment failures. The committee recommended, and the Congress authorized, $20.0 million for this project for fiscal year 1975. The committee notes, however, that the total estimated cost for this project has increased by $45.0 million in one-year's time and that this revised cost estimate is based only on partial conceptual design. Based on these facts, the committee recommends that an additional $7.5 million, instead of the ERDA request of $45.0 million, be authorized for this project. This step would allow sufficient authorization for project design, engineering and initiation of the procurement of long-lead items during fiscal year 1976 and the transition quarter. It would also permit the ERDA to refine the total estimated cost of the project based on more complete design information. Also, the committee would have a more detailed and complete basis upon which to consider the full authorization of the project in future years. Concerning the total estimated cost, the committee urges the ERDA to take aggressive actions to minimize the possibility of further cost escalations to this project.

(6) *Project 75–6–c, positron-electron joint projects, Lawrence Berkeley Laboratory and Stanford Linear Accelerator Center.*—Last year the Joint Committee recommended and the Congress authorized $900,000 for this project. As noted in the Joint Committee's fiscal year 1975 authorization report for AEC, this project will provide for construction of an electron-positron ring storing particles up to 15 billion electron volts (Bev) energy circulating in opposite directions. The particles will be injected into the ring by the existing linear accelerator at SLAC. The collision energies achievable between the counter-rotating beams will be equivalent to those attained in collisions using a beam of over 400 Bev in a conventional accelerator with a stationary target. These high-energy collisions will permit investigation of new phenomena which have so far defied theoretical explanation.

The committee believes that this is a worthwhile project which will provide a powerful new tool for detailed study of the weak interactions which are expected in electron-positron collisions, and recommends that an additional $11.0 million be authorized for this project.

(7) *Capital equipment not related to construction.*—The ERDA has requested authorization of $232,347,000 for fiscal year 1976 and $56,676,000 for the transition quarter for capital equipment not related to construction. The amount requested for fiscal year 1976 is a net increase of $21,960,000 over the estimated obligations for fiscal year 1975.

The ERDA request of $16.0 million for the fusion power research and development program's capital equipment needs, however, is $3.8

million less than the fiscal year 1975 estimated obligations of $19.8 million, and $11.0 million less than the division's fiscal year 1976 request of $27.0 million. The committee believes that since ERDA is embarked on a major effort in fusion power R&D, the capital equipment needs of this program should not be a limiting factor. The committee recommends, therefore, that an additional $4.0 million for fiscal year 1976 and $1.0 million for the transition quarter be authorized for the fusion power R. & D. program's capital equipment needs.

The Joint Committee also recommends that an additional $4.0 million for fiscal year 1976 and $1,250,000 for the transition quarter be authorized for laser fusion capital equipment not related to construction. This would permit ERDA to initiate the establishment of a second 10 kilojoule neodymium glass laser facility. (See p. 31.)

The Joint Committee's overall recommendation for capital equipment not related to construction, therefore, is that $240,347,000 be authorized for fiscal year 1976 and $58,926,000 be authorized for the transition quarter.

Comparative Cost Estimates

In accordance with section 252(a) of the Legislative Reorganization Act of 1970 (Public Law 91–510), the Joint Committee has prepared a 5-year projection of the ERDA estimated operating expenses and plant and capital equipment costs together with a comparison of that projection with the estimate of costs submitted by the ERDA. The ERDA estimates are based on projections made in October 1974 and adjusted to reflect the amounts included in the Administration's request for fiscal year 1976.

Operating expenses

The Joint Committee's estimate of the net operating costs to be incurred in carrying out the ERDA authorization bill as reported by the committee is for fiscal year 1976 $3,116 million compared with the ERDA's estimate of $3,072 million and for the transition quarter $903 million compared with ERDA's estimate of $893 million for the bill it requested.

The amount authorized for operating expenses is for "no year" appropriations, but the unobligated balance in any year is used to reduce the request for new obligational authority in the succeeding year. Also the operating expenses of the ERDA are authorized annually. While it is contemplated that most programs will continue beyond fiscal year 1976, the number of programs to continue and their future level of funding are contingent upon many decisions which have not yet been made. Therefore, the committee has no information upon which to predict any future level of operating expenses different from those projected by the ERDA. The Administration's estimate of future years' net operating costs is as follows:

Net Operating Costs

Fiscal year:	*Millions*
1977	$3,675
1978	3,496
1979	3,368
1980	3,316

Plant and capital equipment

The following comparative 5-year projections of costs to be incurred for plant and capital equipment are based on estimates made by the ERDA, adjusted by the committee to reflect the estimated impact on such costs resulting from the committee's recommended actions on the ERDA authorization request for fiscal year 1976 and the transition quarter.

PLANT AND CAPITAL EQUIPMENT COSTS

[In millions of dollars]

Fiscal year	ERDA estimate	JCAE estimate
1976	821	837
Transition quarter	241	258
1977	917	939
1978	923	917
1979	710	692
1980	620	605

Section-by-Section Analysis

Section 101

Section 101 of the bill authorizes appropriations to the Energy Research and Development Administration, in accordance with the provisions of section 261 of the Atomic Energy Act of 1954, as amended, section 305 of the Energy Reorganization Act of 1974, and section 16 of the Federal Nonnuclear Energy Research and Development Act of 1974, for "Operating expenses" and "Plant and capital equipment."

Section 101(a) of the bill deals with the authorization of appropriations for "Operating expenses" for fiscal year 1976. ERDA's authorization request under this heading was presented to the committee in terms of costs to be incurred during fiscal year 1976, adjusted in total to the obligations to be incurred during the fiscal year.

The Joint Committee is recommending authorization of $3,476,729,000 for fiscal year 1976 for "Operating expenses." (It should be noted that the committee has not reviewed the nonnuclear programs of ERDA, and does not necessarily endorse the requested amounts for those programs. The committee's recommendation represents the Administration's request as modified by the committee's recommended changes for nuclear programs.) It is the Joint Committee's intent that the amount specified for any program or category shall be exceeded only in accordance with specific arrangements which have been developed between ERDA and the committee based on previous arrangements with the Atomic Energy Commission. These arrangements include provisions for periodic reporting to the committee of changes in estimates of authorized programs. These informal procedures, embodied in an exchange of correspondence between the AEC and the committee, have operated efficiently. It is the Joint Committee's belief that legislative measures or other formal devices that would impose legal limitations upon the reprograming of ERDA funds are not necessary at this time. It is the committee's intent that the procedures specified in this exchange of correspondence shall remain in effect during fiscal year 1976 and the transition quarter.

It is intended that costs incurred pursuant to the authorization contained in this act shall be generally in accordance with the analysis of the proposed bills submitted by ERDA and other background and

explanatory materials furnished by the ERDA in justification of the authorization bill.

Plant and capital equipment obligations are provided in two sections of the bill. Under section 101(b), authorization is provided for new construction projects and capital equipment not related to construction. This authorization, together with the changes in prior-year project authorizations provided for in section 103, comprise the total authorization for plant and capital equipment for fiscal year 1976 provided in this bill. The request for authorization for these purposes was presented on the basis of new obligational authority required. New construction projects authorized under subsections (1) through (11) of section 101(b) of the bill total $323,970,000 for fiscal year 1976.

It is intended that the projects under this authorization be related, as in previous years for the AEC, to the analysis of the proposed bills submitted by ERDA and other background and explanatory materials furnished by ERDA in justification of the authorization bill. It is not intended to prevent technical and engineering changes which are considered necessary or desirable by ERDA consistent with the scope and purpose of the project concerned.

Pursuant to section 101(b)(12), appropriations are authorized for capital equipment not related to construction in the amount of $240,347,000. This equipment is necessary to replace obsolete or worn-out equipment at ERDA installations. Additional equipment is required to meet the needs of expanding programs and changing technology. Examples of typical equipment include machine tools, computers, and office equipment. The Joint Committee expects to receive a report from ERDA at least semiannually on obligations incurred pursuant to this authorization.

Section 102

Section 102 of the bill provides limitations similar to those in prior authorization acts.

Subsection (a) provides that ERDA is authorized to start projects set forth in certain subparts of subsection 101(b) only if the currently estimated cost of the project does not exceed by more than 25 percent the estimated cost for that project set forth in the bill.

Subsection (b) provides similar limitations for projects in other subparts of subsection 101(b), except that the increase may not exceed 10 percent of the estimated cost shown in the bill.

Subsection (c) provides limitations on general plant projects authorized by subsection 101(b)(10), whereby ERDA may start such projects only if the currently estimated cost of such project does not exceed $750,000 and the maximum currently estimated cost of any building included in such project does not exceed $300,000: provided that the building cost limitation may be exceeded if ERDA determines that it is necessary in the interest of efficiency and economy. Additionally, section 102(c) provides that the total cost of all general plant projects shall not exceed the estimated cost set forth in subsection 101(b)(10) by more than 10 percent.

Under arrangements previously agreed to by AEC and the Joint Committee, ERDA shall report to the Joint Committee and the

Appropriations Committee after the close of each fiscal year concerning the use of general plant project funds, and such report shall identify each project for which the proposed new authority has been utilized.

Subsection (d) complements subsection (a) and provides that ERDA is not authorized to incur obligations in excess of 125 percent of the estimated cost set forth for certain projects described in subsection 101(b), unless and until additional appropriations are authorized under section 261 of the Atomic Energy Act. Illustratively, if the estimated cost set forth in the act were $10 million, ERDA would not be able to incur obligations for this project in excess of $12,500,000 without first obtaining an additional authorization for appropriations. This limitation does not apply to any project with an estimated cost less than $5 million.

Subsection (e) complements subsection (b) and imposes a similar limitation on certain projects described in other subparts of subsection 101(b), except that the increase may not exceed 10 percent of the estimated cost shown in the bill. This subsection likewise, is inapplicable to projects with an estimated cost less than $5 million.

Section 103

Section 103 of the bill amends prior-year authorization acts as follows:

(*a*) Section 101 of Public Law 91–273, as amended, is further amended by increasing the authorization for project 71–1–f, process equipment modifications, gaseous diffusion plants, from $295,100,000 to $478,100,000; and by increasing the authorization for project 71–9, fire, safety, and adequacy of operating conditions projects, various locations, from $193,000,000 to $240,000,000. (The project 71–1–f authorization is further increased by section 203 of the bill, effective during the transition quarter.)

(*b*) Section 101 of Public Law 93–60, as amended, is further amended by increasing the authorization for project 74–1–g, cascade uprating program, gaseous diffusion plants, from $183,100,000 to $259,600,000; and by increasing the authorization for project 74–2–c, high energy laser facility, Lawrence Livermore Laboratory, California, from $20,000,000 to $25,000,000. (The authorization for project 74–1–g is further increased by section 203 of the bill, effective during the transition quarter.)

(*c*) Section 101 of Public Law 93–276 is amended by increasing the authorization for project 75–1–a, additional facilities, high level waste handling and storage, Savannah River, South Carolina from $30,000,000 to $33,000,000; by increasing the authorization for project 75–1–c, new waste calcining facility, Idaho Chemical Processing Plant, National Reactor Testing Station, Idaho, from $20,000,000 to $27,500,000; by increasing the authorization for project 75–3–e, addition to building 350 for safeguards analytical laboratory, Argonne National Laboratory, Illinois, from $3,500,000 to $4,300,000; and by increasing the authorization for project 75–7–c, intermediate-level waste management facilities, Oak Ridge National Laboratory, Tennessee, from $9,500,000 to $10,500,000.

(*d*) Section 106 of Public Law 91–273, which fully authorized the Clinch River Liquid Metal Breeder Reactor Demonstration Plant, as amended, is further amended in several respects.

Although the objective of the project as authorized remains the same, its estimated cost has increased by a considerable amount. The estimated costs initially were estimated to be $699 million. They are now estimated to be $1.736 billion. At the time of the initial estimate it was anticipated that the project's construction costs, other than costs involving research and development, would be funded by non-governmental contributions. Government assistance was to be used only for the considerable research and development effort. The non-governmental contributions have not been increased, even though substantial escalations have occurred in the project's cost estimates. Thus a large increase in the amount of Government assistance is necessary for both plant construction and research and development work.

The amendments to the existing authorization would give ERDA the flexibility needed for it to adjust, by effective and expeditious actions, to the changed circumstances. At the same time, the amendments would further strengthen congressional control of the project by:

(1) The authorized governmental assistance would be combined into a single, cooperative project category, rather than continuing the split into two budget categories of "cooperative" project and "base" program. This change means that the total governmental assistance to the project would be clearly identified so that a full and complete accounting of that assistance is readily available;

(2) Changes in the criteria for the conduct of the project would first have to be submitted to the Joint Committee on Atomic Energy for its prior review and approval;

(3) The total Government assistance to the project would be reviewed thoroughly through the annual budget review process; and

(4) ERDA must keep the Joint Committee informed of the progress which is being made in the project, and of any unexpected developments such as those which may delay the project or increase the level of Government assistance.

Section 104

Section 104 rescinds, except to the extent that funds have already been obligated, the authorizations for project 73–5–d, modifications to TREAT facility, National Reactor Testing Station, Idaho, $1,500,000 (Public Law 92–314); project 74–3–e, modifications to TREAT facility, National Reactor Testing Station, Idaho, $2,500,000 (Public Law 93–60); and project 75–13–a, hydrothermal pilot plant, $1,000,000 (Public Law 93–276).

Section 201

Section 201 authorizes appropriations to ERDA in accordance with section 261 of the Atomic Energy Act of 1954, as amended, section 305 of the Energy Reorganization Act of 1974, and section 16 of the Federal Nonnuclear Energy Research and Development Act of 1974 for the transition period July 1, 1976 through September 30, 1976.

Section 201(a) authorizes operating expenses for the transition quarter in the amount of $1,014,039,000. The recommended amount consists of the administration request, as modified by the Joint Committee's recommended changes for nuclear programs, and does not constitute an endorsement of the nonnuclear program requests by ERDA. This authorization is subject to the same conditions and limitations as the authorization in section 101.

Section 201(b) authorizes $33,400,000 for new construction projects (subsections 201(b)(1)–(5)), and $58,926,000 for capital equipment not related to construction. These authorizations, together with the changes in prior-year project authorizations in section 203, comprise the total authorization for plant and capital equipment for the transition quarter authorized in this bill.

Section 202

Section 202 provides limitations for the transition quarter which are identical to those provided in section 102 for fiscal year 1976.

Section 203

Section 203 amends prior-year authorization acts by increasing the authorization for project 71–1–f, process equipment modifications, gaseous diffusion plants from the figure $478,100,000 provided in subsection 103(a) of this bill to a new figure of $510,100,000; and by increasing the authorization for project 74–1–g, cascade uprating program, gaseous diffusion plants from the figure $259,600,000 provided in subsection 103(b) of this bill to $270,400,000. These two changes provide authorization for the portions of those programs which are expected to be carried out during the transition quarter.

Section 301

Section 301 of the bill authorizes ERDA to undertake engineering design (titles I and II) on construction projects which have been included in a proposed authorization bill transmitted to the Congress. It is understood that this work would be undertaken on projects which ERDA deems are of such urgency that physical construction should be initiated as soon as appropriations for the project have been approved.

Section 302

Section 302 of the bill authorizes ERDA to retain and credit to its "Operating expenses" appropriation any moneys received by the ERDA (except moneys received from disposal of property under the Atomic Energy Community Act of 1955, as amended, the Strategic and Critical Materials Stockpiling Act, as amended, and fees received for tests or investigations under the Act of May 16, 1910, as amended, 42 U.S.C. 2301, 50 U.S.C. 98h, 30 U.S.C. 7), notwithstanding the provisions of section 3617 of the Revised Statutes.

Section 303

Section 303 authorizes ERDA to transfer sums from its "Operating expenses" appropriation to other agencies of the Government for performance of the work for which the moneys were appropriated.

Section 304

Section 304 provides that, when so specified in an appropriation act, any amount appropriated for operating expenses or for plant and capital equipment may be retained without fiscal year limitation until expended. The Atomic Energy Commission had this authority under the Atomic Energy Act, and this provision is included to make it clear that ERDA is also so authorized.

Section 401

Section 401 modifies the name of the national laboratory at Oak Ridge, Tennessee, so that its name will continue to include the name of that city, thus preserving the historic association between Oak Ridge and the national laboratory located there.

Changes in Existing Law

In accordance with subsection (4) of rule XXIX of the Standing Rules of the Senate, changes in existing law recommended by the bill accompanying this report are shown as follows (deleted matter is shown in black brackets and new matter is printed in italic; and existing law in which no change is proposed is shown in roman):

Public Law 91-273

AN ACT To authorize appropriations to the Atomic Energy Commission in accordance with section 261 of the Atomic Energy Act of 1954, as amended, and for other purposes

* * * * * * *

SEC. 101 * * *

(b) * * *

(1) SPECIAL NUCLEAR MATERIALS.—

* * * * * * *

Project 71-1-f, process equipment modifications, gaseous diffusion plants, [$295,100,000] *$510,100,000.*

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(9) Project 71-9, fire, safety, and adequacy of operating conditions projects, various locations, [$193,000,000] *$240,000,000.*

* * * * * * *

SEC. 106. LIQUID METAL FAST BREEDER REACTOR DEMONSTRATION PROGRAM—FOURTH ROUND.—(a) The [Commission] *Energy Research and Development Administration (ERDA)* is hereby authorized to enter into [a] cooperative arrangements with [a] reactor manufacturers, and others, for participation in the research and development, design, construction, and operation of a Liquid Metal Fast Breeder Reactor powerplant in accordance with [the] criteria *approved by* [heretofore submitted to] the Joint Committee on Atomic Energy [and referred to in Section 106 of Public Law 91-44], without regard to the provisions of Section 169 of the Atomic Energy Act of 1954, as amended [; and the Commission is further authorized to continue to conduct the Project Definition Phase subsequent to the aforementioned cooperative arrangement]. Appropriations [totaling $100,000,000] are hereby authorized for the aforementioned

cooperative arrangements as shown in the basis for arrangements [and for the Project Definition Phase authorized by section 106 of Public Law 91-44 and this section, said total amount to include the sum authorized by section 106 of Public Law 91-44] *as submitted in accordance with subsection (b) hereof.* [The Commission is also authorized hereby, without regard to the provisions of section 3679 of the Revised Statutes, as amended, to agree under said cooperative arrangement to provide assistance up to a total amount of $100,000,000 less the sums available to the Commission and utilized for the Project Definition Phase contracts authorized pursuant to section 106 of Public Law 91-44 and this section; and in addition to said total amount, in the Commission's discretion, to provide assistance in the form of Commission-furnished services, facilities or equipment otherwise available to or planned by the Commission under its civilian base program: *Provided,* That such assistance shall not include the furnishing of end capital items of this demonstration plant excluding items which the Commission may deem necessary for research, development, or testing in light of its liquid metal fast breeder reactor base program: *And provided further,* That such assistance which the Commission undertakes specifically for this demonstration plant shall not exceed 50 per centum of the estimated capital cost of such plant: *And provided,* That said ceiling amounts shall not be deemed to include] *In addition, ERDA may agree to provide* assistance in the form of waiver of use charges during the term of the cooperative arrangements [, and the Commission may agree to provide such assistance] without regard to the provisions of section 53 of the Atomic Energy Act, as amended, by waiving use charges in an amount not to exceed $10,000,000. [Notwithstanding the foregoing, authorization of additional appropriations for the conduct of Project Definition Phase activities subsequent to the execution of the aforementioned cooperative arrangement, in the amount of $3,000,000, is hereby authorized.]

(b) Before [the Commission] *ERDA* enters into any arrangement or amendment thereto under the authority of subsection (a) of this section, the basis for the arrangement or amendment thereto which [the Commission] *ERDA* proposes to execute (including the name of the proposed participating party or parties with whom the arrangement is to be made, a general description of the proposed powerplant, the estimated amount of cost to be incurred by [the Commission] *ERDA* and by the participating parties, and the general features of the proposed arrangement or amendment) shall be submitted to the Joint Committee on Atomic Energy, and a period of forty-five days shall elapse while Congress is in session (in computing such forty-five days, there shall be excluded the days on which either House is not in session because of adjournment for more than three days): *Provided, however,* That the Joint Committee, after having received the basis for a proposed arrangement or amendment thereto, may by resolution in writing waive the conditions of[, or] all, or any portion of, such forty-five day period: *Provided further,* That such arrangement or amendment shall be entered into in accordance with the basis for the arrangement or amendment submitted as provided herein: *And provided further,* That no basis for arrangement need be resubmitted

to the Joint Committee for the sole reason that the estimated amount of the cost to be incurred by [the Commission] *ERDA* exceeds the estimated cost previously submitted to the Joint Committee by not more than 15 per centum. *Notwithstanding the foregoing, ERDA, in each of its annual budget submissions shall submit for the information and review of the Joint Committee in the exercise of its oversight responsibility, the anticipated obligations and costs for the ensuing fiscal year for the project authorized under subsection (a) of this section.*

(c) [The Commission] *ERDA* is hereby authorized to agree, by modification to the definitive cooperative arrangement reflecting such changes therein as it deems appropriate for such purpose, to the following: (1) to execute and deliver to the other parties to the [AEC] definitive contract, the special undertakings of indemnification specified in said contract, which undertakings shall be subject to availability of appropriations to [the Atomic Energy Commission (or any other Federal agency to which the Commission's pertinent functions might be transferred at some future time)] *ERDA* and to the provisions of section 3679 of the Revised Statutes, as amended; and (2) to acquire ownership and custody of the property constituting the Liquid Metal Fast Breeder Reactor powerplant or parts thereof, and to use, decommission, and dispose of said property, as provided for in the [AEC] definitive contract.

PUBLIC LAW 92–314

AN ACT To authorize appropriations to the Atomic Energy Commission in accordance with section 261 of the Atomic Energy Act of 1954, as amended, and for other purposes

* * * * * * *

SEC. 101 * * *

(b) * * *

(5) REACTOR DEVELOPMENT.—

[Project 73–5–d modifications to TREAT facility, National Reactor Testing Station, Idaho, $1,500,000.]

PUBLIC LAW 93–60

AN ACT To authorize appropriations to the Atomic Energy Commission in accordance with section 261 of the Atomic Energy Act of 1954, as amended, and for other purposes

* * * * * * *

Sec. 101 * * *

(b) * * *

(1) NUCLEAR MATERIALS.—

* * * * * * *

Project 74–1–g, cascade uprating program, gaseous diffusion plants, [$183,100,000] *$270,400,000.*

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(2) ATOMIC WEAPONS.—

* * * * * * *

Project 74–2–c, high energy laser facility, Lawrence Livermore Laboratory, California [$20,000,000] *$25,000,000.*

* * * * * * *

(3) REACTOR DEVELOPMENT.—

[Project 74–3–e, modifications to TREAT facility, National Reactor Testing Station, Idaho, $2,500,000.]

PUBLIC LAW 93–276

AN ACT To authorize appropriations to the Atomic Energy Commission in accordance with the provisions of section 261 of the Atomic Energy Act of 1954, as amended, and for other purposes

* * * * * * *

SEC. 101 * * *

(b)* * *

(1) NUCLEAR MATERIALS.—

Project 75–1–a, additional facilities, high-level waste handling and storage, Savannah River, South Carolina, [$30,000,000] *$33,000,000.*

* * * * * * *

Project 75–1–c, new waste calcining facility, Idaho Chemical Processing Plant, National Reactor Testing Station, Idaho, [$20,000,000] *$27,500,000.*

* * * * * * *

(3) WEAPONS.—

Project 75–3–e, addition to building 350 for safeguards analytical laboratory, Argonne National Laboratory, Illinois, [$3,500,000] *$4,300,000.*

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(6) PHYSICAL RESEARCH.—

Project 75–6–c, position-electron joint project, Lawrence Berkeley Laboratory and Stanford Linear Accelerator Center, [$900,000] *$11,900,000.*

* * * * * * *

(7) BIOMEDICAL AND ENVIRONMENTAL RESEARCH AND SAFETY.—

Project 75–7–c, intermediate-level waste management facilities, Oak Ridge National Laboratory, Tennessee, [$9,500,000] *$10,500,000.*

* * * * * * *

(13) APPLIED TECHNOLOGY.—

[Project 75–13–a, hydrothermal pilot plant, $1,000,000.]

APPENDIX

Effect of Recommended Authorization Actions by the Joint Committee on ERDA Appropriations Request for Fiscal Year 1976 and the Transition Quarter

The following table summarizes the Joint Committee's estimate of the ERDA request for new appropriations of "Operating expenses" for fiscal year 1976 and the transition quarter under its major programs and the effect of the Joint Committee authorization actions.

NEW APPROPRIATIONS REQUEST FOR OPERATING EXPENSES

[In thousands of dollars]

Program	Estimated ERDA request		Adjusted appropriations request		Change	
	1976	Transition quarter	1976	Transition quarter	1976	Transition quarter
Fossil energy development	$311,267	$55,830	$311,267	$55,830	0	0
Solar, geothermal, and advanced energy systems	108,643	21,580	108,643	21,580	0	0
Conservation research and development	32,170	7,733	32,170	7,733	0	0
Physical research:						
High-energy physics	148,300	37,800	148,300	37,800	0	0
Nuclear science	78,100	19,400	81,100	19,400	+3,000	0
Material sciences	43,600	11,900	43,600	11,900	0	0
Molecular sciences	42,500	11,200	42,500	11,200	0	0
Total physical research	312,500	80,300	315,500	80,300	+3,000	0
Fusion power research and development	120,000	37,000	140,000	42,000	+$20,000	+$5,000
Fission power reactor development:						
Liquid metal fast breeder reactor	211,700	58,000	211,700	58,000	0	0
Cooperative power reactor demonstration	85,000	33,000	85,000	33,000	0	0
Water-cooled reactors	31,900	9,000	31,900	9,000	0	0
Gas-cooled thermal reactors	31,400	8,170	31,400	8,170	0	0
Gas-cooled fast breeder reactors	6,000	1,550	6,000	1,550	0	0
Molten salt breeder reactors	3,500	900	3,500	900	0	0
Reactor safety	45,775	12,145	45,775	12,145	0	0
Supporting activities	28,400	7,980	28,400	7,980	0	0
Total fission power reactor development	443,675	130,745	443,675	130,745	0	0
Naval reactor development	186,200	52,900	186,200	52,900	0	0
Space nuclear systems	30,900	8,000	30,900	8,000	0	0
Nuclear materials	828,940	236,494	828,940	236,494	0	0
Advanced isotope separation technology	24,200	7,300	24,200	7,300	0	0
Weapons	873,515	223,925	877,015	224,925	+3,500	+1,000
Laser fusion	54,000	15,100	60,000	16,600	+6,000	+1,500
Nuclear materials security	10,945	3,006	13,945	3,806	+3,000	+800
Biomedical and environmental research	156,515	40,500	163,015	41,650	+6,500	+1,150
Waste management	36,000	10,100	36,000	10,100	0	0
Operational safety	5,160	1,400	5,160	1,400	0	0
Program support:						
Operational program direction	168,614	44,547	168,614	44,547	0	0
Community operations	7,650	1,914	9,817	2,204	+2,167	+290
Security investigations	12,290	2,825	12,290	2,825	0	0
Information services	9,480	2,686	9,555	2,704	+75	+18
EEO assigned facilities	1,984	516	1,984	516	0	0
Total program support	200,018	52,488	202,260	52,796	+2,242	+308
Cost of work for others	12,660	3,095	12,660	3,095	0	0
Revenues applied	−675,670	−94,700	−675,670	−94,700	0	0
Changes in selected resources	332,349	124,505	346,249	127,485	+13,900	+2,980
Unobligated balance brought forward	0	0	0	0	0	0
Net appropriations requested	3,403,987	1,017,301	3,462,129	1,030,039	+58,142	+12,738

The following table summarizes ERDA's request for new appropriations for "Plant and capital equipment" for fiscal year 1976 and the transition quarter, and the effect of the committee's recommended authorization actions thereon. More detailed information on the specific projects proposed and the committee's comments and recommendations thereon are presented in the section of this report entitled "Plant and Capital Equipment," beginning on page 39.

NEW APPROPRIATIONS REQUEST FOR PLANT AND CAPITAL EQUIPMENT

[In thousands of dollars]

Program	Estimated ERDA request		Adjusted appropriations request		Change	
	1976	Transition quarter	1976	Transition quarter	1976	Transition quarter
New construction projects	$195,120	$47,200	$224,870	$51,900	+$29,750	+$4,700
Capital equipment not related to construction	232,347	56,676	240,347	58,926	+8,000	+2,250
Increase in prior-year's projects	462,250	84,600	473,250	84,600	+11,000	0
Unobligated balance brought forward	0	0	0	0	0	0
Net appropriations requested	889,717	188,476	938,467	195,426	+48,750	+6,950

Summary

The following table presents a summary of the Joint Committee's estimate of the total ERDA appropriations to be requested for fiscal year 1976 and the transition quarter, the ERDA appropriations request as adjusted to reflect the Joint Committee's authorization recommendations, and the net change.

Program	Estimated ERDA request		Adjusted appropriations request		Change	
	1976	Transition quarter	1976	Transition quarter	1976	Transition quarter
Operating expenses	$3,403,987	$1,017,301	$3,462,129	$1,030,039	+$58,142	+$12,738
Plant and capital equipment	889,717	188,476	938,467	195,426	+48,750	+6,950
Total	4,293,704	1,205,777	4,400,596	1,225,465	+106,892	+19,688

○

December 19, 1975

Dear Mr. Director:

The following bills were received at the White House on December 19th:

H.R. 3474	H.R. 8631
H.R. 4073	H.R. 10555
H.R. 5541	H.R. 10792
H.R. 6461	H.R. 11016
H.R. 7862	H.R. 11172

Please let the President have reports and recommendations as to the approval of these bills as soon as possible.

Sincerely,

Robert D. Linder
Chief Executive Clerk

The Honorable James T. Lynn
Director
Office of Management and Budget
Washington, D. C.