

103^D CONGRESS
2^D SESSION

H. R. 4564

To reorient the Department of Energy's fusion energy research program toward development of commercially viable fusion power systems, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

JUNE 10, 1994

Mr. SWETT introduced the following bill; which was referred to the Committee on Science, Space, and Technology

A BILL

To reorient the Department of Energy's fusion energy research program toward development of commercially viable fusion power systems, 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 "Fusion Energy Re-
5 search Accountability Act of 1994".

6 **SEC. 2. FINDINGS.**

7 The Congress finds that—

8 (1) the Federal fusion research program rep-
9 resents an important national investment;

1 (2) over the last 40 years, United States tax-
2 payers have paid almost \$10,000,000,000 for re-
3 search on fusion energy;

4 (3) fusion energy has the potential to be a safe,
5 secure, and affordable source of energy for thou-
6 sands of years;

7 (4) the Department of Energy's fusion energy
8 program, which is focused almost exclusively on the
9 deuterium-tritium fuel cycle and the tokamak con-
10 cept for plasma confinement, has demonstrated the
11 scientific feasibility of fusion;

12 (5) recent studies from Department of Energy
13 laboratories, recent utility panels, and many in the
14 fusion research community have said that the
15 tokamak concept may be too expensive, radioactive,
16 and complex to lead to a commercially viable power
17 reactor;

18 (6) the costs of developing a commercial
19 tokamak fusion reactor are estimated to be
20 \$40,000,000,000 by the year 2040;

21 (7) Department of Energy advisory panels have
22 urged the Department to support research in alter-
23 native fusion concepts to broaden the base from
24 which an eventual fusion power reactor might
25 emerge;

1 (8) resource constraints, however, have resulted
2 in a severe reduction in research on alternative fu-
3 sion concepts;

4 (9) construction of large new tokamak devices
5 threatens funding for basic fusion research; and

6 (10) the Department of Energy, therefore,
7 should substantially reorient its magnetic fusion re-
8 search program by terminating planned construction
9 of new, large tokamak devices, and it should begin
10 a major effort on cleaner, cheaper, alternative con-
11 cepts that have the potential of becoming commer-
12 cially viable.

13 **SEC. 3. DEFINITIONS.**

14 For purposes of this Act—

15 (1) the term “commercially viable” means—

16 (A) able to attract private sector capital;

17 (B) requiring low operation and mainte-
18 nance costs, including fuel costs;

19 (C) reliable with continuous operational ca-
20 pability;

21 (D) requiring limited personnel resources;

22 (E) having low plant design complexity;

23 (F) requiring low end-of-life costs;

24 (G) emitting acceptable volumes of waste;

1 (H) relatively easy to site, including low
2 plant space requirements; and

3 (I) safe;

4 (2) the term “Department” means the Depart-
5 ment of Energy; and

6 (3) the term “Secretary” means the Secretary
7 of Energy.

8 **SEC. 4. ADVISORY PANEL.**

9 (a) REQUIREMENT.—The Secretary shall convene a
10 fusion policy advisory panel consisting of representatives
11 from the electric utilities, environmental and citizen
12 groups, energy policy analysts, advocates of alternative fu-
13 sion technologies, and others as necessary to ensure a
14 broad representation of interests.

15 (b) PURPOSE.—The panel shall analyze the wisdom
16 of a single, narrow approach to fusion power, and shall
17 develop recommendations for a plan for the future of
18 United States fusion energy research, ensuring that ade-
19 quate attention is given to alternative fusion concepts.
20 Such recommendations shall be developed in consideration
21 of the findings of this Act with the goal of the development
22 of a commercially viable fusion power system, and shall
23 take into account any international agreements the United
24 States is party to and recommend any appropriate
25 changes thereto.

1 (c) REPORT TO CONGRESS.—Within 180 days after
2 the date of enactment of this Act, the panel shall issue
3 a report to the Congress with its recommendations.

4 **SEC. 5. UNITED STATES FUSION ENERGY RESEARCH PRO-**
5 **GRAM.**

6 (a) PROGRAM PLAN.—The Secretary shall develop,
7 and within 270 days after the date of enactment of this
8 Act transmit to the Congress, a comprehensive manage-
9 ment plan for the United States fusion energy research
10 program which is based on the recommendations of the
11 panel under section 4. The plan shall provide for a fusion
12 research program which is focused on fusion concepts that
13 could lead to the development of a commercially viable fu-
14 sion power system. The plan shall include specific program
15 objectives, cost estimates, and program management re-
16 source requirements.

17 (b) INDEPENDENT EVALUATION.—The Secretary
18 shall establish a mechanism for ongoing independent eval-
19 uation of the United States fusion energy research pro-
20 gram, in order to ensure that programs not leading to a
21 commercially viable fusion power system are terminated.

22 (c) REPORTS TO CONGRESS.—Within 2 years after
23 the date of enactment of this Act, and every 2 years there-
24 after, the Secretary shall transmit to the Congress a re-
25 port describing the progress made in meeting the program

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- 1 objectives and schedules established in the management
- 2 plan.

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