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1ST SESSION

S. 646

To establish within the Department of Energy an international fusion energy program, and for other purposes.

IN THE SENATE OF THE UNITED STATES

MARCH 24 (legislative day, MARCH 3), 1993

Mr. JOHNSTON introduced the following bill; which was read twice and referred to the Committee on Energy and Natural Resources

A BILL

To establish within the Department of Energy an international fusion energy program, and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. SHORT TITLE.**

4 This Act may be cited as the “International Fusion
5 Energy Act of 1993”.

6 **SEC. 2. FINDINGS, PURPOSES AND DEFINITIONS.**

7 (a) FINDINGS.—Congress finds that—

8 (1) fusion energy has the potential to be a safe,
9 environmentally attractive, secure and economically
10 affordable source of energy;

1 (2) the United States Department of Energy's
2 magnetic fusion energy program has made signifi-
3 cant progress toward realizing fusion as a viable
4 source of energy;

5 (3) other industrial nations have also invested
6 in significant magnetic fusion energy programs;

7 (4) an integrated program of international col-
8 laboration will be necessary for continued progress
9 to demonstrate the scientific and technological fea-
10 sibility of magnetic fusion energy;

11 (5) there is international agreement to proceed
12 with the engineering and design of the International
13 Thermonuclear Experimental Reactor to prove the
14 scientific and technical feasibility of fusion energy
15 and to lead to a demonstration reactor;

16 (6) the United States should focus the Depart-
17 ment of Energy's magnetic fusion energy program
18 on the design, construction and operation of the
19 International Thermonuclear Experimental Reactor;

20 (7) the continuation of an aggressive fusion en-
21 ergy program requires the Department of Energy,
22 industry, utilities, and the international fusion com-
23 munity to commit to the International Thermo-
24 nuclear Experimental Reactor as soon as practicable;
25 and

1 (8) an effective United States fusion energy
2 program requires substantial involvement by indus-
3 try and utilities in the design, construction, and op-
4 eration of fusion facilities.

5 (b) PURPOSES.—The purposes of this Act are to—

6 (1) redirect and refocus the Department’s mag-
7 netic fusion energy program in a way that will lead
8 to the design, construction and operation of the
9 International Thermonuclear Experimental Reactor
10 by 2005, in cooperation with other countries, and
11 operation of a fusion demonstration reactor by 2025;

12 (2) develop a plan identifying the budget, criti-
13 cal path, milestones and schedules for the Inter-
14 national Thermonuclear Experimental Reactor;

15 (3) eliminate from the Department of Energy’s
16 magnetic fusion energy program those elements that
17 do not directly support the development of the Inter-
18 national Thermonuclear Experimental Reactor or
19 the development of a fusion demonstration reactor;
20 and

21 (4) select a candidate host site within the Unit-
22 ed States for the International Thermonuclear Ex-
23 perimental Reactor and to identify the steps nec-
24 essary to lead to the selection of the final host site
25 by the international community.

1 (c) DEFINITIONS.—

2 (1) “Department” means the United States De-
3 partment of Energy;

4 (2) “ITER” means the International Thermo-
5 nuclear Experimental Reactor; and

6 (3) “Secretary” means the Secretary of the
7 United States Department of Energy.

8 **SEC. 3. INTERNATIONAL FUSION ENERGY PROGRAM.**

9 (a) PROGRAM.—The Secretary shall redirect and
10 refocus the Department’s magnetic fusion program in a
11 way that will lead to the design, construction and oper-
12 ation of ITER by 2005 and operation of a fusion dem-
13 onstration reactor by 2025. The Department’s magnetic
14 fusion program shall be referred to as the ITER program
15 and shall be carried out in cooperation with the inter-
16 national community.

17 (b) REQUIREMENTS.—In developing the ITER pro-
18 gram, the Secretary shall—

19 (1) establish as the main focus of the Depart-
20 ment’s magnetic fusion energy program the develop-
21 ment of ITER;

22 (2) provide for the development of fusion mate-
23 rials and other reactor components to the extent
24 necessary for the development of a fusion dem-
25 onstration reactor;

1 (3) eliminate those components of the magnetic
2 fusion energy program not contributing directly to
3 development of ITER or to the development of a fu-
4 sion demonstration reactor;

5 (4) select a candidate host site within the Unit-
6 ed States for the International Thermonuclear Ex-
7 perimental Reactor;

8 (5) negotiate with other countries involved in
9 ITER to select a final host site for ITER and to
10 agree to construct ITER as soon as practicable;

11 (6) provide for substantial United States indus-
12 try and utility involvement in the design, construc-
13 tion and operation of ITER to ensure United States
14 industry and utility expertise in the technologies de-
15 veloped; and

16 (7) provide for reducing the level of effort in
17 the ITER program to the levels prescribed in section
18 4(b)(2) in the event the ITER program is termi-
19 nated in accordance with subsection (g).

20 (c) MANAGEMENT PLAN—(1) Within one hundred
21 eighty days of the date of enactment of this Act, the Sec-
22 retary shall prepare and implement a management plan
23 for the ITER program. The plan shall be revised and up-
24 dated biannually.

25 (2) The plan shall—

1 (A) establish the goals of the ITER program;

2 (B) describe how each component of the De-
3 partment's TIER program contributes directly to
4 the development of ITER or development of a fusion
5 demonstration reactor;

6 (C) set priorities for the elements of the De-
7 partment's ITER program, identifying those ele-
8 ments that contribute directly to the development of
9 ITER or to the development of a fusion demonstra-
10 tion reactor;

11 (D) provide for the elimination of those ele-
12 ments of the magnetic fusion energy program not
13 contributing directly to the development of ITER, or
14 to the development of fusion materials or other reac-
15 tor components that are necessary for the develop-
16 ment of a fusion demonstration reactor;

17 (E) describe the selection process for a pro-
18 posed host site within the United States for ITER;

19 (F) establish the necessary steps that will lead
20 to the final selection of the host site for ITER by
21 the countries involved in the ITER program by the
22 end of 1996.

23 (G) establish the necessary steps that will lead
24 to the design, construction and operation of ITER

1 by 2005 and operation of a fusion demonstration re-
2 actor by 2025;

3 (H) establish a schedule and critical path, in-
4 cluding milestones, and a budget that will allow for
5 the design, construction and operation of ITER by
6 2005 and operation of a demonstration fusion reac-
7 tor by 2025;

8 (I) provide mechanisms for ensuring substantial
9 industry and utility involvement in the design, con-
10 struction and operation of ITER;

11 (J) set forth any recommendations of the Sec-
12 retary on—

13 (i) the need for additional legislation re-
14 garding the ITER program; or

15 (ii) the possibility and desirability of ac-
16 celerating the design and construction of ITER
17 or the development of a fusion demonstration
18 reactor; and

19 (K) provide for reducing the level of effort in
20 magnetic fusion to the levels prescribed in section
21 4(b)(2) in the event the ITER program is termi-
22 nated in accordance with subsection (g).

23 (d) INTERNATIONAL AGREEMENTS.—(1) The Sec-
24 retary may negotiate or enter into agreements with any

1 country governing the design, construction and operation
2 of ITER or facilities related to ITER.

3 (2) The Secretary shall seek to enter into agreements
4 with other countries to share in the cost of the facilities
5 and components of the ITER program that contribute to
6 the design, construction or operation of ITER or to the
7 development of a fusion demonstration reactor.

8 (e) REPORT ON ITER NEGOTIATIONS.—The Sec-
9 retary shall submit an annual report to the Congress on
10 the status of negotiations with other countries regarding
11 ITER. The report shall—

12 (1) identify the issues to be negotiated with
13 other countries involved in the ITER program;

14 (2) identify impediments to reaching agreement
15 on a host site for ITER, or on issues related to the
16 construction or operation of ITER;

17 (3) identify the steps needed to reach agree-
18 ment on a host site for ITER or on issues related
19 to the construction or operation of ITER;

20 (4) establish the timetable for agreement relat-
21 ed to the siting, operation and construction of
22 ITER;

23 (5) assess the likelihood of reaching agreement
24 on a host site for ITER and on issues related to the
25 construction or operation of ITER; and

1 (6) set forth the Secretary's recommendation on
2 whether a special negotiator should be appointed to
3 carry out negotiations on behalf of the United States
4 with the countries involved in the ITER program.

5 (f) CERTIFICATION.—Prior to seeking funds for con-
6 struction of ITER, the Secretary shall certify to the Con-
7 gress that there is agreement in place or there is a sub-
8 stantial likelihood agreement will be reached with the
9 countries involved in ITER on the siting, construction and
10 operation of ITER.

11 (g) TERMINATION.—(1) The Secretary shall report to
12 Congress if the Secretary determines that—

13 (A) ITER is no longer essential to the develop-
14 ment of a fusion demonstration reactor;

15 (B) no agreement can be reached on the final
16 host site for ITER;

17 (C) no agreement can be reached on the final
18 design of ITER or on issues related to construction
19 of ITER; or

20 (D) there is an insufficient commitment to the
21 final ITER design by United States industry and
22 utilities.

23 (2) Within thirty days of submission of the report
24 under paragraph (1), the Secretary shall initiate the ter-
25 mination of the ITER program.

1 (3) In the event the Secretary terminates the ITER
2 program, the Secretary may continue to carry out research
3 in magnetic fusion, but only at the levels authorized in
4 section 4(b)(2).

5 **SEC. 4. AUTHORIZATION OF APPROPRIATIONS.**

6 (a) LIMITATION ON APPROPRIATIONS.—No more
7 funds may be appropriated to carry out the purposes of
8 this Act than the amounts set forth in subsection (b). This
9 Act shall be the exclusive source of authorization of appro-
10 priations to support any activities of the Secretary relating
11 to magnetic fusion energy.

12 (b) APPROPRIATIONS.—(1) There is authorized to be
13 appropriated to the Secretary for carrying out the pur-
14 poses of this Act \$350,000,000 for fiscal year 1994,
15 \$390,000,000 for fiscal year 1995, \$475,000,000 for fis-
16 cal year 1996, and such sums as may be necessary there-
17 after.

18 (2) In the event the Secretary terminates the ITER
19 program, there is authorized to be appropriated to the
20 Secretary \$50,000,000 for 1994, \$50,000,000 for 1995
21 and \$50,000,000 for 1996 for activities relating to mag-
22 netic fusion energy.

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