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;

(B) heat for community heating, industrial purposes, heat storage, or synthetic fuel production;

(C) remote or off-grid energy supply; or

(D) backup or mission-critical power supplies;

(2) identifying research areas that the private sector is unable or unwilling to undertake due to the cost of, or risks associated with, the research; and

(3) facilitating the access of the private sector—

(A) to Federal research facilities and personnel; and

(B) to the results of research relating to civil nuclear technology funded by the Federal Government.

(c) Demonstration projects

In carrying out demonstration projects under the program established in subsection (b), the Secretary shall—

(1) include, as an evaluation criterion, diversity in designs for the advanced nuclear reactors demonstrated under this section, including designs using various—

(A) primary coolants;

(B) fuel types and compositions; and

(C) neutron spectra;

(2) consider, as evaluation criterions—

(A) the likelihood that the operating cost for future commercial units for each design implemented through a demonstration project under this subsection is cost-competitive in the applicable market, including those designs configured as integrated energy systems as described in section 16272(c) of this title;

(B) the technology readiness level of a proposed advanced nuclear reactor technology;

(C) the technical abilities and qualifications of teams desiring to demonstrate a proposed advanced nuclear reactor technology; and

(D) the capacity to meet cost-share requirements of the Department;

(3) ensure that each evaluation of candidate technologies for the demonstration projects is completed through an external review of proposed designs, which review shall—

(A) be conducted by a panel that includes not fewer than 1 representative that does not have a conflict of interest of each within the applicable market of the design of—

(i) an electric utility;

(ii) an entity that uses high-temperature process heat for manufacturing or industrial processing, such as a petrochemical or synthetic fuel company, a manufacturer of metals or chemicals, or a manufacturer of concrete;

(iii) an expert from the investment community;

(iv) a project management practitioner; and

(v) an environmental health and safety expert; and

(B) include a review of each demonstration project under this subsection which shall include consideration of cost-competitiveness and other value streams, together with the technology readiness level, the technical abilities and qualifications of teams desiring to demonstrate a proposed advanced nuclear reactor technology, the capacity to meet cost-share requirements of the Department, if Federal funding is provided, and environmental impacts;

(4) for federally funded demonstration projects, enter into cost-sharing agreements with private sector partners in accordance with section 16352 of this title for the conduct of activities relating to the research, development, and demonstration of advanced nuclear reactor designs under the program;

(5) consult with—

(A) National Laboratories;

(B) institutions of higher education;

(C) traditional end users (such as electric utilities);

(D) potential end users of new technologies (such as users of high-temperature process heat for manufacturing processing, including petrochemical or synthetic fuel companies, manufacturers of metals or chemicals, or manufacturers of concrete);

(E) developers of advanced nuclear reactor technology;

(F) environmental and public health and safety experts; and

(G) non-proliferation experts;

(6) seek to ensure that the demonstration projects carried out under this section do not cause any delay in the progress of an advanced reactor project by private industry and the Department of Energy that is underway as of December 27, 2020;

(7) establish a streamlined approval process for expedited contracting between awardees and the Department;

(8) identify technical challenges to candidate technologies;

(9) support near-term research and development to address the highest risk technical challenges to the successful demonstration of a selected advanced reactor technology, in accordance with—

(A) paragraph (8);

(B) the research and development activities under section 16272(b) of this title; and

(C) the research and development activities under section 16278 of this title; and

(10) establish such technology advisory working groups as the Secretary determines to be appropriate to advise the Secretary regarding the technical challenges identified under paragraph (8) and the scope of research and development programs to address the challenges, in accordance with paragraph (9), to be comprised of—

(A) private sector advanced nuclear reactor technology developers;

(B) technical experts with respect to the relevant technologies at institutions of higher education;

(C) technical experts at the National Laboratories;

(D) environmental and public health and safety experts;

(E) non-proliferation experts; and

(F) any other entities the Secretary determines appropriate.

(d) Milestone-based demonstration projects

The Secretary may carry out demonstration projects under subsection (c) as a milestone-based demonstration project under section 7256c of this title.

(e) Nonduplication

Entities may not receive funds under this program if receiving funds from another reactor demonstration program at the Department in the same fiscal year.

(f) Authorization of appropriations

There are authorized to be appropriated to the Secretary to carry out the program under this subsection—

(1) $405,000,000 for fiscal year 2021;
(2) $405,000,000 for fiscal year 2022;
(3) $420,000,000 for fiscal year 2023;
(4) $455,000,000 for fiscal year 2024; and
(5) $455,000,000 for fiscal year 2025.

(Pub. L. 109–58, title IX, § 959A, as added Pub. L. 116–260, div. Z, title II, § 2003(g)(1), Dec. 27, 2020, 134 Stat. 2467.)

§ 16279b. International nuclear energy cooperation

The Secretary shall carry out a program—

(1) to collaborate in international efforts with respect to research, development, demonstration, and commercial application of nuclear technology that supports diplomatic, financing, nonproliferation, climate, and international economic objectives for the safe, secure, and peaceful use of such technology; and

(2) to develop collaboration initiatives with respect to such efforts with a variety of countries through—

(A) preparations for research and development agreements;

(B) the development of coordinated action plans; and

(C) new or existing multilateral cooperation commitments including—

(i) the International Framework for Nuclear Energy Cooperation;

(ii) the Generation IV International Forum;

(iii) the International Atomic Energy Agency;

(iv) the Organization for Economic Cooperation and Development Nuclear Energy Agency; and

(v) any other international collaborative effort with respect to advanced nuclear reactor operations and safety.

(Pub. L. 109–58, title IX, § 959B, as added Pub. L. 116–260, div. Z, title II, § 2003(h)(1), Dec. 27, 2020, 134 Stat. 2470.)

§ 16279c. Organization and administration of programs

(a) Coordination

In carrying out this part, the Secretary shall coordinate activities, and effectively manage crosscutting research priorities across programs of the Department and other relevant Federal agencies, including the National Laboratories.

(b) Collaboration

(1) In general

In carrying out this part, the Secretary shall collaborate with industry, National Laboratories, other relevant Federal agencies, institutions of higher education, including minority-serving institutions and research reactors, Tribal entities, including Alaska Native Corporations, and international bodies with relevant scientific and technical expertise.

(2) Participation

To the extent practicable, the Secretary shall encourage research projects that promote collaboration between entities specified in paragraph (1).

(c) Dissemination of results and public availability

The Secretary shall, except to the extent protected from disclosure under section 552(b) of title 5, publish the results of projects supported under this part through Department websites, reports, databases, training materials, and industry conferences, including information discovered after the completion of such projects.

(d) Education and outreach

In carrying out the activities described in this part, the Secretary shall support education and outreach activities to disseminate information and promote public understanding of nuclear energy.

(e) Technical assistance

In carrying out this part, for the purposes of supporting technical, nonhardware, and information-based advances in nuclear energy development and operations, the Secretary shall also conduct technical assistance and analysis activities, including activities that support commercial application of nuclear energy in rural, Tribal, and low-income communities.

(f) Program review

At least annually, all programs in this part shall be subject to an annual review by the Nuclear Energy Advisory Committee of the Department or other independent entity, as appropriate.

(g) Sensitive information

The Secretary shall not publish any information generated under this part that is detrimental to national security, as determined by the Secretary.

(Pub. L. 109–58, title IX, § 959C, as added Pub. L. 116–260, div. Z, title II, § 2006(a), Dec. 27, 2020, 134 Stat. 2471.)

§ 16280. Advanced Nuclear Energy Licensing Cost-Share Grant Program

(a) Definitions

In this section:

(1) Commission

The term ''Commission'' means the Nuclear Regulatory Commission.

(2) Program

The term ''program'' means the Advanced Nuclear Energy Cost-Share Grant Program established under subsection (b).