

Discussion Draft Titled “*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; advanced nuclear fuel; advanced nuclear reactor; appropriate Committees of Congress; Chairman; Commission; Department; high-assay, low-enriched uranium; institutions of higher education; low-enriched uranium plus; national laboratory; and Secretary.

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. 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. 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. A license shall not be issued if the Secretary and Secretary of State jointly determine 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 consult with the Secretary and the Chair of the Council on Environmental Quality to identify existing environmental regulations applicable to advanced nuclear reactors, lessons learned from environmental reviews of operating reactors, and existing guidance to integrate other environmental laws and regulations for advanced nuclear reactors' environmental reviews. The report must identify how the Fixing America's Surface Transportation Act (P.L. 114-94), and Executive Order 13807 affect the environmental review process for advanced nuclear reactors. It directs the Commission to consider and, if deemed beneficial to improving the environmental review process for advanced reactors, revise existing regulations or promulgate new regulations to establish a technology-inclusive, risk-informed environmental review process for advanced nuclear reactors.

Not later than one year after the Commission issues the third license for an advanced nuclear reactor, the Commission must 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 also describe circumstances in which an environmental assessment could be used for an advanced nuclear reactor instead of an environmental impact statement, identify opportunities to improve and update environmental reviews for advanced reactors, and integrate environmental regulations to reduce the environmental impacts of advanced nuclear reactors.

Sec. 202. Advanced nuclear reactor and fuel 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 the first operating permit or combined permit for an advanced nuclear reactor issued to a non-Federal entity by the Commission. An application that is docketed for review by the Commission as of the date of enactment of this Act does not qualify for the award.

This section also 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 the first approval of an advanced nuclear fuel to a non-Federal entity. The approved fuel must use a higher percentage of the nuclear fuel than currently approved fuel or must use isotopes derived from spent nuclear fuel or depleted uranium.

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.

Sec. 203. New nuclear energy project application reviews.

This section directs the Commission to prepare a supplemental environmental impact statement for a construction permit or a combined permit in which an environmental impact statement was previously prepared for an early site permit. The Commission shall incorporate by reference the

analysis, findings, and conclusions from the prior environmental impact statement into the supplemental environmental impact statement.

The section also 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)).

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. 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 and the environmental review associated with advanced nuclear reactor demonstrations that will be located on Department of Energy (Department) sites from the Commission’s fee recovery requirements.

TITLE III—PRESERVING EXISTING NUCLEAR ENERGY GENERATION

Sec. 301. At-risk nuclear reactor incentives.

This section directs the Administrator of the Environmental Protection Agency to establish a carbon emissions avoidance program to evaluate nuclear power facilities determined to be at risk of premature shutdown due to economic factors and award credits to certified facilities. To qualify for the credits, the owner or operator of a nuclear power facility shall submit an application to the Administrator. The application must include information on operating costs; the source of mined uranium and location where the uranium is converted, enriched, and fabricated into fuel assemblies; and if the facility will use accident tolerant fuel.

The Administrator determines to certify facilities for which an application is received. To certify, the Administrator must examine the operating costs of the facility and estimate potential

incremental carbon emissions avoided if the facility receives a credit. The Administrator shall prioritize facilities that need fewer dollars per megawatt-hour to break even; uses nuclear fuel mined, converted, enriched, and fabricated in the United States; has a good safety record as determined by the Commission's Reactor Oversight Process; and maximizes the use of accident tolerant fuels, if commercially available.

The Administrator awards 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 facility may apply to be recertified for a subsequent two-year period in accordance with the application requirements.

The Administrator shall periodically audit certified facilities. The Administrator shall recapture credits if a certified nuclear power facility ceases operation or would not operate at a loss in the absence of the credit during that two-year period. Applicants shall submit an economic recovery plan to sustain operations at the conclusion of the credit period without receiving additional credits or with a reduced credit amount in subsequent two-year credit periods.

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 \$[to be supplied] from fiscal year 2021 through 2029 to carry out this program.

Sec. 302. Regulatory fee revisions.

This section directs the Commission to identify and request funding in the annual budget justification for rulemaking activities not attributable to a specific Commission licensee. Funding for rulemaking activities not attributable to a specific licensee and identified by the Commission in the annual budget justification is excluded from the Commission's fee recovery requirements.

Sec. 303. 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 60 days after the date of enactment of this Act, that identifies processes, procedures, and other regulatory policies that were revised or suspended during the public health emergency; a description of efficiencies that resulted from those activities; a list of actions that Commission will take to incorporate such lessons into future licensing activities and regulations; and when the actions will be implemented.

Sec. 304. 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 approval.

This section directs the Commission to enter into a memorandum of understanding (MOU) with the Department to support the development and approval of advanced nuclear fuels referred to as high-assay, low-enriched uranium (HALEU). The MOU requires the Department and Commission to ensure the Department has sufficient technical expertise to support the development of innovative advanced nuclear fuels and to 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 directs the Department to maintain facilities to enable deployment of innovative advanced nuclear fuels; and to 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 needs 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.

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.

The purpose of the uranium reserve is to provide assurance of the availability of uranium mined 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 mined in the United States by an entity that is owned, controlled or organized under the laws of Russia or China, from 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; nuclear and manufacturing technology developers; the manufacturing and construction industries; standards development organizations; 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, and dispose of spent nuclear fuel and high-level radioactive waste; 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.

Sec. 503. Technical correction.

This section makes a technical correction to the Atomic Energy Act of 1954, 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.