

115TH CONGRESS
1ST SESSION

H. R. 4378

To direct the Secretary of Energy to carry out the construction of a versatile reactor-based fast neutron source, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

NOVEMBER 13, 2017

Mr. WEBER of Texas (for himself, Ms. EDDIE BERNICE JOHNSON of Texas, Mr. SMITH of Texas, Mr. LIPINSKI, Mr. KNIGHT, and Mr. HULTGREN) introduced the following bill; which was referred to the Committee on Science, Space, and Technology

A BILL

To direct the Secretary of Energy to carry out the construction of a versatile reactor-based fast neutron source, 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 “Nuclear Energy Re-
5 search Infrastructure Act of 2017”.

6 **SEC. 2. VERSATILE NEUTRON SOURCE.**

7 (a) IN GENERAL.—The Secretary of Energy shall
8 provide for a versatile reactor-based fast neutron source,
9 which shall operate as a national user facility. The Sec-

1 retary shall consult with the private sector, universities,
2 National Laboratories, and relevant Federal agencies to
3 ensure that the versatile neutron source is capable of
4 meeting Federal research needs for neutron irradiation
5 services.

6 (b) FACILITY CAPABILITIES.—

7 (1) CAPABILITIES.—The Secretary shall ensure
8 that the facility described in subsection (a) will pro-
9 vide, at a minimum, the following capabilities:

10 (A) Fast neutron spectrum irradiation ca-
11 pability.

12 (B) Capacity for upgrades to accommodate
13 new or expanded research needs.

14 (2) CONSIDERATIONS.—In carrying out para-
15 graph (1), the Secretary shall consider the following:

16 (A) Capabilities that support experimental
17 high-temperature testing.

18 (B) Providing a source of fast neutrons at
19 a neutron flux higher than that at which exist-
20 ing research facilities operate, sufficient to en-
21 able research for an optimal base of prospective
22 users.

23 (C) Maximizing irradiation flexibility and
24 irradiation volume to accommodate as many
25 concurrent users as possible.

1 (D) Capabilities for irradiation with neu-
2 trons of a lower energy spectrum.

3 (E) Multiple loops for fuels and materials
4 testing of different coolants.

5 (F) Capabilities that support irradiating
6 and processing targets for isotope production.

7 (G) Additional pre-irradiation and post-ir-
8 radiation examination capabilities.

9 (H) Lifetime operating costs and lifecycle
10 costs.

11 (c) START OF OPERATIONS.—The Secretary shall, to
12 the maximum extent practicable, ensure that the start of
13 full operations of the facility under this section occurs be-
14 fore December 31, 2025.

15 (d) FUNDING.—Out of funds appropriated to the Of-
16 fice of Nuclear Energy, there shall be made available to
17 the Secretary to carry out activities, including design and
18 construction of the facility, under this section—

- 19 (1) \$35,000,000 for fiscal year 2018;
20 (2) \$100,000,000 for fiscal year 2019;
21 (3) \$200,000,000 for fiscal year 2020;
22 (4) \$260,000,000 for fiscal year 2021;
23 (5) \$340,000,000 for fiscal year 2022;
24 (6) \$350,000,000 for fiscal year 2023;
25 (7) \$350,000,000 for fiscal year 2024; and

1 (8) \$350,000,000 for fiscal year 2025.

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