(3) Secretary

The term ''Secretary'' means the Secretary of Energy.

(b) Establishment

The Secretary shall establish a grant program, to be known as the ''Advanced Nuclear Energy Cost-Share Grant Program'', under which the Secretary shall make cost-share grants to applicants for the purpose of funding a portion of the Commission fees of the applicant for pre-application review activities and application review activities.

(c) Requirement

The Secretary shall seek out technology diversity in making grants under the program.

(d) Cost-share amount

The Secretary shall determine the cost-share amount for each grant under the program in accordance with section 16352 of this title.

(e) Use of funds

A recipient of a grant under the program may use the grant funds to cover Commission fees, including those fees associated with—

(1) developing a licensing project plan;

(2) obtaining a statement of licensing feasibility;

(3) reviewing topical reports; and

(4) other—

(A) pre-application review activities;

(B) application review activities; and

(C) interactions with the Commission.

(Pub. L. 115–248, § 3, Sept. 28, 2018, 132 Stat. 3160.)

Editorial Notes

CODIFICATION

Section was enacted as part of the Nuclear Energy Innovation Capabilities Act of 2017, and not as part of the Energy Policy Act of 2005 which comprises this chapter.

§ 16281. Advanced nuclear fuel availability

(a) Program

(1) Establishment

The Secretary shall establish and carry out, through the Office of Nuclear Energy, a program to support the availability of HA–LEU for civilian domestic research, development, demonstration, and commercial use.

(2) Program elements

In carrying out the program under paragraph (1), the Secretary—

(A) shall develop, in consultation with the Commission, criticality benchmark data to assist the Commission in—

(i) the licensing and regulation of special nuclear material fuel fabrication and enrichment facilities under part 70 of title 10, Code of Federal Regulations; and

(ii) certification of transportation packages under part 71 of title 10, Code of Federal Regulations;

(B) shall conduct research and development, and provide financial assistance to assist commercial entities, to design and license transportation packages for HA–LEU, including canisters for metal, gas, and other HA–LEU compositions;

(C) shall, to the extent practicable—

(i) by January 1, 2024, support commercial entity submission of such transportation package designs to the Commission for certification by the Commission under part 71 of title 10, Code of Federal Regulations; and

(ii) encourage the Commission to have such transportation package designs so certified by the Commission within 24 months after receipt of an application;

(D) shall consider options for acquiring or providing HA–LEU from a stockpile of uranium owned by the Department, or using enrichment technology, to make available to members of the consortium established pursuant to subparagraph (F) for commercial use or demonstration projects, taking into account cost and amount of time required, and prioritizing methods that would produce usable HA–LEU the quickest, including options for acquiring or providing HA–LEU—

(i) that—

(I) directly meets the needs of an end user; and

(II) has been previously used or fabricated for another purpose;

(ii) that meets the needs of an end user after having radioactive or other contaminants that resulted from a previous use or fabrication of the fuel for research, development, demonstration, or deployment activities of the Department removed;

(iii) that is produced from high-enriched uranium that is blended with lower assay uranium to become HA–LEU to meet the needs of an end user;

(iv) that is produced by Department research, development, and demonstration activities;

(v) that is produced in the United States by—

(I) a United States-owned commercial entity operating United States-origin technology;

(II) a United States-owned commercial entity operating a foreign-origin technology; or

(III) a foreign-owned entity operating a foreign-origin technology;

(vi) that does not require extraction of uranium or development of uranium from lands managed by the Federal Government, cause harm to the natural or cultural resources of Tribal communities or sovereign Native Nations, or result in degraded ground or surface water quality on publicly managed or privately owned lands; or

(vii) that does not negatively impact the availability of HA–LEU by the Department to support the production of medical isotopes, including the medical isotopes defined under the American Medical Isotopes Production Act of 2012 (Public Law 112–239; 126 Stat. 2211);

(E) not later than 1 year after December 27, 2020, and biennially thereafter, shall conduct a survey of stakeholders to estimate

the quantity of HA–LEU necessary for domestic commercial use for each of the 5 subsequent years;

(F) shall establish, and from time to time update, a consortium, which may include entities involved in any stage of the nuclear fuel cycle, to partner with the Department to support the availability of HA–LEU for civilian domestic demonstration and commercial use, including by—

(i) providing information to the Secretary for purposes of surveys conducted under subparagraph (E);

(ii) purchasing HA–LEU made available by the Secretary to members of the consortium for commercial use under the program; and

(iii) carrying out demonstration projects using HA–LEU provided by the Secretary under the program;

(G) if applicable, shall, prior to acquiring or providing HA–LEU under subparagraph (H), in coordination with the consortium established pursuant to subparagraph (F), develop a schedule for cost recovery of HA–LEU made available to members of the consortium using HA–LEU for commercial use pursuant to subparagraph (H);

(H) shall, beginning not later than 3 years after the establishment of a consortium under subparagraph (F), have the capability to acquire or provide HA–LEU, in order to make such HA–LEU available to members of the consortium beginning not later than January 1, 2026, in amounts that are consistent, to the extent practicable, with—

(i) the quantities estimated under the surveys conducted under subparagraph (E); plus

(ii) the quantities necessary for demonstration projects carried out under the program, as determined by the Secretary;

(I) shall, for advanced reactor demonstration projects, prioritize the provision of HA–LEU made available under this section through a merit-based, competitive selection process; and

(J) shall seek to ensure that the activities carried out under this section do not cause any delay in the progress of any HA–LEU project between private industry and the Department that is underway as of December 27, 2020.

(3) Applicability of USEC Privatization Act

(A) Sale or transfer to consortium

The requirements of section 3112 of the USEC Privatization Act (42 U.S.C. 2297h–10), except for the requirements of subparagraph (A) of section 3112(d)(2), shall not apply to the provision of enrichment services, or the sale or transfer of HA–LEU for commercial use by the Secretary to a member of the consortium under this subsection.

(B) Demonstration

HA–LEU made available to members of the consortium established pursuant to paragraph (2)(F) for demonstration projects shall remain the property of and title will remain with the Department, which shall be responsible for the storage, use, and disposition of all radioactive waste and spent nuclear fuel created by the irradiation, processing, or purification of such uranium, and shall not be subject to the requirements of a sale or transfer of uranium under sections 3112, except for the requirements of subparagraph (A) of section 3112, and 3113 of the USEC Privatization Act (42 U.S.C. 2297h–10; 42 U.S.C. 2297h–11).

(4) National security needs

The Secretary shall only make available to a member of the consortium under this section for commercial or demonstration project use material that the President has determined is not necessary for national security needs, provided that this available material shall not include any material that the Secretary may determine to be necessary for the National Nuclear Security Administration or other critical Departmental missions.

(5) DOE acquisition of HA–LEU

The Secretary may not make commitments under this section (including cooperative agreements (used in accordance with section 6305 of title 31), purchase agreements, guarantees, leases, service contracts, or any other type of commitment) for the purchase or other acquisition of HA–LEU unless—

(A) funds are specifically provided for such purposes in advance in subsequent appropriations Acts, and only to the extent that the full extent of anticipated costs stemming from such commitments is recorded as an obligation up front and in full at the time it is made; or

(B) such committing agreement includes a clause conditioning the Federal Government's obligation on the availability of future year appropriations.

(6) Sunset

The authority of the Secretary to carry out the program under this subsection shall expire on the earlier of—

(A) September 30, 2034; or

(B) 90 days after the date on which HA–LEU is available to provide a reliable and adequate supply for civilian domestic advanced nuclear reactors in the commercial market.

(7) Limitation

The Secretary shall not barter or otherwise sell or transfer uranium in any form in exchange for services relating to the final disposition of radioactive waste from uranium that is made available under this subsection.

(b) Reports to Congress

(1) Commission report on necessary regulatory updates

Not later than 12 months after December 27, 2020, the Commission shall submit to Congress a report that includes—

(A) identification of updates to regulations, certifications, and other regulatory policies that the Commission determines are necessary in order for HA–LEU to be commercially available, including—

(i) guidance for material control and accountability of special nuclear material;

(ii) certifications relating to transportation packaging for HA–LEU; and

(iii) licensing of enrichment, conversion, and fuel fabrication facilities for HA–LEU, and associated physical security plans for such facilities;

(B) a description of such updates; and

(C) a timeline to complete such updates.

(2) DOE report on program to support the availability of HA–LEU for civilian domestic demonstration and commercial use

(A) In general

Not later than 180 days after December 27, 2020, the Secretary shall submit to Congress a report that describes actions proposed to be carried out by the Secretary under the program described in subsection (a)(1).

(B) Coordination and stakeholder input

In developing the report under this paragraph, the Secretary shall consult with—

(i) the Commission;

(ii) suppliers of medical isotopes that have converted their operations to use HA–LEU;

(iii) the National Laboratories;

(iv) institutions of higher education;

(v) a diverse group of entities from the nuclear energy industry;

(vi) a diverse group of technology developers;

(vii) experts in nuclear nonproliferation, environmental safety, safeguards and security, and public health and safety; and

(viii) members of the consortium created under subsection (a)(2)(F).

(C) Cost and schedule estimates

The report under this paragraph shall include estimated costs, budgets, and timeframes for all activities carried out under this section.

(D) Required evaluations

The report under this paragraph shall evaluate—

(i) the actions required to establish and carry out the program under subsection (a)(1) and the cost of such actions, including with respect to—

(I) proposed preliminary terms for contracting between the Department and recipients of HA–LEU under the program (including guidelines defining the roles and responsibilities between the Department and the recipient); and

(II) the potential to coordinate with recipients of HA–LEU under the program regarding—

(aa) fuel fabrication; and

(bb) fuel transport;

(ii) the potential sources and fuel forms available to provide uranium for the program under subsection (a)(1);

(iii) options to coordinate the program under subsection (a)(1) with the operation of the versatile, reactor-based fast neutron source under section 16279a of this title (as added by section 2003);

(iv) the ability of uranium producers to provide materials for advanced nuclear reactor fuel;

(v) any associated legal, regulatory, and policy issues that should be addressed to enable—

(I) implementation of the program under subsection (a)(1); and

(II) the establishment of an industry capable of providing HA–LEU; and

(vi) any research and development plans to develop criticality benchmark data under subsection (a)(2)(A), if needed.

(3) Alternate fuels report

Not later than 180 days after December 27, 2020, the Secretary shall, after consulting with relevant entities, including National Laboratories, institutions of higher education, and technology developers, submit to Congress a report identifying any and all options for providing nuclear material, containing isotopes other than the uranium-235 isotope, such as uranium-233 and thorium-232 to be used as fuel for advanced nuclear reactor research, development, demonstration, or commercial application purposes.

(c) Authorization of appropriations

There are authorized to be appropriated to carry out research, development, demonstration, and transportation activities in this section—

(1) $31,500,000 for fiscal year 2021;
(2) $33,075,000 for fiscal year 2022;
(3) $34,728,750 for fiscal year 2023;
(4) $36,465,188 for fiscal year 2024; and
(5) $38,288,447 for fiscal year 2025.

(d) Definitions

In this section:

(1) Commission

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

(2) Demonstration project

The term ''demonstration project'' has the meaning given such term in section 16279a of this title.

(3) HA–LEU

The term ''HA–LEU'' means high-assay low-enriched uranium.

(4) High-assay low-enriched uranium

The term ''high-assay low-enriched uranium'' means uranium having an assay greater than 5.0 weight percent and less than 20.0 weight percent of the uranium-235 isotope.

(5) High-enriched uranium

The term ''high-enriched uranium'' means uranium with an assay of 20.0 weight percent or more of the uranium-235 isotope.

(6) Secretary

The term ''Secretary'' means the Secretary of Energy.

(Pub. L. 116–260, div. Z, title II, § 2001, Dec. 27, 2020, 134 Stat. 2453.)

Editorial Notes

REFERENCES IN TEXT

The American Medical Isotopes Production Act of 2012, referred to in subsec. (a)(2)(D)(vii), is subtitle F

(§ 3171 et seq.) of title XXXI of div. C of Pub. L. 112–239, Jan. 2, 2013, 126 Stat. 2211. For complete classification of this Act to the Code, see Short Title of 2013 Amendment note set out under section 2011 of this title and Tables.

Section 16279a of this title (as added by section 2003), referred to in subsec. (b)(2)(D)(iii), is section 16279a of this title as added by section 2003 of div. Z of Pub. L. 116–260.

CODIFICATION

Section was enacted as part of the Energy Act of 2020, and not as part of the Energy Policy Act of 2005 which comprises this chapter.

§ 16282. U.S. nuclear fuel security initiative

(a) Short title

This section may be cited as the ''Nuclear Fuel Security Act of 2023''.

(b) Sense of Congress

It is the sense of Congress that—

(1) the Department should—

(A) support increased domestic production of low-enriched uranium; and

(B) accelerate efforts to establish a domestic high-assay, low-enriched uranium enrichment capability; and

(2) if domestic enrichment of high-assay, low-enriched uranium will not be commercially available at the scale needed in time to meet the needs of the advanced nuclear reactor demonstration projects of the Department, the Secretary shall consider and implement, as necessary—

(A) all viable options to make high-assay, low-enriched uranium produced from inventories owned by the Department available in a manner that is sufficient to maximize the potential for the Department to meet the needs and schedules of advanced nuclear reactor developers, without impacting existing Department missions, until such time that commercial enrichment and deconversion capability for high-assay, low-enriched uranium exists at a scale sufficient to meet future needs; and

(B) all viable options for partnering with countries that are allies or partners of the United States to meet those needs and schedules until that time.

(c) Objectives

The objectives of this section are—

(1) to support domestic production of low-enriched uranium;

(2) to expeditiously increase domestic production of high-assay, low-enriched uranium by an annual quantity, and in such form, determined by the Secretary to be sufficient to meet the needs of—

(A) advanced nuclear reactor developers; and

(B) the consortium;

(3) to ensure the availability of domestically produced, converted, enriched, deconverted, and reduced uranium in a quantity determined by the Secretary, in consultation with U.S. nuclear energy companies, to be sufficient to address a reasonably anticipated supply disruption;

(4) to address gaps and deficiencies in the domestic production, conversion, enrichment, deconversion, and reduction of uranium by partnering with countries that are allies or partners of the United States if domestic options are not practicable;

(5) to ensure that, in the event of a supply disruption in the nuclear fuel market, a reserve of nuclear fuels is available to serve as a backup supply to support the nuclear nonproliferation and civil nuclear energy objectives of the Department, including collaborative research and development activities with other Federal agencies;

(6) to support enrichment, deconversion, and reduction technology deployed in the United States; and

(7) to ensure that, until such time that domestic enrichment and deconversion of high-assay, low-enriched uranium is commercially available at the scale needed to meet the needs of advanced nuclear reactor developers, the Secretary considers and implements, as necessary—

(A) all viable options to make high-assay, low-enriched uranium produced from inventories owned by the Department available in a manner that is sufficient to maximize the potential for the Department to meet the needs and schedules of advanced nuclear reactor developers; and

(B) all viable options for partnering with countries that are allies or partners of the United States to meet those needs and schedules.

(d) Definitions

In this section:

(1) Advanced nuclear reactor

The term ''advanced nuclear reactor'' has the meaning given the term in section 16271(b) of this title.

(2) Associated entity

The term ''associated entity'' means an entity that—

(A) is owned, controlled, or dominated by—

(i) the government of a country that is an ally or partner of the United States; or

(ii) an associated individual; or

(B) is organized under the laws of, or otherwise subject to the jurisdiction of, a country that is an ally or partner of the United States, including a corporation that is incorporated in such a country.

(3) Associated individual

The term ''associated individual'' means an alien who is a national of a country that is an ally or partner of the United States.

(4) Consortium

The term ''consortium'' means the consortium established under section 16281(a)(2)(F) of this title.

(5) Department

The term ''Department'' means the Department of Energy.

(6) High-assay, low-enriched uranium; HALEU

The term ''high-assay, low-enriched uranium'' or ''HALEU'' means high-assay low-en-