

(2) for validation of computational tools.

(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.

(Pub. L. 109–58, title IX, §957, Aug. 8, 2005, 119 Stat. 888; Pub. L. 115–248, §2(g), Sept. 28, 2018, 132 Stat. 3157; Pub. L. 116–260, div. Z, title II, §2004, Dec. 27, 2020, 134 Stat. 2470.)

Editorial Notes

REFERENCES IN TEXT

Executive Order 13702, referred to in subsec. (b), is set out as a note under section 5501 of Title 15, Commerce and Trade.

AMENDMENTS

2020—Subsec. (d). Pub. L. 116–260 added subsec. (d).
2018—Pub. L. 115–248 amended section generally. Prior to amendment, section related to survey and plan regarding alternatives to industrial radioactive sources.

§ 16278. Enabling nuclear energy innovation

(a) National Reactor Innovation Center

There is authorized a program to enable the testing and demonstration of reactor concepts to be proposed and funded, in whole or in part, by the private sector.

(b) Technical expertise

In carrying out the program under subsection (a), the Secretary shall leverage the technical expertise of relevant Federal agencies and the National Laboratories in order to minimize the time required to enable construction and operation of privately funded experimental reactors at National Laboratories or other Department-owned sites.

(c) Objectives

The reactors described in subsection (b) shall operate to meet the following objectives:

- (1) Enabling physical validation of advanced nuclear reactor concepts.
- (2) Resolving technical uncertainty and increasing practical knowledge relevant to safety, resilience, security, and functionality of advanced nuclear reactor concepts.
- (3) General research and development to improve nascent technologies.

(d) Sharing technical expertise

In carrying out the program under subsection (a), the Secretary may enter into a memorandum of understanding with the Chairman of the Commission in order to share technical expertise and knowledge through—

- (1) enabling the testing and demonstration of advanced nuclear reactor concepts to be proposed and funded, in whole or in part, by the private sector;
- (2) operating a database to store and share data and knowledge relevant to nuclear

science and engineering between Federal agencies and the private sector;

(3) developing and testing electric and non-electric integration and energy conversion systems relevant to advanced nuclear reactors;

(4) leveraging expertise from the Commission with respect to safety analysis; and

(5) enabling technical staff of the Commission to actively observe and learn about technologies developed under the program.

(e) Agency coordination

The Chairman of the Commission and the Secretary shall enter into a memorandum of understanding regarding the following:

(1) Ensuring that—

(A) the Department has sufficient technical expertise to support the timely research, development, demonstration, and commercial application by the civilian nuclear industry of safe and innovative advanced nuclear reactor technology; and

(B) the Commission has sufficient technical expertise to support the evaluation of applications for licenses, permits, and design certifications and other requests for regulatory approval for advanced nuclear reactors.

(2) The use of computers and software codes to calculate the behavior and performance of advanced nuclear reactors based on mathematical models of the physical behavior of advanced nuclear reactors.

(3) Ensuring that—

(A) the Department maintains and develops the facilities necessary to enable the timely research, development, demonstration, and commercial application by the civilian nuclear industry of safe and innovative reactor technology; and

(B) the Commission has access to the facilities described in subparagraph (A), as needed.

(f) Reporting requirements

(1) In general

Not later than 180 days after September 28, 2018, the Secretary, in consultation with the National Laboratories, relevant Federal agencies, and other stakeholders, shall submit to the appropriate committees of Congress a report assessing the capabilities of the Department to authorize, host, and oversee privately funded experimental advanced nuclear reactors as described in subsection (b).

(2) Contents

The report submitted under paragraph (1) shall address—

(A) the safety review and oversight capabilities of the Department, including options to leverage expertise from the Commission and the National Laboratories;

(B) options to regulate privately proposed and funded experimental reactors hosted by the Department;

(C) potential sites capable of hosting privately funded experimental advanced nuclear reactors;

(D) the efficacy of the available contractual mechanisms of the Department to part-

ner with the private sector and Federal agencies, including cooperative research and development agreements, strategic partnership projects, and agreements for commercializing technology;

(E) the liability of the Federal Government with respect to the disposal of low-level radioactive waste, spent nuclear fuel, or high-level radioactive waste (as those terms are defined in section 10101 of this title);

(F) the impact on the aggregate inventory in the United States of low-level radioactive waste, spent nuclear fuel, or high-level radioactive waste (as those terms are defined in section 10101 of this title);

(G) potential cost structures relating to physical security, decommissioning, liability, and other long-term project costs; and

(H) other challenges or considerations identified by the Secretary.

(3) Updates

Once every 2 years, the Secretary shall update relevant provisions of the report submitted under paragraph (1) and submit to the appropriate committees of Congress the update.

(g) Savings clauses

(1) Licensing requirement

Nothing in this section authorizes the Secretary or any person to construct or operate a nuclear reactor for the purpose of demonstrating the suitability for commercial application of the nuclear reactor unless licensed by the Commission in accordance with section 5842 of this title.

(2) Financial protection

Any activity carried out under this section that involves the risk of public liability shall be subject to the financial protection or indemnification requirements of section 2210 of this title (commonly known as the “Price-Anderson Act”).

(Pub. L. 109–58, title IX, §958, as added Pub. L. 115–248, §2(h), Sept. 28, 2018, 132 Stat. 3157.)

§ 16279. Budget plan

(a) In general

Not later than 1 year after September 28, 2018, the Secretary shall submit to the Committee on Energy and Natural Resources of the Senate and the Committee on Science, Space, and Technology of the House of Representatives 2 alternative 10-year budget plans for civilian nuclear energy research and development by the Secretary, as described in subsections (b) through (d).

(b) Budget plan alternative 1

One of the budget plans submitted under subsection (a) shall assume constant annual funding for 10 years at the appropriated level for the current fiscal year for the civilian nuclear energy research and development of the Department.

(c) Budget plan alternative 2

One of the budget plans submitted under subsection (a) shall be an unconstrained budget.

(d) Inclusions

Each alternative budget plan submitted under subsection (a) shall include—

(1) a prioritized list of the programs, projects, and activities of the Department to best support the development of advanced nuclear reactor technologies;

(2) realistic budget requirements for the Department to implement sections 16275(c), 16277, and 16278 of this title;

(3) the justification of the Department for continuing or terminating existing civilian nuclear energy research and development programs; and

(4) a description of the progress made under the programs described in section 16279a of this title.

(e) Updates

Not less frequently than once every 2 years, the Secretary shall submit to the Committee on Science, Space, and Technology of the House of Representatives and the Committee on Energy and Natural Resources of the Senate updated 10-year budget plans which shall identify, and provide a justification for, any major deviation from a previous budget plan submitted under this section.

(Pub. L. 109–58, title IX, §959, as added Pub. L. 115–248, §2(i), Sept. 28, 2018, 132 Stat. 3160; amended Pub. L. 116–260, div. Z, title II, §2005, 134 Stat. 2470.)

Editorial Notes

AMENDMENTS

2020—Subsec. (b). Pub. L. 116–260, §2005(1), amended subsec. (b) generally. Prior to amendment, text read as follows: “One of the budget plans submitted under subsection (a) shall assume constant annual funding for 10 years at the appropriated level for the civilian nuclear energy research and development of the Department for fiscal year 2016.”

Subsec. (d)(4). Pub. L. 116–260, §2005(2)–(4), added par. (4).

Subsec. (e). Pub. L. 116–260, §2005(5), added subsec. (e).

§ 16279a. Advanced reactor demonstration program

(a) Demonstration project defined

For the purposes of this section, the term “demonstration project” means an advanced nuclear reactor operated in any manner, including as part of the power generation facilities of an electric utility system, for the purpose of demonstrating the suitability for commercial application of the advanced nuclear reactor.

(b) Establishment

The Secretary shall establish a program to advance the research, development, demonstration, and commercial application of domestic advanced, affordable, nuclear energy technologies by—

(1) demonstrating a variety of advanced nuclear reactor technologies, including those that could be used to produce—

(A) safer, emissions-free power at a competitive cost of electricity compared to other new energy generation technologies on December 27, 2020;