AMENDMENT TO RULES COMMITTEE PRINT 116–57

OFFERED BY MR. WEBER OF TEXAS

Add at the end of title XXXI the following:

Subtitle C—Nuclear Energy for the Future

SEC. __. NUCLEAR ENERGY RESEARCH AND DEVELOPMENT.

Section 952 of the Energy Policy Act of 2005 (42 U.S.C. 16272) is amended by adding at the end the following:

''(e) ADVANCED REACTOR TECHNOLOGIES RESEARCH AND DEVELOPMENT PROGRAM.—

''(1) IN GENERAL.—The Secretary shall carry out a program under which the Secretary shall conduct research relating to the development of advanced nuclear energy technologies that may offer improved safety, functionality, and affordability.

''(2) REQUIREMENTS.—The program under this subsection shall—

''(A) support efforts to reduce long-term technical barriers for advanced nuclear energy systems; and

''(B) be carried out in consultation with the Nuclear Regulatory Commission to ensure identification of any relevant concerns.

''(3) PUBLIC-PRIVATE PARTNERSHIPS.—

''(A) IN GENERAL.—In carrying out the program under this subsection, the Secretary shall, to the maximum extent practicable and consistent with national security, make available nuclear energy research infrastructure to industry partners in order to achieve faster and cost-effective development of advanced nuclear energy technologies toward commercial readiness. The Secretary shall make available—

''(i) experimental capabilities and testing facilities;

''(ii) computational capabilities, modeling, and simulation tools;

''(iii) access to existing datasets and data validation tools; and

''(iv) land use and site information for demonstration facilities.

''(B) SELECTION.—

''(i) IN GENERAL.—The Secretary shall select industry partners for awards on a competitive merit-reviewed basis.

''(ii) CONSIDERATIONS.—In selecting industry partners under clause (i), the Secretary shall consider—

''(I) the information disclosed by the Department as described in subparagraph (A); and

''(II) any existing facilities the Department will provide for public-private partnership activities.

''(C) TERM.—An award made to an industry partner under this subsection shall be for a period of not more than 5 years, subject to the availability of appropriations, after which the award may be renewed, subject to a rigorous merit review.

''(4) DEFINITION OF ADVANCED NUCLEAR ENERGY.—In this subsection, the term 'advanced nuclear energy' means energy provided by—

''(A) a nuclear fission reactor, including a prototype plant (as defined in sections 50.2 and 52.1 of title 10, Code of Federal Regulations (or successor regulations)), with significant improvements compared to the most recent generation of fission reactors, including improvements such as—

''(i) additional inherent safety features;

''(ii) lower waste yields;

''(iii) improved fuel performance;

''(iv) increased tolerance to loss of fuel cooling;

''(v) enhanced reliability;

''(vi) increased proliferation resistance;

''(vii) increased thermal efficiency;

''(viii) reduced consumption of cooling water;

''(ix) the ability to integrate into electric applications and nonelectric applications;

''(x) modular sizes to allow for deployment that corresponds with the demand for electricity; or

''(xi) operational flexibility to respond to changes in demand for electricity and to complement integration with intermittent renewable energy; or

''(B) a fusion reactor.''.

SEC. __. VERSATILE NEUTRON SOURCE.

Section 955(c) of the Energy Policy Act of 2005 (42 U.S.C. 16275(c)) is amended to read as follows:

''(c) VERSATILE NEUTRON SOURCE.—

''(1) IN GENERAL.—In order to advance the research and development of domestic advanced, affordable, secure, and clean nuclear energy, the Secretary shall construct a versatile reactor-based fast neutron source, which shall operate as a national user facility. The Secretary shall consult with the private sector, universities, National Laboratories, and relevant Federal agencies to ensure that such facility is capable of meeting Federal research needs for neutron irradiation services.

''(2) FACILITY CAPABILITIES.—

''(A) CAPABILITIES.—The Secretary shall ensure that the facility described in paragraph (1) will provide, at a minimum, the following capabilities:

''(i) Fast neutron spectrum irradiation capability.

''(ii) Capacity for upgrades to accommodate new or expanded research needs.

''(B) CONSIDERATIONS.—In carrying out subparagraph (A), the Secretary shall consider the following:

''(i) Capabilities that support experimental high-temperature testing.

''(ii) Providing a source of fast neutrons, at a neutron flux higher than that at which existing research facilities operate, sufficient to enable research for an optimal base of prospective users.

''(iii) Maximizing irradiation flexibility and irradiation volume to accommodate as many concurrent users as possible.

''(iv) Capabilities for irradiation with neutrons of a lower energy spectrum.

''(v) Multiple loops for fuels and materials testing of different coolants.

''(vi) Additional pre-irradiation and post-irradiation examination capabilities.

''(vii) Lifetime operating costs and lifecycle costs.

''(3) START OF OPERATIONS.—The Secretary shall, to the maximum extent practicable, ensure that the start of full operations of the facility described in paragraph (1) occurs before December 31, 2026.

''(4) REPORTING.—The Secretary shall include in the annual budget request of the Department an

explanation for any delay in the process of the Department in completing the facility described in paragraph (1) by the deadline described in paragraph (3).

''(5) COORDINATION.—The Secretary shall leverage the best practices for management, construction, and operation of national user facilities from the Office of Science.

''(6) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to the Secretary for the Office of Nuclear Energy to carry out to completion the construction of the facility under this subsection—

''(A) $300,000,000 for fiscal year 2021;

''(B) $550,000,000 for fiscal year 2022;

''(C) $638,000,000 for fiscal year 2023;

''(D) $765,000,000 for fiscal year 2024; and

''(E) $763,000,000 for fiscal year 2025.''.

SEC. __. HIGH-PERFORMANCE COMPUTATION COLLABORATIVE RESEARCH PROGRAM.

Section 957 of the Energy Policy Act of 2005 (42 U.S.C. 16277) is amended by adding at the end the following:

''(d) DUPLICATION.—The Secretary shall ensure the coordination of, and avoid unnecessary duplication of, the activities of the program under subsection (a) with the activities of—

''(1) other research entities of the Department, including the National Laboratories, the Advanced Research Projects Agency–Energy, and the Advanced Scientific Computing Research program; and

''(2) industry.''.

☒