

**S. 4897 “American Nuclear Infrastructure Act of 2020”**  
*Section-by-Section*

**SECTION 1. SHORT TITLE; TABLE OF CONTENTS.**

**Sec. 1. Short title; table of contents.**

This section cites this Act as the “American Nuclear Infrastructure Act of 2020” and provides the table of contents.

**Sec. 2. Definitions.**

This section defines terms used in this Act. The terms include accident tolerant fuel; Administrator; advanced nuclear fuel; advanced nuclear reactor; appropriate Committees of Congress; Chairman; Commission; Department; early site permit, high-assay, low-enriched uranium; institutions of higher education; micro-reactor; national laboratory; removal; removal action; Secretary; and Tribal land.

**TITLE I—REESTABLISHING AMERICAN INTERNATIONAL COMPETITIVENESS AND GLOBAL LEADERSHIP**

**Sec. 101. International Nuclear Reactor Export and Innovation Activities.**

This section requires the Nuclear Regulatory Commission (Commission) to coordinate all work of the Commission relating to nuclear reactor import and export licensing and international regulatory cooperation and assistance relating to nuclear reactors, including with countries that are members of the Organisation for Economic Co-operation and Development. The Commission must also coordinate international activities with respect to the establishment of certain technical standards, efforts to build nuclear regulatory organizations and legal frameworks, and exchange programs and training to other countries. The Commission’s exchange programs and training must be coordinated with the Secretary of Energy (Secretary), national laboratories, the private sector, and institutions of higher education. The Commission is authorized to establish the International Nuclear Reactor Export and Innovation Branch within the Commission’s Office of International Programs to coordinate activities within the mission of the Commission. Effective October 1, 2021, the costs for activities described in this section are not subject to the Commission’s fee-recovery requirements.

**Sec. 102. Denials of certain domestic licenses for national security purposes.**

This section defines covered fuel as enriched uranium that is fabricated into fuel assemblies by an entity that is owned or controlled by Russia or China, or is organized under the laws of Russia or China. The section prohibits the possession or ownership of covered fuel, unless the Commission specifically authorizes such possession or ownership. The Commission shall notify the Secretary and Secretary of State within 30 days of receipt of an application to possess or own covered fuel. A license shall not be issued if the Secretary and Secretary of State jointly determine, within 120 days, that possession or ownership of covered fuel poses a threat to the national security of the United States. If such a determination is made, the Secretary and Secretary of State must immediately notify the Commission. The Commission must notify Congress not later than 30 days of the determination. The determination shall be made publicly

available 15 days after Congressional notification. Nothing in this section alters any treaty or international agreement in effect on the date of enactment of this Act.

## **TITLE II—EXPANDING NUCLEAR ENERGY THROUGH ADVANCED NUCLEAR TECHNOLOGIES**

### **Sec. 201. Advanced nuclear reactor project environmental reviews.**

This section requires the Commission to submit a report to Congress that describes differences between the environmental review process for nuclear reactors that are operating when the Act is enacted and advanced nuclear reactors. The report must be submitted not later than one year after the Commission issues the third license for an advanced nuclear reactor. The report must also identify opportunities to improve and update environmental reviews for advanced reactors; integrate environmental regulations to reduce the environmental impacts of advanced nuclear reactors; and assess the benefits of revising the environmental review process.

### **Sec. 202. Advanced nuclear reactor prizes.**

This section authorizes the Secretary to award a prize, subject to the availability of appropriations, equal to the amount of regulatory fees assessed by the Commission for activities related to the first operating permit or combined permit for an advanced nuclear reactor issued by the Commission to a non-Federal entity. The Secretary is authorized to make additional awards for the first advanced reactor that uses isotopes derived from spent nuclear fuel as fuel for the reactor and for the first advanced reactor that operates flexibly to generate electricity or high temperature process heat for nonelectric applications.

The non-Federal entity shall not receive total Federal funding, including the amount of the award authorized by this section, which exceeds costs relating to the project for which the award is made, including legally mandated cost-share requirements.

### **Sec. 203. New nuclear energy project application reviews.**

The section requires the Commission to use information that was part of the licensing basis of a currently licensed nuclear facility for the review of a proposed nuclear facility at the same site, to the maximum extent practicable.

Nothing in this section exempts the Commission from the requirements of section 102(2)(C) of the National Environmental Policy Act of 1969 (42 U.S.C. 4332(2)(C)). Further, nothing in this section shall preclude the use of new information or scientific or technical analyses in reviewing an application.

### **Sec. 204. Report on unique licensing considerations relating to the use of nuclear energy for nonelectric applications.**

This section directs the Commission to submit a report to Congress, not later than one year after the date of enactment, identifying unique licensing issues or requirements related to the flexible operation of nuclear reactors; use of nuclear reactors for nonelectric applications; and colocation of nuclear reactors with industrial plants or other facilities. Nonelectric applications include hydrogen or other liquid and gaseous fuel or chemical production; water desalination and wastewater treatment; heat for industrial processes; district heating; energy storage; industrial or

medical isotope production; and other applications as identified by the Commission. The Commission shall seek input from the Secretary; the nuclear energy industry; technology developers; the industrial, chemical and medical sectors; nongovernmental organizations; and other public stakeholders.

The report must also describe options for addressing such issues or requirements as part of the existing regulatory framework, the technology-inclusive regulatory framework required by the Nuclear Energy Innovation and Modernization Act (Public Law 115–439) (NEIMA), or through a new rulemaking, and the extent to which Commission action is needed to implement matters in the report. The Commission’s report shall include cost estimates, budgets, and timeframes for implementing the section.

**Sec. 205. Enabling preparations for the demonstration of advanced nuclear reactors on Department sites.**

This section excludes funding to support pre-application proceedings or the review of an early site permit associated with advanced nuclear reactor demonstrations that will be located on Department of Energy (Department) sites from the Commission’s fee recovery requirements. The section takes effect on October 1, 2021.

**Sec. 206. Regulatory requirements for micro-reactors.**

This section authorizes the Commission to develop and implement strategies and guidance to support the licensing and regulation of micro-reactors, taking into account their unique characteristics and development timelines. Implementation shall be in a manner and timeframe consistent with NEIMA.

**TITLE III—PRESERVING EXISTING NUCLEAR ENERGY GENERATION**

**Sec. 301. Nuclear reactor incentives.**

This section directs the Administrator of the Environmental Protection Agency (Administrator) to establish a carbon emissions avoidance program to evaluate nuclear reactors projected to cease operations due to economic factors and award credits to certified nuclear reactors. To qualify for the credits, the owner or operator of a nuclear reactor shall submit an application to the Administrator. The application must include information on market costs and revenues; an estimate of emissions that would result if the nuclear reactor shut down; and the source of recovered uranium and location where the uranium is converted, enriched, and fabricated into fuel assemblies. The application must also include a detailed plan for how the applicant will sustain operations at the conclusion of the credit period.

The Administrator certifies a nuclear reactor. To certify, the Administrator must confirm that the reactor has a good safety record as determined by the Commission’s Reactor Oversight Process; determine that the reactor is projected to cease operations due to economic factors; and determine that emissions would increase if the reactor ceased operations and was replaced with other generation. The Administrator shall prioritize reactors that use nuclear fuel recovered, converted, enriched, and fabricated in the United States.

Certified nuclear reactors shall submit to the Administrator sealed bids that describe the price required to sustain operations and a commitment to provide a specific amount of electricity generation. The Administrator shall establish a process for evaluating bids and selecting reactors to receive credits on a dollar per megawatt-hour basis over a two-year period. The amount of the credit is based on a certified facility's operating loss. A certified reactor may apply for a renewal for a subsequent two-year period in accordance with the application requirements.

The Administrator shall periodically audit certified reactors. The Administrator shall recapture credits if a certified nuclear reactor ceases operations or would not operate at a loss in the absence of the credit during that two-year period. The Administrator may not allocate credits after September 30, 2030.

This section also directs the Comptroller General of the United States to submit a report to Congress evaluating the effectiveness of the program with respect to avoiding carbon emissions while maintaining the reliability of the electric grid, the amount of ratepayer savings, and recommendations to renew or expand the credits.

The section authorizes the appropriation of such sums as necessary to carry out this section from fiscal year 2021 through 2030.

**Sec. 302. Report on lessons learned during the COVID–19 public health emergency.**

This section directs the Commission to submit a report to Congress, not later than 180 days after the date of enactment of this Act, which identifies processes, procedures, and other regulatory policies that were revised or suspended during the public health emergency. The report must also review if actions may or may not have compromised the ability of the Commission to fulfill its mission; a description of efficiencies or challenges that resulted from those activities; a list of actions that Commission may take to incorporate such lessons into future licensing activities and regulations; and when the actions may be implemented.

**Sec. 303. Investment by allies.**

This section allows certain foreign entities to receive a license described in section 103(d) or 104(d) of the Atomic Energy Act of 1954 (Public Law 83-703) for a nuclear utilization facility if the Commission determines that issuing such license is not inimical to the common defense and security or the health and safety of the public. This section applies to an entity that is owned, controlled, or dominated by the government of a country that is a member of the North Atlantic Treaty Organization (NATO), Japan, or the Republic of Korea; a corporation that is incorporated in those countries; or an alien who is a national of those countries.

**TITLE IV—REVITALIZING AMERICA'S NUCLEAR SUPPLY CHAIN  
INFRASTRUCTURE**

**Sec. 401. Advanced nuclear fuel licensing.**

This section directs the Commission to enter into a memorandum of understanding (MOU) with the Department relating to the development of advanced nuclear fuels referred to as high-assay, low-enriched uranium (HALEU). The MOU shall require the Department and Commission ensure the Department has sufficient technical expertise to support the development of

innovative advanced nuclear fuels and ensure the Commission has sufficient technical expertise to support the evaluation of advanced nuclear fuels. The MOU must also identify methods to improve the use of computers and software codes to model the behavior of advanced nuclear fuels. The MOU shall ensure the Department maintains facilities to enable deployment of innovative advanced nuclear fuels and ensure the Commission has access to such facilities.

This section also directs the Commission to submit a report to Congress, not later than 180 days after the date of enactment of this Act, identifying data needed to support the licensing of fuel facilities that can produce HALEU and associated HALEU transportation packages. The report must also identify necessary regulatory updates to support the licensing and certification of such facilities and to address nuclear nonproliferation considerations.

#### **Sec. 402. National strategic uranium reserve.**

This section directs the Secretary to establish, subject to the availability of appropriations, a program to operate a uranium reserve. The uranium reserve is established and operated using the authority granted to the Secretary by sections 53, 63, and 161g. of the Atomic Energy Act of 1954 (AEA).

The purpose of the uranium reserve is to provide assurance of the availability of uranium recovered in the United States in the event of a market disruption and support strategic fuel cycle capabilities in the United States. The Secretary shall exclude uranium that is recovered in the United States by an entity that is owned, controlled or organized under the laws of Russia or China, from the uranium reserve.

Uranium acquired through this program must be recovered at a facility that is licensed by the Commission or an Agreement State, is not located on Tribal land, and is not subject to an escalated enforcement action taken in response to a regulatory violation within the one-year period prior to the Secretary acquiring such uranium. Uranium ore acquired by a facility to be acquired by the Secretary must be extracted from a conventional mine that is not located on Tribal land, on land temporarily withdrawn from use by the Secretary of the Interior in a Federal Register notice published on January 17, 2012, or on land permanently withdrawn from use. The Secretary may acquire uranium recovered from material obtained as a result of removal or remedial actions carried out on abandoned mine land located on Tribal land for the Uranium Reserve.

The Secretary must issue a Request for Information not later than 90 days after enactment of this Act to evaluate options for the operation and management of the reserve; contractual mechanisms to acquire the uranium; and the quantities, form, transportation, and storage of the reserve. The Secretary shall include a request for amounts for the Uranium Reserve in the Department's budget justification or an explanation why amounts are not requested.

#### **Sec. 403. Report on advanced methods of manufacturing and construction for nuclear energy applications.**

This section directs the Commission to submit a report to Congress, not later than 180 days after the date of enactment of this Act, on manufacturing and construction for nuclear energy applications. In developing the report, the Commission shall seek input from the Secretary; the

nuclear energy industry; national laboratories; institutions of higher education; nuclear and manufacturing technology developers; the manufacturing and construction industries; standards development organizations; labor unions; nongovernmental organizations; and other public stakeholders.

The report shall examine unique licensing issues or requirements related to the use of innovative advanced manufacturing processes and advanced construction techniques for nuclear energy applications. The report must examine requirements for the use of nuclear-grade components for nuclear energy applications; opportunities to use standard materials in manufacturing and construction for nuclear energy applications; and opportunities to use standard materials that are in compliance with existing codes. The report must identify safety aspects of innovative advanced manufacturing and advanced construction techniques that are not addressed by existing codes and standards and identify options for addressing identified needs within the existing regulatory framework or through a new rulemaking. Cost estimates, proposed budgets, and proposed timeframes for implementing guidance for advanced manufacturing and advanced construction techniques are required.

## **TITLE V—MISCELLANEOUS**

### **Sec. 501. Nuclear energy workforce development.**

This section reauthorizes the Integrated University Program through 2030. It also establishes a new traineeship subprogram to provide focused training to meet critical mission needs of the Commission and nuclear workforce needs relating to nuclear criticality safety and the nuclear tradecraft workforce. To carry out the traineeship program, the Commission shall coordinate with the Secretary; encourage appropriate partnerships among national laboratories, institutions of higher education, trade schools, and the nuclear energy industry; and annually evaluate nuclear workforce needs.

### **Sec. 502. Annual report on the spent nuclear fuel and high-level radioactive waste inventory in the United States.**

This section directs the Secretary to annually submit a report to Congress that describes the annual and cumulative payments made by the United States to the holder of a standard contract due to a partial breach of the contract under the Nuclear Waste Policy Act of 1982 (42 U.S.C. 10101 et seq.) resulting in financial damages to the holder and the amount spent to reduce projected legal payments. The report must identify the cumulative amount spent and projected lifecycle costs to store, manage, transport, and dispose of spent nuclear fuel and high-level radioactive waste and mechanisms for better accounting for the lifecycle costs of the nation's spent nuclear fuel and high-level radioactive waste inventory. The Secretary must make recommendations for improving the methods used to account for spent nuclear fuel and high-level radioactive waste costs and liabilities.

### **Section 503. Authorization of appropriations for superfund actions at abandoned mining sites on Tribal land.**

This section authorizes appropriations for the Administrator to conduct removal actions at abandoned mine land on Tribal land as well as remedial actions at similarly located eligible non-National Priorities List sites and sites listed on the National Priorities list. This section also

directs the Agency for Toxic Substances and Disease Registry to perform one or more health assessments at each eligible non-National Priority List site that is located on Tribal land.

The Administrator is authorized to award grants to Indian Tribes on whose land is located an eligible non-National Priority List site. Such grants shall be used in accordance with 117(e)(1) and governed according to section 117(e)(2) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S.C. 9617 (e)) with amendments.

This section also includes a statute of limitations for natural resource damages actions consistent with the timeframe provided by section 113(g)(1) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S.C. 9613(g)(1)(B)).

The Administrator shall coordinate with the applicable Indian Tribe when selecting and prioritizing sites and carrying out removal and remedial actions.

**Sec. 504. Technical correction.**

This section makes a technical correction to the AEA, as amended by NEIMA, to permit the Commission to issue a license for a research and test reactor if not more than 75 percent of the annual costs to the licensee of owning and operating the facility are devoted to the sale of nonenergy services, energy services, or a combination thereof, other than for research and development or education and training.