

115TH CONGRESS
2D SESSION

H. R. 4378

IN THE SENATE OF THE UNITED STATES

FEBRUARY 14, 2018

Received; read twice and referred to the Committee on Energy and Natural
Resources

AN ACT

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,*

1 **SECTION 1. SHORT TITLE.**

2 This Act may be cited as the “Nuclear Energy Re-
3 search Infrastructure Act of 2018”.

4 **SEC. 2. VERSATILE NEUTRON SOURCE.**

5 (a) IN GENERAL.—The Secretary of Energy shall
6 provide for a versatile reactor-based fast neutron source,
7 which shall operate as a national user facility. The Sec-
8 retary shall consult with the private sector, universities,
9 National Laboratories, and relevant Federal agencies to
10 ensure that the versatile neutron source is capable of
11 meeting Federal research needs for neutron irradiation
12 services.

13 (b) FACILITY CAPABILITIES.—

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

17 (A) Fast neutron spectrum irradiation ca-
18 pability.

19 (B) Capacity for upgrades to accommodate
20 new or expanded research needs.

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

23 (A) Capabilities that support experimental
24 high-temperature testing.

25 (B) Providing a source of fast neutrons at
26 a neutron flux higher than that at which exist-

1 ing research facilities operate, sufficient to en-
2 able research for an optimal base of prospective
3 users.

4 (C) Maximizing irradiation flexibility and
5 irradiation volume to accommodate as many
6 concurrent users as possible.

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

9 (E) Multiple loops for fuels and materials
10 testing of different coolants.

11 (F) Capabilities that support irradiating
12 and processing targets for isotope production.

13 (G) Additional pre-irradiation and post-ir-
14 radiation examination capabilities.

15 (H) Lifetime operating costs and lifecycle
16 costs.

17 (c) **START OF OPERATIONS.**—The Secretary shall, to
18 the maximum extent practicable, ensure that the start of
19 full operations of the facility under this section occurs be-
20 fore December 31, 2025.

21 (d) **FUNDING.**—There are authorized to be appro-
22 priated to the Secretary for the Office of Nuclear Energy
23 to carry out to completion the construction of the facility
24 under this section—

25 (1) \$35,000,000 for fiscal year 2018;

- 1 (2) \$100,000,000 for fiscal year 2019;
- 2 (3) \$200,000,000 for fiscal year 2020;
- 3 (4) \$260,000,000 for fiscal year 2021;
- 4 (5) \$340,000,000 for fiscal year 2022;
- 5 (6) \$350,000,000 for fiscal year 2023;
- 6 (7) \$350,000,000 for fiscal year 2024; and
- 7 (8) \$350,000,000 for fiscal year 2025.

8 **SEC. 3. SPENDING LIMITATION.**

9 No additional funds are authorized to be appro-
10 priated to carry out this Act and the amendments made
11 by this Act, and this Act and such amendments shall be
12 carried out using amounts otherwise available for such
13 purpose.

 Passed the House of Representatives February 13,
2018.

Attest:

KAREN L. HAAS,
Clerk.