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108TH CONGRESS
1ST SESSION

H. R. 6

To enhance energy conservation and research and development, to provide for security and diversity in the energy supply for the American people, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

APRIL 7, 2003

Mr. TAUZIN (for himself, Mr. THOMAS, Mr. BOEHLERT, Mr. POMBO, and Mr. OXLEY) introduced the following bill; which was referred to the Committee on Energy and Commerce, and in addition to the Committees on Science, Ways and Means, Resources, Education and the Workforce, Transportation and Infrastructure, Financial Services, and Agriculture, for a period to be subsequently determined by the Speaker, in each case for consideration of such provisions as fall within the jurisdiction of the committee concerned

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The bill is 768 pages long, only the title page and fusion section are included.

A BILL

To enhance energy conservation and research and development, to provide for security and diversity in the energy supply for the American people, and for other purposes.

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

SECTION 1. TABLE OF CONTENTS.

The table of contents for this Act is as follows:

(4) ULTRA-DEEPWATER.—The term ''ultra-deepwater'' means a water depth that is equal to or greater than 1,500 meters.

(5) ULTRA-DEEPWATER ARCHITECTURE.—The term ''ultra-deepwater architecture'' means the integration of technologies for the exploration for, or production of, natural gas or other petroleum resources located at ultra-deepwater depths.

(6) ULTRA-DEEPWATER TECHNOLOGY.—The term ''ultra-deepwater technology'' means a discrete technology that is specially suited to address one or more challenges associated with the exploration for, or production of, natural gas or other petroleum resources located at ultra-deepwater depths.

(7) UNCONVENTIONAL NATURAL GAS AND OTHER PETROLEUM RESOURCE.—The term ''unconventional natural gas and other petroleum resource'' means natural gas and other petroleum resource located onshore in an economically inaccessible geological formation.

Subtitle F—Science

PART 1—AUTHORIZATION OF APPROPRIATIONS

SEC. 21601. SCIENCE.

(a) IN GENERAL.—The following sums are authorized to be appropriated to the Secretary for research, de-

velopment, demonstration, and commercial application activities of the Office of Science, including activities authorized under this subtitle, including the amounts authorized under the amendment made by section 21634(c)(2)(C), and including basic energy sciences, advanced scientific and computing research, biological and environmental research, fusion energy sciences, high energy physics, nuclear physics, and research analysis and infrastructure support:

(1) For fiscal year 2004, $3,785,000,000.

(2) For fiscal year 2005, $4,153,000,000.

(3) For fiscal year 2006, $4,618,000,000.

(4) For fiscal year 2007, $5,310,000,000.

(b) ALLOCATIONS.—From amounts authorized under subsection (a), the following sums are authorized:

(1) FUSION ENERGY SCIENCES.—(A) For the Fusion Energy Sciences Program, excluding activities under sections 21611 and 21612—

(i) for fiscal year 2004, $276,000,000;

(ii) for fiscal year 2005, $300,000,000;.

(iii) for fiscal year 2006, $340,000,000; and

(iv) for fiscal year 2007, $350,000,000.

(B) For activities under section 21611 and for the project described in section 21612—

(i) for fiscal year 2004, $12,000,000;

(ii) for fiscal year 2005, $20,000,000;

(iii) for fiscal year 2006, $50,000,000; and

(iv) for fiscal year 2007, $75,000,000.

(2) SPALLATION NEUTRON SOURCE.—

(A) CONSTRUCTION.—For construction of the Spallation Neutron Source—

(i) for fiscal year 2004, $124,600,000;

(ii) for fiscal year 2005, $79,800,000; and

(iii) for fiscal year 2006, $41,100,000 for completion of construction.

(B) OTHER PROJECT FUNDING.—For other project costs (including research and development necessary to complete the project, preoperations costs, and capital equipment related to construction) of the Spallation Neutron Source, $103,279,000 for the period encompassing fiscal years 2003 through 2006, to remain available until expended through September 30, 2006.

(3) NANOTECHNOLOGY RESEARCH AND DEVELOPMENT.—For activities under section 21633—

(A) for fiscal year 2004, $265,000,000;

(B) for fiscal year 2005, $292,000,000;

(C) for fiscal year 2006, $322,000,000; and

(D) for fiscal year 2007, $355,000,000.

(4) SCIENCE AND TECHNOLOGY SCHOLARSHIP PROGRAM.—For activities under section 21636—

(A) for fiscal year 2004, $800,000;

(B) for fiscal year 2005, $1,600,000;

(C) for fiscal year 2006, $2,000,000; and

(D) for fiscal year 2007, $2,000,000.

(5) GENOMES TO LIFE.—For activities under section 21641—

(A) $100,000,000 for fiscal year 2004; and

(B) such sums as may be necessary for fiscal years 2005 through 2007.

(c) LIMITS ON USE OF FUNDS.—Of the funds authorized under subsection (b)(1), no funds shall be available for implementation of the plan described in section 21612.

PART 2—FUSION ENERGY SCIENCES

SEC. 21611. ITER.

(a) IN GENERAL.—The United States is authorized to participate in ITER in accordance with the provisions of this section.

(b) AGREEMENT.—(1) The Secretary is authorized to negotiate an agreement for United States participation in ITER.

(2) Any agreement for United States participation in ITER shall, at a minimum—

(A) clearly define the United States financial contribution to construction and operating costs;

(B) ensure that the share of ITER's high-technology components manufactured in the United States is at least proportionate to the United States financial contribution to ITER;

(C) ensure that the United States will not be financially responsible for cost overruns in components manufactured in other ITER participating countries;

(D) guarantee the United States full access to all data generated by ITER;

(E) enable United States researchers to propose and carry out an equitable share of the experiments at ITER;

(F) provide the United States with a role in all collective decisionmaking related to ITER; and

(G) describe the process for discontinuing or decommissioning ITER and any United States role in those processes.

(c) PLAN.—The Secretary, in consultation with the Fusion Energy Sciences Advisory Committee, shall develop a plan for the participation of United States scientists in ITER that shall include the United States research agenda for ITER, methods to evaluate whether ITER is promoting progress toward making fusion a reliable and affordable source of power, and a description of how work at ITER will relate to other elements of the United States fusion program. The Secretary shall request a review of the plan by the National Academy of Sciences.

(d) LIMITATION.—No funds shall be expended for the construction of ITER until the Secretary has transmitted to the Congress—

(1) the agreement negotiated pursuant to subsection (b) and 120 days have elapsed since that transmission;

(2) a report describing the management structure of ITER and providing a fixed dollar estimate of the cost of United States participation in the construction of ITER, and 120 days have elapsed since that transmission;

(3) a report describing how United States participation in ITER will be funded without reducing funding for other programs in the Office of Science,

including other fusion programs, and 60 days have elapsed since that transmission; and

(4) the plan required by subsection (c) (but not the National Academy of Sciences review of that plan), and 60 days have elapsed since that transmission.

(e) DEFINITIONS.—In this section—

(1) the term ''construction'' means the physical construction of the ITER facility, and the physical construction, purchase, or manufacture of equipment or components that are specifically designed for the ITER facility, but does not mean the design of the facility, equipment, or components; and

(2) the term ''ITER'' means the international burning plasma fusion research project in which the President announced United States participation on January 30, 2003.

SEC. 21612. PLAN FOR FUSION EXPERIMENT.

(a) IN GENERAL.—If at any time during the negotiations on ITER, the Secretary determines that construction and operation of ITER is unlikely or infeasible, the Secretary shall send to Congress, as part of the budget request for the following year, a plan for implementing the domestic burning plasma experiment known as FIRE, including costs and schedules for such a plan. The Secretary

shall refine such plan in full consultation with the Fusion Energy Sciences Advisory Committee and shall also transmit such plan to the National Academy of Sciences for review.

(b) DEFINITIONS.—As used in this section—

(1) the term ''ITER'' has the meaning given that term in section 21611; and

(2) the term ''FIRE'' means the Fusion Ignition Research Experiment, the fusion research experiment for which design work has been supported by the Department as a possible alternative burning plasma experiment in the event that ITER fails to move forward.

SEC. 21613. PLAN FOR FUSION ENERGY SCIENCES PROGRAM.

(a) DECLARATION OF POLICY.—It shall be the policy of the United States to conduct research, development, demonstration, and commercial application to provide for the scientific, engineering, and commercial infrastructure necessary to ensure that the United States is competitive with other nations in providing fusion energy for its own needs and the needs of other nations, including by demonstrating electric power or hydrogen production for the United States energy grid utilizing fusion energy at the earliest date possible.

(b) FUSION ENERGY PLAN.—

(1) IN GENERAL.—Within 6 months after the date of enactment of this Act, the Secretary shall transmit to Congress a plan for carrying out the policy set forth in subsection (a), including cost estimates, proposed budgets, potential international partners, and specific programs for implementing such policy.

(2) REQUIREMENTS OF PLAN.—Such plan shall also ensure that—

(A) existing fusion research facilities are more fully utilized;

(B) fusion science, technology, theory, advanced computation, modeling, and simulation are strengthened;

(C) new magnetic and inertial fusion research facilities are selected based on scientific innovation, cost effectiveness, and their potential to advance the goal of practical fusion energy at the earliest date possible;

(D) such facilities that are selected are funded at a cost-effective rate;

(E) communication of scientific results and methods between the fusion energy science com-

munity and the broader scientific and technology communities is improved;

(F) inertial confinement fusion facilities are utilized to the extent practicable for the purpose of inertial fusion energy research and development; and

(G) attractive alternative inertial and magnetic fusion energy approaches are more fully explored.

(3) REPORT ON FUSION MATERIALS AND TECHNOLOGY PROJECT.—In addition, the plan required by this subsection shall also address the status of, and to the degree possible, the costs and schedules for—

(A) the design and implementation of international or national facilities for the testing of fusion materials; and

(B) the design and implementation of international or national facilities for the testing and development of key fusion technologies.

PART 3—SPALLATION NEUTRON SOURCE

SEC. 21621. DEFINITION.

For the purposes of this part, the term ''Spallation Neutron Source'' means Department Project 99–E–334, Oak Ridge National Laboratory, Oak Ridge, Tennessee.