

## Calendar No. 528

114TH CONGRESS  
2D SESSION**S. 2795****[Report No. 114–285]**

To modernize the regulation of nuclear energy.

## IN THE SENATE OF THE UNITED STATES

APRIL 13, 2016

Mr. INHOFE (for himself, Mr. BOOKER, Mr. WHITEHOUSE, Mr. CRAPO, Mrs. FISCHER, Ms. MURKOWSKI, Mrs. CAPITO, and Mr. MANCHIN) introduced the following bill; which was read twice and referred to the Committee on Environment and Public Works

JUNE 23, 2016

Reported by Mr. INHOFE, with an amendment

[Strike out all after the enacting clause and insert the part printed in *italic*]**A BILL**

To modernize the regulation of nuclear energy.

1 *Be it enacted by the Senate and House of Representa-*  
2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. SHORT TITLE.**

4 This Act may be cited as the “Nuclear Energy Immo-  
5 vation and Modernization Act”.

1 **SEC. 2. FINDINGS.**

2 Congress finds that—

3 (1) the safe and secure operation of nuclear re-  
4 actors in the United States must remain the para-  
5 mount focus of the Nuclear Regulatory Commission;

6 (2) the existing fleet of nuclear reactors in the  
7 United States is operating safely and securely;

8 (3) nuclear energy is the largest source of af-  
9 fordable, reliable, emissions-free energy in the  
10 United States, providing approximately 20 percent  
11 of the electricity consumed in the United States and  
12 60 percent of emissions-free electricity generation in  
13 the United States;

14 (4) a 1,000-megawatt nuclear plant—

15 (A) provides approximately 500 permanent  
16 jobs;

17 (B) pays approximately \$40,000,000 annu-  
18 ally in wages;

19 (C) generates approximately \$470,000,000  
20 annually in goods and services in the local com-  
21 munity; and

22 (D) pays approximately \$83,000,000 annu-  
23 ally in Federal, State, and local taxes;

24 (5) nuclear energy is of critical importance to  
25 United States energy security and worldwide influ-  
26 ence on nonproliferation;

1           (6) nuclear energy uses widely available fuel re-  
2           sources to enable scientific progress, emissions-free  
3           and reliable electricity generation, heat generation  
4           for industrial applications, and power for deep space  
5           exploration;

6           (7) the private sector, the National Labora-  
7           tories (as defined in section 2 of the Energy Policy  
8           Act of 2005 (42 U.S.C. 15801)), and institutions of  
9           higher education are pursuing innovations in nuclear  
10          energy technology that will play a crucial role in—

11                 (A) the future global and United States  
12                 energy supply; and

13                 (B) the exports, manufacturing, and econ-  
14                 omy of the United States;

15          (8) eventual deployment of commercial ad-  
16          vanced nuclear reactors will require—

17                 (A) modernizing the regulatory framework;  
18                 and

19                 (B) making other necessary changes to fa-  
20                 cilitate the efficient, predictable, and affordable  
21                 deployment of advanced nuclear reactor tech-  
22                 nologies;

23          (9) 2 impediments to the commercialization of  
24          advanced nuclear reactors are the high costs and  
25          long durations associated with applying the existing

1 nuclear regulatory framework to advanced nuclear  
2 reactors;

3 (10) license application reviews should be as  
4 predictable and efficient as practicable without com-  
5 promising safety or security;

6 (11) the existing nuclear regulatory framework  
7 and the requirements of that framework have not  
8 adapted to advances in scientific understanding or  
9 the features and performance characteristics of ad-  
10 vanced nuclear reactor designs;

11 (12) the existing nuclear reactor licensing proce-  
12 ss does not provide iterative feedback to manage  
13 risk as needed for typical technology development  
14 and investment cycles;

15 (13) a staged licensing structure that provides  
16 clear and periodic feedback to applicants on an  
17 agreed schedule will help to enable the commer-  
18 cialization of safer and innovative technologies that  
19 will benefit the economy, national security, and envi-  
20 ronment of the United States;

21 (14) a technology-inclusive Commission regu-  
22 latory framework will—

23 (A) allow greater technological innovation;  
24 and

1           ~~(B)~~ enable inventors, scientists, engineers,  
2           and students to pursue licensing advanced reac-  
3           tor concepts;

4           ~~(15)~~ further preparation by the Commission of  
5           the research and test reactor licensing process will  
6           enable the Commission to more efficiently process  
7           applications for research and test reactors when the  
8           applications are received;

9           ~~(16)~~ it is incumbent on the Commission—

10           ~~(A)~~ to budget for adequate resources to  
11           conduct licensing reviews and other work re-  
12           quested by licensees and applicants; and

13           ~~(B)~~ to preserve those budgeted funds to  
14           ensure responsiveness to licensees and appli-  
15           cants in recognition of the dependence of the li-  
16           censees and applicants on Commission approval  
17           before the benefits of the technology of the li-  
18           censees and applicants can be realized; and

19           ~~(17)~~ both prospective commercial advanced nu-  
20           clear reactor applicants and the existing fleet of nu-  
21           clear reactors in the United States would benefit  
22           from modernizing the outdated fee recovery struc-  
23           ture of the Commission to better manage fluctua-  
24           tions in workload and the number of licensees in a  
25           fair and equitable manner.

1 **SEC. 3. PURPOSE.**

2 The purpose of this Act is to provide—

3 (1) a program to develop the expertise and reg-  
4 ulatory processes necessary to allow innovation and  
5 the commercialization of advanced nuclear reactors;  
6 and

7 (2) a revised fee recovery structure to ensure  
8 the availability of resources to meet industry needs  
9 without burdening existing licensees unfairly for in-  
10 accurate workload projections or premature existing  
11 reactor closures.

12 **SEC. 4. DEFINITIONS.**

13 In this Act:

14 (1) **ADVANCED NUCLEAR REACTOR.**—The term  
15 “advanced nuclear reactor” means a nuclear fission  
16 or fusion reactor, including a prototype plant (as de-  
17 fined in sections 50.2 and 52.1 of title 10, Code of  
18 Federal Regulations), with significant improvements  
19 over existing commercial nuclear reactors, including  
20 improvements such as—

21 (A) additional inherent safety features;

22 (B) lower waste yields;

23 (C) greater fuel utilization;

24 (D) enhanced reliability;

25 (E) increased proliferation resistance;

26 (F) increased thermal efficiency; or

1           (G) ability to integrate into electric and  
2           nonelectric applications.

3           (2) AGREEMENT STATE.—The term “Agree-  
4           ment State” means any State with which the Com-  
5           mission has entered into an effective agreement  
6           under section 274 b. of the Atomic Energy Act of  
7           1954 (42 U.S.C. 2021(b)).

8           (3) APPLICANT.—The term “applicant” means  
9           an applicant for a license, certification, permit, or  
10          other form of approval from the Commission for a  
11          commercial advanced nuclear reactor or a research  
12          and test reactor.

13          (4) APPROPRIATE CONGRESSIONAL COMMIT-  
14          TEES.—The term “appropriate congressional com-  
15          mittees” means the Committee on Environment and  
16          Public Works of the Senate and the Committee on  
17          Energy and Commerce of the House of Representa-  
18          tives.

19          (5) COMMISSION.—The term “Commission”  
20          means the Nuclear Regulatory Commission.

21          (6) CORPORATE SUPPORT COSTS.—The term  
22          “corporate support costs” means expenditures for  
23          acquisitions, administrative services, financial man-  
24          agement, human resource management, information  
25          management, information technology, policy support,

1 outreach, and training, as those categories are de-  
 2 scribed and calculated in Appendix A of the Con-  
 3 gressional Budget Justification for Fiscal Year 2017  
 4 of the Commission.

5 (7) LICENSING PROJECT PLAN.—The term “li-  
 6 censing project plan” means a plan that describes—

7 (A) the interactions between an applicant  
 8 and the Commission; and

9 (B) project schedules and deliverables in  
 10 specific detail to support long-range resource  
 11 planning undertaken by the Commission and an  
 12 applicant.

13 (8) REGULATORY FRAMEWORK.—The term  
 14 “regulatory framework” means the framework for  
 15 reviewing requests for certifications, permits, ap-  
 16 provals, and licenses for nuclear power plants.

17 (9) REQUESTED ACTIVITY OF THE COMMIS-  
 18 SION.—The term “requested activity of the Commis-  
 19 sion” means—

20 (A) the processing of applications for—

21 (i) design certifications or approvals;

22 (ii) licenses;

23 (iii) permits;

24 (iv) license amendments;

25 (v) license renewals;



1 (vi) certificates of compliance; and

2 (vii) power uprates; and

3 (B) any other activity requested by a li-  
4 censee or applicant.

5 (10) RESEARCH AND TEST REACTOR.—

6 (A) IN GENERAL.—The term “research  
7 and test reactor” means a reactor that—

8 (i) falls within the licensing and re-  
9 lated regulatory authority of the Commis-  
10 sion under section 202 of the Energy Reor-  
11 ganization Act of 1974 (42 U.S.C. 5842);  
12 and

13 (ii) is useful in the conduct of re-  
14 search and development activities as li-  
15 censed under section 104 e. of the Atomic  
16 Energy Act (42 U.S.C. 2134(e)).

17 (B) EXCLUSION.—The term “research and  
18 test reactor” does not include a commercial ad-  
19 vanced nuclear reactor.

20 (11) STANDARD DESIGN APPROVAL.—The term  
21 “standard design approval” means the approval of a  
22 final standard design or a major portion of a final  
23 design standard as described in subpart E of part  
24 52 of title 10, Code of Federal Regulations.

1           (12) STATEMENT OF LICENSING FEASI-  
2           BILITY.—The term “statement of licensing feasi-  
3           bility” means an early-stage review by the Commis-  
4           sion that—

5                   (A) assesses preliminary design informa-  
6                   tion for consistency with applicable regulatory  
7                   requirements of the Commission;

8                   (B) is performed on a set of topic areas  
9                   agreed to in the licensing project plan; and

10                   (C) is performed at a cost and schedule  
11                   agreed to in the licensing project plan.

12           (13) TECHNOLOGY-INCLUSIVE REGULATORY  
13           FRAMEWORK.—The term “technology-inclusive regu-  
14           latory framework” means a regulatory framework  
15           developed using methods of evaluation that are flexi-  
16           ble and practicable for application to a variety of re-  
17           actor technologies, including the use of risk-informed  
18           and performance-based techniques and other tools  
19           and methods.

20           (14) TOPICAL REPORT.—The term “topical re-  
21           port” means a document submitted to the Commis-  
22           sion that addresses a technical topic related to nu-  
23           clear power plant safety or design.

1 **SEC. 5. NUCLEAR REGULATORY COMMISSION USER FEES**  
2 **AND ANNUAL CHARGES THROUGH FISCAL**  
3 **YEAR 2018.**

4 (a) **IN GENERAL.**—Section 6101(e)(2)(A) of the Om-  
5 nibus Budget Reconciliation Act of 1990 (42 U.S.C.  
6 2214(e)(2)(A)) is amended—

7 (1) in clause (iii), by striking “and” at the end;

8 (2) in clause (iv), by striking the period at the  
9 end and inserting “; and”; and

10 (3) by adding at the end the following:

11 “(v) amounts appropriated to the  
12 Commission for the fiscal year for activi-  
13 ties related to the development of a regu-  
14 latory framework for advanced nuclear re-  
15 actor technologies, including activities re-  
16 quired under section 7 of the Nuclear En-  
17 ergy Innovation and Modernization Act.”.

18 (b) **REPEAL.**—Effective October 1, 2018, section  
19 6101 of the Omnibus Budget Reconciliation Act of 1990  
20 (42 U.S.C. 2214) is repealed.

21 **SEC. 6. NUCLEAR REGULATORY COMMISSION USER FEES**  
22 **AND ANNUAL CHARGES FOR FISCAL YEAR**  
23 **2019 AND EACH FISCAL YEAR THEREAFTER.**

24 (a) **ANNUAL BUDGET JUSTIFICATION.**—

25 (1) **IN GENERAL.**—In the annual budget jus-  
26 tification submitted by the Commission to Congress,

1 the Commission shall expressly identify anticipated  
 2 expenditures necessary for completion of the re-  
 3 quested activities of the Commission anticipated to  
 4 occur during the applicable fiscal year.

5 ~~(2) RESTRICTION.—~~Budget authority granted  
 6 to the Commission for purposes of the requested ac-  
 7 tivities of the Commission shall be used solely for  
 8 conducting requested activities of the Commission.

9 ~~(3) LIMITATION ON CORPORATE SUPPORT~~  
 10 ~~COSTS.—~~With respect to the annual budget justifica-  
 11 tion submitted to Congress, corporate support costs,  
 12 to the maximum extent practicable, shall not exceed  
 13 the following percentages of the total budget author-  
 14 ity of the Commission requested in the annual budg-  
 15 et justification:

16 ~~(A) 30 percent for each of fiscal years~~  
 17 ~~2019 and 2020.~~

18 ~~(B) 29 percent for each of fiscal years~~  
 19 ~~2021 and 2022.~~

20 ~~(C) 28 percent for fiscal year 2023 and~~  
 21 ~~each fiscal year thereafter.~~

22 ~~(b) FEES AND CHARGES.—~~

23 ~~(1) ANNUAL ASSESSMENT.—~~

24 ~~(A) IN GENERAL.—~~Each fiscal year, the  
 25 Commission shall assess and collect fees and

1 charges in accordance with paragraphs (2) and  
 2 (3) in a manner that ensures that, to the max-  
 3 imum extent practicable, the amount collected  
 4 is equal to an amount that approximates—

5 (i) the total budget authority of the  
 6 Commission for that fiscal year; less

7 (ii) the budget authority of the Com-  
 8 mission for the activities described in sub-  
 9 paragraph (B).

10 ~~(B) EXCLUDED ACTIVITIES DESCRIBED.—~~

11 The activities referred to in subparagraph  
 12 ~~(A)(ii)~~ are the following:

13 (i) An activity not attributable to an  
 14 existing NRC licensee or class of licensee,  
 15 including those activities identified by the  
 16 Commission in Table III of the final rule  
 17 of the Commission entitled “Revision of  
 18 Fee Schedules; Fee Recovery for Fiscal  
 19 Year 2015” (80 Fed. Reg. 37432 (June  
 20 30, 2015)).

21 (ii) Amounts appropriated for a fiscal  
 22 year to the Commission—

23 (I) from the Nuclear Waste Fund  
 24 established under section 302(e) of

1 the Nuclear Waste Policy Act of 1982  
2 (42 U.S.C. 10222(e));

3 (II) for implementation of section  
4 3116 of the Ronald W. Reagan Na-  
5 tional Defense Authorization Act for  
6 Fiscal Year 2005 (50 U.S.C. 2601  
7 note; Public Law 108-375);

8 (III) for the homeland security  
9 activities of the Commission (other  
10 than for the costs of fingerprinting  
11 and background checks required  
12 under section 149 of the Atomic En-  
13 ergy Act of 1954 (42 U.S.C. 2169)  
14 and the costs of conducting security  
15 inspections);

16 (IV) for the Inspector General  
17 services of the Commission provided  
18 to the Defense Nuclear Facilities  
19 Safety Board; and

20 (V) for any other fee-relief activ-  
21 ity described in the final rule of the  
22 Commission entitled "Revision of Fee  
23 Schedules; Fee Recovery for Fiscal  
24 Year 2015" (80 Fed. Reg. 37432  
25 (June 30, 2015)).

1                   (iii) Costs for activities related to the  
2                   development of regulatory infrastructure  
3                   for advanced nuclear reactor technologies,  
4                   including activities required under section  
5                   7.

6                   (C) EXCEPTION.—The exclusion described  
7                   in subparagraph (B)(iii) shall cease to be effec-  
8                   tive on January 1, 2030.

9                   (D) REPORT.—Not later than December  
10                  31, 2028, the Commission shall submit to the  
11                  Committee on Appropriations and the Com-  
12                  mittee on Environment and Public Works of the  
13                  Senate and the Committee on Appropriations  
14                  and the Committee on Energy and Commerce  
15                  of the House of Representatives a report de-  
16                  scribing the views of the Commission on the  
17                  continued appropriateness and necessity of the  
18                  funding described in subparagraph (B)(iii).

19                  (2) FEES FOR SERVICE OR THING OF VALUE.—  
20                  In accordance with section 9701 of title 31, United  
21                  States Code, the Commission shall charge fees to  
22                  any person who receives a service or thing of value  
23                  from the Commission to cover the costs to the Com-  
24                  mission of providing the service or thing of value.

25                  (3) ANNUAL FEES.—

1           (A) IN GENERAL.—Subject to subpara-  
2 graph (B) and except as provided in subpara-  
3 graph (D), the Commission may charge to any  
4 licensee or certificate holder of the Commission  
5 an annual fee.

6           (B) CAP ON ANNUAL FEES OF CERTAIN LI-  
7 CENSEES.—

8           (i) IN GENERAL.—The annual fee  
9 under subparagraph (A) charged to an op-  
10 erating reactor licensee shall not exceed  
11 the annual fee amount per operating reac-  
12 tor licensee established in the final rule of  
13 the Commission entitled “Revision of Fee  
14 Schedules; Fee Recovery for Fiscal Year  
15 2015” (80 Fed. Reg. 37432 (June 30,  
16 2015)), as may be adjusted annually by  
17 the Commission to reflect changes in the  
18 Consumer Price Index published by the  
19 Bureau of Labor Statistics of the Depart-  
20 ment of Labor.

21           (ii) WAIVER.—If the Commission de-  
22 termines that the annual fee cap described  
23 in clause (i) may compromise the safety  
24 and security missions of the Commission,  
25 the Commission shall—



1           (I) notify the Committee on Ap-  
 2           propriations and the Committee on  
 3           Environment and Public Works of the  
 4           Senate and the Committee on Appro-  
 5           priations and the Committee on En-  
 6           ergy and Commerce of the House of  
 7           Representatives of the determination;  
 8           including a detailed explanation of the  
 9           cause and circumstances; and

10           (H) request from Congress a 1-  
 11           year waiver of the cap.

12           (C) AMOUNT PER LICENSEE.—

13           (i) IN GENERAL.—The Commission  
 14           shall establish by rule a schedule of fees  
 15           fairly and equitably allocating the aggre-  
 16           gate amount of charges described in sub-  
 17           paragraph (A) among licensees and certifi-  
 18           cate holders.

19           (ii) REQUIREMENT.—The schedule of  
 20           fees under clause (i)—

21           (I) to the maximum extent prac-  
 22           ticable, shall be based on the cost of  
 23           providing regulatory services; and

24           (H) may be based on the alloca-  
 25           tion of the resources of the Commis-

1                   sion among licensees or certificate  
2                   holders or classes of licensees or cer-  
3                   tificate holders.

4                   (D) EXEMPTION.—

5                   (i) DEFINITION OF RESEARCH REAC-  
6                   TOR.—In this subparagraph, the term “re-  
7                   search reactor” means a nuclear reactor  
8                   that—

9                   (I) is licensed by the Commission  
10                  under section 104 e. of the Atomic  
11                  Energy Act of 1954 (42 U.S.C.  
12                  2134(e)) for operation at a thermal  
13                  power level of not more than 10  
14                  megawatts; and

15                  (II) if licensed under subclause  
16                  (I) for operation at a thermal power  
17                  level of more than 1 megawatt, does  
18                  not contain—

19                   (aa) a circulating loop  
20                   through the core in which the li-  
21                   censee conducts fuel experiments;

22                   (bb) a liquid fuel loading; or

23                   (cc) an experimental facility  
24                   in the core in excess of 16 square  
25                   inches in cross-section.

1                   (ii) EXEMPTION.—Subparagraph (A)  
2                   shall not apply to the holder of any license  
3                   for a federally owned research reactor used  
4                   primarily for educational training and aca-  
5                   demic research purposes.

6                   (c) PERFORMANCE AND REPORTING.—

7                   (1) IN GENERAL.—The Commission shall de-  
8                   velop for the requested activities of the Commis-  
9                   sion—

10                   (A) performance metrics; and

11                   (B) on each request, milestone schedules.

12                   (2) DELAYS IN ISSUANCE OF FINAL SAFETY  
13                   EVALUATION.—The Executive Director for Oper-  
14                   ations of the Commission shall inform the Commis-  
15                   sion of a delay in issuance of the final safety evalua-  
16                   tion for a requested activity of the Commission by  
17                   the completion date required by the performance  
18                   metrics or milestone schedule under paragraph (1)  
19                   by not later than 30 days after the completion date.

20                   (3) DELAYS IN ISSUANCE OF FINAL SAFETY  
21                   EVALUATION EXCEEDING 180 DAYS.—If the final  
22                   safety evaluation for the requested activity of the  
23                   Commission described in paragraph (2) is not com-  
24                   pleted by the date that is 180 days after the comple-  
25                   tion date required by the performance metrics or

1 milestone schedule under paragraph (1), the Com-  
2 mission shall submit to the appropriate congres-  
3 sional committees a timely report describing the  
4 delay, including a detailed explanation accounting  
5 for the delay and a plan for timely completion of the  
6 final safety evaluation.

7 (d) ACCURATE INVOICING.—With respect to invoices  
8 for fees and charges described in subsection (b)(2), the  
9 Commission shall—

10 (1) ensure appropriate management review and  
11 concurrence prior to the issuance of invoices;

12 (2) develop and implement processes to audit  
13 invoices to ensure accuracy, transparency, and fair-  
14 ness; and

15 (3) modify regulations to ensure fair and appro-  
16 priate processes to provide licensees and applicants  
17 an opportunity to efficiently dispute or otherwise  
18 seek review and correction of errors in invoices for  
19 fees and charges.

20 (e) REPORT.—Not later than September 30, 2020,  
21 the Commission shall submit to the Committee on Appro-  
22 priations and the Committee on Environment and Public  
23 Works of the Senate and the Committee on Appropria-  
24 tions and the Committee on Energy and Commerce of the  
25 House of Representatives a report describing the imple-

1 mentation of this section, including any impacts and rec-  
 2 ommendations for improvement.

3 ~~(f) EFFECTIVE DATE.—This section takes effect on~~  
 4 ~~October 1, 2018.~~

5 **SEC. 7. ADVANCED NUCLEAR REACTOR PROGRAM.**

6 ~~(a) LICENSING OF COMMERCIAL ADVANCED NU-~~  
 7 ~~CLEAR REACTORS.—~~

8 ~~(1) STAGED LICENSING.—For the purpose of~~  
 9 ~~predictable, efficient, and timely reviews, not later~~  
 10 ~~than 2 years after the date of enactment of this Act,~~  
 11 ~~the Commission shall develop and implement, within~~  
 12 ~~the existing regulatory framework, strategies for—~~

13 ~~(A) establishing stages in the licensing~~  
 14 ~~process for commercial advanced nuclear reac-~~  
 15 ~~tors; and~~

16 ~~(B) developing procedures and processes~~  
 17 ~~for—~~

18 ~~(i) using a licensing project plan; and~~

19 ~~(ii) optional use of a statement of li-~~  
 20 ~~censing feasibility.~~

21 ~~(2) RISK-INFORMED LICENSING.—Not later~~  
 22 ~~than 2 years after the date of enactment of this Act,~~  
 23 ~~the Commission shall develop and implement strate-~~  
 24 ~~gies for the increased use of risk-informed, perform-~~  
 25 ~~ance-based licensing evaluation techniques and guid-~~

1       ance for commercial advanced nuclear reactors with-  
 2       in existing regulatory frameworks, including evalua-  
 3       tion techniques and guidance for the resolution of  
 4       the following:

5               (A) Applicable policy issues identified dur-  
 6               ing the course of review by the Commission of  
 7               a commercial advanced nuclear reactor licensing  
 8               application.

9               (B) The issues described in ~~SECY-93-092~~  
 10              and ~~SECY-15-077~~, including—

11                   (i) licensing basis event selection and  
 12                   evaluation;

13                   (ii) source terms;

14                   (iii) containment performance; and

15                   (iv) emergency preparedness.

16              (3) ~~RESEARCH AND TEST REACTOR LICENS-~~  
 17              ~~ING.~~—For the purpose of predictable, efficient, and  
 18              timely reviews, not later than 2 years after the date  
 19              of enactment of this Act, the Commission shall de-  
 20              velop and implement strategies to prepare an appro-  
 21              priate regulatory framework for licensing research  
 22              and test reactors, including the issuance of guidance.

23              (4) ~~TECHNOLOGY-INCLUSIVE REGULATORY~~  
 24              ~~FRAMEWORK.~~—Not later than December 31, 2023,  
 25              the Commission shall complete a rulemaking to es-

1        establish a technology-inclusive, regulatory framework  
 2        for optional use by commercial advanced nuclear re-  
 3        actor applicants for new reactor license applications.

4            (5) TRAINING AND EXPERTISE.—As soon as  
 5        practicable after the date of enactment of this Act,  
 6        the Commission shall provide for staff training or  
 7        the hiring of experts, as necessary—

8            (A) to support the activities described in  
 9            paragraphs (1) through (4); and

10          (B) to support preparations—

11            (i) to conduct pre-application inter-  
 12            actions; and

13            (ii) to review commercial advanced nu-  
 14            clear reactor license applications.

15          (6) AUTHORIZATION OF APPROPRIATIONS.—

16        There are authorized to be appropriated to the Com-  
 17        mission to carry out this subsection such sums as  
 18        are necessary.

19          (b) PLAN TO ESTABLISH STAGES IN THE COMMER-  
 20        CIAL ADVANCED NUCLEAR REACTOR LICENSING PROC-  
 21        ESS.—

22            (1) PLAN REQUIRED.—Not later than 180 days  
 23        after the date of enactment of this Act, the Commis-  
 24        sion shall submit to the appropriate congressional  
 25        committees a plan for expediting and establishing

1 stages in the licensing process for commercial ad-  
2 vanced nuclear reactors that will allow implementa-  
3 tion of the licensing process by not later than 2  
4 years after the date of enactment of this Act (re-  
5 ferred to in this subsection as the “plan”).

6 (2) COORDINATION AND STAKEHOLDER  
7 INPUT.—In developing the plan, the Commission  
8 shall seek input from the Secretary of Energy, the  
9 nuclear energy industry, a diverse set of technology  
10 developers, and other public stakeholders.

11 (3) COST AND SCHEDULE ESTIMATES.—The  
12 plan shall include proposed cost estimates, budgets,  
13 and timeframes for implementing strategies to estab-  
14 lish stages in the licensing process for commercial  
15 advanced nuclear reactor technologies.

16 (4) REQUIRED EVALUATIONS.—Consistent with  
17 the role of the Commission in protecting public  
18 health and safety and common defense and security,  
19 the plan shall evaluate—

20 (A)(i) the unique aspects of commercial  
21 advanced nuclear reactor licensing, including  
22 the use of alternative coolants or alternative  
23 fuels, operation at or near atmospheric pres-  
24 sure, and the use of passive safety strategies;  
25 and



1           (ii) for the purposes of predictable, effi-  
2           cient, and timely reviews, any associated legal,  
3           regulatory, and policy issues the Commission  
4           should address with regard to the licensing of  
5           commercial advanced nuclear reactor tech-  
6           nologies;

7           (B) options for licensing commercial ad-  
8           vanced nuclear reactors under the regulations  
9           of the Commission contained in title 10, Code  
10          of Federal Regulations (as in effect on the date  
11          of enactment of this Act), including—

12           (i) the development and use under the  
13           regulatory framework of the Commission  
14           in effect on the date of enactment of this  
15           Act of a licensing project plan that could  
16           establish—

17           (I) milestones that—

18           (aa) correspond to stages of  
19           a licensing process for the spe-  
20           cific situation of a commercial  
21           advanced nuclear reactor project;  
22           and

23           (bb) use knowledge of the  
24           ability of the Commission to re-  
25           view certain design aspects; and

1 (H) guidelines defining the roles  
2 and responsibilities between the Com-  
3 mission and the applicant at the onset  
4 of the interaction—

5 (aa) to provide the founda-  
6 tion for effective communication  
7 and effective project manage-  
8 ment; and

9 (bb) to ensure efficient  
10 progress and rapid resolution of  
11 conflicts;

12 (ii) the use of topical reports, stand-  
13 ard design approval, and other appropriate  
14 mechanisms as tools to introduce stages  
15 into the commercial advanced nuclear reac-  
16 tor licensing process, including how the li-  
17 censing project plan might structure the  
18 use of those mechanisms;

19 (iii) collaboration with standards-set-  
20 ting organizations to identify specific tech-  
21 nical areas for which new or updated  
22 standards are needed and providing assist-  
23 ance if appropriate to ensure the new or  
24 updated standards are developed and final-  
25 ized in a timely fashion;

1           (iv) the incorporation of consensus-  
2           based codes and standards developed under  
3           clause (iii) into the regulatory frame-  
4           work—

5           (I) to provide predictability for  
6           the regulatory processes of the Com-  
7           mission; and

8           (II) to ensure timely completion  
9           of specific licensing actions;

10          (v) the development of a process for,  
11          and the use of, statements of licensing fea-  
12          sibility; and

13          (vi) identification of any policies and  
14          guidance for staff that will be needed to  
15          implement clauses (i) and (ii);

16          (C) options for improving the efficiency,  
17          timeliness, and cost-effectiveness of licensing re-  
18          views of commercial advanced nuclear reactors,  
19          including opportunities to minimize the delays  
20          that may result from any necessary amendment  
21          or supplement to an application;

22          (D) options for improving the predictability  
23          of the commercial advanced nuclear reactor li-  
24          censing process, including the evaluation of op-  
25          portunities to improve the process by which ap-

1           plication review milestones are established and  
2           met; and

3           ~~(E)~~ the extent to which Commission action  
4           or modification of policy is needed to implement  
5           any part of the plan.

6           ~~(c) PLAN TO INCREASE THE USE OF RISK-IN-~~  
7 ~~FORMED AND PERFORMANCE-BASED EVALUATION TECH-~~  
8 ~~NIQUES AND REGULATORY GUIDANCE.—~~

9           ~~(1) PLAN REQUIRED.—~~Not later than 180 days  
10          after the date of enactment of this Act, the Commis-  
11          sion shall submit to the appropriate congressional  
12          committees a plan for increasing the use of risk-in-  
13          formed and performance-based evaluation techniques  
14          and regulatory guidance in licensing commercial ad-  
15          vanced nuclear reactors within the existing regu-  
16          latory framework (referred to in this subsection as  
17          the “plan”).

18          ~~(2) COORDINATION AND STAKEHOLDER~~  
19 ~~INPUT.—~~In developing the plan, the Commission  
20 shall seek input from the Secretary of Energy, the  
21 nuclear energy industry, technology developers, and  
22 other public stakeholders.

23          ~~(3) COST AND SCHEDULE ESTIMATE.—~~The plan  
24 shall include proposed cost estimates, budgets, and  
25 timeframes for implementing a strategy to increase

1 the use of risk-informed and performance-based  
2 evaluation techniques and regulatory guidance in li-  
3 censing commercial advanced nuclear reactors.

4 (4) REQUIRED EVALUATIONS.—Consistent with  
5 the role of the Commission in protecting public  
6 health and safety and common defense and security,  
7 the plan shall evaluate—

8 (A) the ability of the Commission to de-  
9 velop and implement risk-informed and per-  
10 formance-based licensing evaluation techniques  
11 and guidance for commercial advanced nuclear  
12 reactors within existing regulatory frameworks  
13 not later than 2 years after the date of enact-  
14 ment of this Act, including policies and guid-  
15 ance for the resolution of—

16 (i) issues relating to—

17 (I) licensing basis event selection  
18 and evaluation;

19 (II) use of mechanistic source  
20 terms;

21 (III) containment performance;  
22 and

23 (IV) emergency preparedness;  
24 and

1 (ii) other policy issues previously iden-  
2 tified; and

3 (B) the extent to which Commission action  
4 is needed to implement any part of the plan.

5 (d) ~~PLAN TO COMPLETE A RULEMAKING TO ESTAB-~~  
6 ~~LISH A TECHNOLOGY-INCLUSIVE REGULATORY FRAME-~~  
7 ~~WORK FOR OPTIONAL USE BY COMMERCIAL ADVANCED~~  
8 ~~NUCLEAR REACTOR TECHNOLOGIES IN NEW REACTOR~~  
9 ~~LICENSE APPLICATIONS.—~~

10 (1) ~~PLAN REQUIRED.—~~Not later than 18  
11 months after the date of enactment of this Act, the  
12 Commission shall submit to the appropriate congres-  
13 sional committees a plan for completing a rule-  
14 making to establish a technology-inclusive regulatory  
15 framework for optional use by applicants in licensing  
16 commercial advanced nuclear reactor technologies in  
17 new reactor license applications (referred to in this  
18 subsection as the “plan”).

19 (2) ~~COORDINATION AND STAKEHOLDER~~  
20 ~~INPUT.—~~In developing the plan, the Commission  
21 shall seek input from the Secretary of Energy, the  
22 nuclear energy industry, a diverse set of technology  
23 developers, and other public stakeholders.

24 (3) ~~COST AND SCHEDULE ESTIMATE.—~~The plan  
25 shall include proposed cost estimates, budgets, and

1 timeframes for developing and implementing a tech-  
2 nology-inclusive regulatory framework for licensing  
3 commercial advanced nuclear reactor technologies,  
4 including completion of a rulemaking.

5 (4) REQUIRED EVALUATIONS.—Consistent with  
6 the role of the Commission in protecting public  
7 health and safety and common defense and security,  
8 the plan shall evaluate—

9 (A) the ability of the Commission to com-  
10 plete a rulemaking to establish a technology-in-  
11 clusive regulatory framework for licensing com-  
12 mercial advanced nuclear reactor technologies  
13 by December 31, 2023; and

14 (B) the extent to which additional legisla-  
15 tion, or Commission action or modification of  
16 policy, is needed to implement any part of the  
17 plan.

18 (c) PLAN TO PREPARE THE RESEARCH AND TEST  
19 REACTOR LICENSING PROCESS.—

20 (1) PLAN REQUIRED.—Not later than 1 year  
21 after the date of enactment of this Act, the Commis-  
22 sion shall submit to the appropriate congressional  
23 committees a plan for preparing the licensing proe-  
24 ss for research and test reactors (referred to in this  
25 subsection as the “plan”).

1           (2) COORDINATION AND STAKEHOLDER  
2 INPUT.—In developing the plan, the Commission  
3 shall seek input from the Secretary of Energy, the  
4 nuclear energy industry, a diverse set of technology  
5 developers, and other public stakeholders.

6           (3) COST AND SCHEDULE ESTIMATES.—The  
7 plan shall include proposed cost estimates, budgets,  
8 and timeframes for preparing the licensing process  
9 for research and test reactors.

10          (4) REQUIRED EVALUATIONS.—Consistent with  
11 the role of the Commission in protecting public  
12 health and safety and common defense and security,  
13 the plan shall evaluate—

14           (A) the unique aspects of research and test  
15 reactor licensing and any associated legal, regu-  
16 latory, and policy issues the Commission should  
17 address to prepare the licensing process for re-  
18 search and test reactors;

19           (B) the feasibility of developing guidelines  
20 for advanced reactor demonstrations to support  
21 the review process for advanced reactor designs,  
22 including designs that use alternative coolants  
23 or alternative fuels, operate at or near atmos-  
24 pheric pressure, and use passive safety strate-  
25 gies; and



1           (C) the extent to which Commission action  
2           or modification of policy is needed to implement  
3           any part of the plan.

4           (F) PLAN TO ENHANCE COMMISSION EXPERTISE RE-  
5           LATING TO ADVANCED NUCLEAR REACTOR TECH-  
6           NOLOGIES.—

7           (1) PLAN REQUIRED.—Not later than 1 year  
8           after the date of enactment of this Act, the Commis-  
9           sion shall submit to the appropriate congressional  
10          committees a plan for ensuring that the Commission  
11          has adequate expertise, modeling, and simulation ca-  
12          pabilities, or access to those capabilities, to support  
13          the evaluation of licensing applications for commer-  
14          cial advanced nuclear reactors and research and test  
15          reactors, including applications that use alternative  
16          coolants or alternative fuels, operate at or near at-  
17          mospheric pressure, and use passive safety strategies  
18          (referred to in this subsection as the “plan”).

19          (2) COST AND SCHEDULE ESTIMATES.—The  
20          plan shall include proposed cost estimates, budgets,  
21          and timeframes for acquiring or accessing the nec-  
22          essary expertise to support the evaluation of license  
23          applications for commercial advanced nuclear reac-  
24          tors and research and test reactors.

1           ~~(3) ANNUAL UPDATES TO PLAN.~~—The Commis-  
2           sion shall—

3                   ~~(A) update the plan on an annual basis;~~  
4                   and

5                   ~~(B) submit for review to the appropriate~~  
6                   congressional committees the updated plan.

7 **SEC. 8. HEARINGS UNDER ATOMIC ENERGY ACT OF 1954.**

8           ~~(a) IN GENERAL.~~—Section 189 of the Atomic Energy  
9 Act of 1954 (42 U.S.C. 2239) is amended—

10                   ~~(1) in subsection a.—~~

11                           ~~(A) in paragraph (1)(A), by striking the~~  
12                           second and third sentences and inserting the  
13                           following: “On each application under section  
14                           103 or 104 b. for a construction permit or an  
15                           operating license, on application under section  
16                           104 e. for a construction permit or an operating  
17                           license for a testing facility, and on application  
18                           for an amendment to a construction permit or  
19                           an operating license under those sections, the  
20                           Commission may, in the absence of a request  
21                           for a hearing by any person whose interest may  
22                           be affected and after 30-day notice and publica-  
23                           tion of notice in the Federal Register, issue a  
24                           construction permit, an operating license, or an

1 amendment to a construction permit or an op-  
 2 erating license without a hearing.”; and

3 (B) in paragraph (2)(A), in the second  
 4 sentence, by striking “required hearing” and in-  
 5 serting “hearing held by the Commission under  
 6 this section”; and

7 (2) in subsection b. (2), by striking “to begin  
 8 operating” and inserting “to operate”.

9 (b) CONFORMING AMENDMENTS.—

10 (1) Section 185 b. of the Atomic Energy Act of  
 11 1954 (42 U.S.C. 2235(b)) is amended in the first  
 12 sentence by striking “After holding a public hearing  
 13 under section 189 a. (1)(A),” and inserting “After  
 14 holding a hearing under section 189 a. (1)(A), or as  
 15 soon as practicable if the Commission has deter-  
 16 mined that no hearing is required to be held under  
 17 that section,”.

18 (2) Section 193(b) of the Atomic Energy Act of  
 19 1954 (42 U.S.C. 2243(b)) is amended—

20 (A) by striking paragraph (1) and insert-  
 21 ing the following:

22 “(1) IN GENERAL.—The Commission shall con-  
 23 duct a single adjudicatory hearing if a person whose  
 24 interest may be affected by the construction and op-  
 25 eration of a facility under sections 53 and 63 has re-

1 requested a hearing regarding the licensing of the con-  
2 struction and operation of the facility.”; and

3 (B) in paragraph (2), by striking “Such  
4 hearing” and inserting “If a hearing is held  
5 under paragraph (1), the hearing”.

6 (c) EFFECT.—The amendments made by this section  
7 shall apply to all applications and proceedings pending be-  
8 fore the Commission on or after the date of enactment  
9 of this Act.

10 **SEC. 9. ADVANCED NUCLEAR ENERGY LICENSING COST-**  
11 **SHARE GRANT PROGRAM.**

12 (a) ESTABLISHMENT.—The Secretary of Energy (re-  
13 ferred to in this section as the “Secretary”) shall establish  
14 a grant program to be known as the “Advanced Nuclear  
15 Energy Cost-Share Grant Program” (referred to in this  
16 section as the “program”), under which the Secretary  
17 shall make cost-share grants to applicants for the purpose  
18 of funding a portion of the Commission fees of the appli-  
19 cant for pre-application and application review activities.

20 (b) REQUIREMENT.—The Secretary shall seek out  
21 technology diversity in making grants under the program.

22 (c) COST-SHARE AMOUNT.—The Secretary shall de-  
23 termine the cost-share amount for each grant.

1       (d) ~~USE OF FUNDS.—~~Recipients of grants under the  
2 program may use the grant funds to cover Commission  
3 fees, including those fees associated with—

4             (1) developing a licensing project plan;

5             (2) obtaining a statement of licensing feasi-  
6 bility;

7             (3) reviewing topical reports; and

8             (4) other pre-application and application review  
9 activities and interactions with the Commission.

10       (e) ~~AUTHORIZATION OF APPROPRIATIONS.—~~There  
11 are authorized to be appropriated to the Secretary to carry  
12 out this section such sums as are necessary.

13 **SECTION 1. SHORT TITLE.**

14       *This Act may be cited as the “Nuclear Energy Innova-*  
15 *tion and Modernization Act”.*

16 **SEC. 2. FINDINGS.**

17       *Congress finds that—*

18             (1) *the safe and secure operation of nuclear reac-*  
19 *tors in the United States must remain the paramount*  
20 *focus of the Nuclear Regulatory Commission;*

21             (2) *the existing fleet of nuclear reactors in the*  
22 *United States is operating safely and securely;*

23             (3) *nuclear energy is the largest source of afford-*  
24 *able, reliable, emissions-free energy in the United*  
25 *States, providing approximately 20 percent of the*

1 *electricity consumed in the United States and 60 per-*  
2 *cent of emissions-free electricity generation in the*  
3 *United States;*

4 *(4) a 1,000-megawatt nuclear plant—*

5 *(A) provides approximately 500 permanent*  
6 *jobs;*

7 *(B) pays approximately \$40,000,000 annu-*  
8 *ally in wages;*

9 *(C) generates approximately \$470,000,000*  
10 *annually in goods and services in the local com-*  
11 *munity; and*

12 *(D) pays approximately \$83,000,000 annu-*  
13 *ally in Federal, State, and local taxes;*

14 *(5) nuclear energy is of critical importance to*  
15 *United States energy security and worldwide influ-*  
16 *ence on nonproliferation;*

17 *(6) nuclear energy uses widely available fuel re-*  
18 *sources to enable scientific progress, emissions-free*  
19 *and reliable electricity generation, heat generation for*  
20 *industrial applications, and power for deep space ex-*  
21 *ploration;*

22 *(7) the private sector, the National Laboratories*  
23 *(as defined in section 2 of the Energy Policy Act of*  
24 *2005 (42 U.S.C. 15801)), and institutions of higher*

1        *education are pursuing innovations in nuclear energy*  
2        *technology that will play a crucial role in—*

3                *(A) the future global and United States en-*  
4                *ergy supply; and*

5                *(B) the exports, manufacturing, and econ-*  
6                *omy of the United States;*

7        *(8) eventual deployment of commercial advanced*  
8        *nuclear reactors will require—*

9                *(A) modernizing the regulatory framework;*

10               *and*

11               *(B) making other necessary changes to fa-*  
12               *ilitate the efficient, predictable, and affordable*  
13               *deployment of advanced nuclear reactor tech-*  
14               *nologies;*

15        *(9) 2 impediments to the commercialization of*  
16        *advanced nuclear reactors are the high costs and long*  
17        *durations associated with applying the existing nu-*  
18        *clear regulatory framework to advanced nuclear reac-*  
19        *tors;*

20               *(10) license application reviews should be as pre-*  
21               *dictable and efficient as practicable without compro-*  
22               *miting safety or security;*

23               *(11) the development of advanced nuclear reac-*  
24               *tors would benefit from the early identification of pol-*  
25               *icy issues for timely consideration and resolution by*

1        *the Commission to improve the efficient development*  
2        *of designs as well as preparing for design review and*  
3        *licensing;*

4            (12) *the existing nuclear regulatory framework*  
5        *and the requirements of that framework have not*  
6        *adapted to advances in scientific understanding or*  
7        *the features and performance characteristics of ad-*  
8        *vanced nuclear reactor designs;*

9            (13) *the existing nuclear reactor licensing proc-*  
10       *ess does not provide iterative feedback to manage risk*  
11       *as needed for typical technology development and in-*  
12       *vestment cycles;*

13           (14) *a staged licensing structure that provides*  
14       *clear and periodic feedback to applicants on an*  
15       *agreed schedule will help to enable the commercializa-*  
16       *tion of safer and innovative technologies that will*  
17       *benefit the economy, national security, and environ-*  
18       *ment of the United States;*

19           (15) *a technology-inclusive Commission regu-*  
20       *latory framework will—*

21                (A) *allow greater technological innovation;*

22                *and*

23                (B) *enable inventors, scientists, engineers,*  
24                *and students to pursue licensing advanced reac-*  
25                *tor concepts;*



1           (16) *further preparation by the Commission of*  
2 *the research and test reactor licensing process will en-*  
3 *able the Commission to more efficiently process appli-*  
4 *cations for research and test reactors when the appli-*  
5 *cations are received;*

6           (17) *it is incumbent on the Commission—*

7           (A) *to budget appropriate resources to un-*  
8 *dertake an active role in design familiarization*  
9 *activities with potential applicants with ad-*  
10 *vanced reactor designs;*

11           (B) *to budget for adequate resources to con-*  
12 *duct licensing reviews and other work requested*  
13 *by licensees and applicants; and*

14           (C) *to preserve those budgeted funds to en-*  
15 *sure responsiveness to licensees and applicants in*  
16 *recognition of the dependence of the licensees and*  
17 *applicants on Commission approval before the*  
18 *benefits of the technology of the licensees and ap-*  
19 *plicants can be realized; and*

20           (18) *both prospective advanced nuclear reactor*  
21 *applicants and the existing fleet of nuclear reactors in*  
22 *the United States would benefit from modernizing the*  
23 *outdated fee recovery structure of the Commission to*  
24 *better manage fluctuations in workload and the num-*  
25 *ber of licensees in a fair and equitable manner.*

1 **SEC. 3. PURPOSE.**

2 *The purpose of this Act is to provide—*

3 *(1) a program to develop the expertise and regu-*  
4 *latory processes necessary to allow innovation and the*  
5 *commercialization of advanced nuclear reactors; and*

6 *(2) a revised fee recovery structure to ensure the*  
7 *availability of resources to meet industry needs with-*  
8 *out burdening existing licensees unfairly for inac-*  
9 *curate workload projections or premature existing re-*  
10 *actor closures.*

11 **SEC. 4. DEFINITIONS.**

12 *In this Act:*

13 *(1) ADVANCED NUCLEAR REACTOR.—The term*  
14 *“advanced nuclear reactor” means a nuclear fission*  
15 *or fusion reactor, including a prototype plant (as de-*  
16 *efined in sections 50.2 and 52.1 of title 10, Code of*  
17 *Federal Regulations), with significant improvements*  
18 *compared to commercial nuclear reactors under con-*  
19 *struction as of the date of enactment of this Act, in-*  
20 *cluding improvements such as—*

21 *(A) additional inherent safety features;*

22 *(B) significantly lower levelized cost of elec-*  
23 *tricity;*

24 *(C) lower waste yields;*

25 *(D) greater fuel utilization;*

26 *(E) enhanced reliability;*

1                   (F) increased proliferation resistance;  
2                   (G) increased thermal efficiency; or  
3                   (H) ability to integrate into electric and  
4                   nonelectric applications.

5                   (2) *AGREEMENT STATE*.—The term “Agreement  
6                   State” means any State with which the Commission  
7                   has entered into an effective agreement under section  
8                   274 b. of the Atomic Energy Act of 1954 (42 U.S.C.  
9                   2021(b)).

10                  (3) *APPLICANT*.—The term “applicant” means  
11                  an applicant for a license, certification, permit, or  
12                  other form of approval from the Commission for a  
13                  commercial advanced nuclear reactor or a research  
14                  and test reactor.

15                  (4) *APPROPRIATE CONGRESSIONAL COMMIT-*  
16                  *TEES*.—The term “appropriate congressional commit-  
17                  *tees” means the Committee on Environment and Pub-*  
18                  *lic Works of the Senate and the Committee on Energy*  
19                  *and Commerce of the House of Representatives.*

20                  (5) *COMMISSION*.—The term “Commission”  
21                  means the Nuclear Regulatory Commission.

22                  (6) *CORPORATE SUPPORT COSTS*.—The term  
23                  “corporate support costs” means expenditures for ac-  
24                  quisitions, administrative services, financial manage-  
25                  ment, human resource management, information

1        *management, information technology, policy support,*  
2        *outreach, and training, as those categories are de-*  
3        *scribed and calculated in Appendix A of the Congres-*  
4        *sional Budget Justification for Fiscal Year 2017 of*  
5        *the Commission.*

6                (7) *LICENSING PROJECT PLAN.*—*The term “li-*  
7        *censing project plan” means a plan that describes—*

8                        (A) *the interactions between an applicant*  
9                        *and the Commission; and*

10                      (B) *project schedules and deliverables in*  
11                      *specific detail to support long-range resource*  
12                      *planning undertaken by the Commission and an*  
13                      *applicant.*

14                (8) *REGULATORY FRAMEWORK.*—*The term “reg-*  
15        *ulatory framework” means the framework for review-*  
16        *ing requests for certifications, permits, approvals, and*  
17        *licenses for nuclear power plants.*

18                (9) *REQUESTED ACTIVITY OF THE COMMIS-*  
19        *SION.*—*The term “requested activity of the Commis-*  
20        *sion” means—*

21                      (A) *the processing of applications for—*

22                                (i) *design certifications or approvals;*

23                                (ii) *licenses;*

24                                (iii) *permits;*

25                                (iv) *license amendments;*

1                   (v) license renewals;

2                   (vi) certificates of compliance; and

3                   (vii) power uprates; and

4                   (B) any other activity requested by a li-  
5 censee or applicant.

6                   (10) RESEARCH AND TEST REACTOR.—

7                   (A) IN GENERAL.—The term “research and  
8 test reactor” means a reactor that—

9                   (i) falls within the licensing and re-  
10 lated regulatory authority of the Commis-  
11 sion under section 202 of the Energy Reor-  
12 ganization Act of 1974 (42 U.S.C. 5842);  
13 and

14                   (ii) is useful in the conduct of research  
15 and development activities as licensed under  
16 section 104 c. of the Atomic Energy Act (42  
17 U.S.C. 2134(c)).

18                   (B) EXCLUSION.—The term “research and  
19 test reactor” does not include a commercial ad-  
20 vanced nuclear reactor.

21                   (11) STANDARD DESIGN APPROVAL.—The term  
22 “standard design approval” means the approval of a  
23 final standard design or a major portion of a final  
24 design standard as described in subpart E of part 52  
25 of title 10, Code of Federal Regulations.

1           (12) *STATEMENT OF LICENSING FEASIBILITY.*—  
2           The term “statement of licensing feasibility” means  
3           an early-stage review by the Commission that—

4                   (A) assesses preliminary design information  
5                   for consistency with applicable regulatory re-  
6                   quirements of the Commission;

7                   (B) is performed on a set of topic areas  
8                   agreed to in the licensing project plan; and

9                   (C) is performed at a cost and schedule  
10                  agreed to in the licensing project plan.

11           (13) *TECHNOLOGY-INCLUSIVE REGULATORY*  
12           *FRAMEWORK.*—The term “technology-inclusive regu-  
13           latory framework” means a regulatory framework de-  
14           veloped using methods of evaluation that are flexible  
15           and practicable for application to a variety of reactor  
16           technologies, including, where appropriate, the use of  
17           risk-informed and performance-based techniques and  
18           other tools and methods.

19           (14) *TOPICAL REPORT.*—The term “topical re-  
20           port” means a document submitted to the Commission  
21           that addresses a technical topic related to nuclear  
22           power plant safety or design.

1 **SEC. 5. NUCLEAR REGULATORY COMMISSION USER FEES**  
2 **AND ANNUAL CHARGES THROUGH FISCAL**  
3 **YEAR 2018.**

4 (a) *IN GENERAL.*—Section 6101(c)(2)(A) of the *Omnibus Budget Reconciliation Act of 1990* (42 U.S.C. 2214(c)(2)(A)) is amended—

7 (1) *in clause (iii), by striking “and” at the end;*

8 (2) *in clause (iv), by striking the period at the end and inserting “; and”;* and

10 (3) *by adding at the end the following:*

11 “(v) amounts appropriated to the  
12 Commission for the fiscal year for activities  
13 related to the development of a regulatory  
14 framework for advanced nuclear reactor  
15 technologies, including activities required  
16 under section 7 of the *Nuclear Energy Innovation and Modernization Act.*”.

18 (b) *REPEAL.*—Effective October 1, 2018, section 6101  
19 of the *Omnibus Budget Reconciliation Act of 1990* (42  
20 U.S.C. 2214) is repealed.

21 **SEC. 6. NUCLEAR REGULATORY COMMISSION USER FEES**  
22 **AND ANNUAL CHARGES FOR FISCAL YEAR**  
23 **2019 AND EACH FISCAL YEAR THEREAFTER.**

24 (a) *ANNUAL BUDGET JUSTIFICATION.*—

25 (1) *IN GENERAL.*—*In the annual budget justification submitted by the Commission to Congress,*

1       *the Commission shall expressly identify anticipated*  
2       *expenditures necessary for completion of the requested*  
3       *activities of the Commission anticipated to occur dur-*  
4       *ing the applicable fiscal year.*

5               (2) *RESTRICTION.—Budget authority granted to*  
6       *the Commission for purposes of the requested activi-*  
7       *ties of the Commission shall be used, to the maximum*  
8       *extent practicable, solely for conducting requested ac-*  
9       *tivities of the Commission.*

10              (3) *LIMITATION ON CORPORATE SUPPORT*  
11       *COSTS.—With respect to the annual budget justifica-*  
12       *tion submitted to Congress, corporate support costs, to*  
13       *the maximum extent practicable, shall not exceed the*  
14       *following percentages of the total budget authority of*  
15       *the Commission requested in the annual budget jus-*  
16       *tification:*

17                      (A) *30 percent for each of fiscal years 2019*  
18                      *and 2020.*

19                      (B) *29 percent for each of fiscal years 2021*  
20                      *and 2022.*

21                      (C) *28 percent for fiscal year 2023 and each*  
22                      *fiscal year thereafter.*

23              (b) *FEES AND CHARGES.—*

24                      (1) *ANNUAL ASSESSMENT.—*



1           (A) *IN GENERAL.*—*Each fiscal year, the*  
2           *Commission shall assess and collect fees and*  
3           *charges in accordance with paragraphs (2) and*  
4           *(3) in a manner that ensures that, to the max-*  
5           *imum extent practicable, the amount collected is*  
6           *equal to an amount that approximates—*

7                     *(i) the total budget authority of the*  
8                     *Commission for that fiscal year; less*

9                     *(ii) the budget authority of the Com-*  
10                    *mission for the activities described in sub-*  
11                    *paragraph (B).*

12           (B) *EXCLUDED ACTIVITIES DESCRIBED.*—  
13           *The activities referred to in subparagraph (A)(ii)*  
14           *are the following:*

15                    *(i) An activity not attributable to an*  
16                    *existing NRC licensee or class of licensee as*  
17                    *identified by the Commission in Table III*  
18                    *of the final rule of the Commission entitled*  
19                    *“Revision of Fee Schedules; Fee Recovery*  
20                    *for Fiscal Year 2015” (80 Fed. Reg. 37432*  
21                    *(June 30, 2015)).*

22                    *(ii) Amounts appropriated for a fiscal*  
23                    *year to the Commission—*

24                             *(I) from the Nuclear Waste Fund*  
25                             *established under section 302(c) of the*

1                    *Nuclear Waste Policy Act of 1982 (42*  
2                    *U.S.C. 10222(c));*

3                    *(II) for implementation of section*  
4                    *3116 of the Ronald W. Reagan Na-*  
5                    *tional Defense Authorization Act for*  
6                    *Fiscal Year 2005 (50 U.S.C. 2601 note;*  
7                    *Public Law 108–375);*

8                    *(III) for the homeland security ac-*  
9                    *tivities of the Commission (other than*  
10                   *for the costs of fingerprinting and*  
11                   *background checks required under sec-*  
12                   *tion 149 of the Atomic Energy Act of*  
13                   *1954 (42 U.S.C. 2169) and the costs of*  
14                   *conducting security inspections);*

15                   *(IV) for the Inspector General*  
16                   *services of the Commission provided to*  
17                   *the Defense Nuclear Facilities Safety*  
18                   *Board;*

19                   *(V) for research and development*  
20                   *at universities in areas relevant to the*  
21                   *mission of the applicable university;*

22                   *(VI) for a nuclear science and en-*  
23                   *gineering grant program that will sup-*  
24                   *port multiyear projects that do not*  
25                   *align with programmatic missions but*

1                   are critical to maintaining the dis-  
2                   cipline of nuclear science and engineer-  
3                   ing; and

4                   (VII) for any other fee-relief activ-  
5                   ity described in the final rule of the  
6                   Commission entitled “Revision of Fee  
7                   Schedules; Fee Recovery for Fiscal  
8                   Year 2015” (80 Fed. Reg. 37432 (June  
9                   30, 2015)).

10                  (iii) Costs for activities related to the  
11                  development of regulatory infrastructure for  
12                  advanced nuclear reactor technologies, in-  
13                  cluding activities required under section 7.

14                  (C) *EXCEPTION.*—The exclusion described  
15                  in subparagraph (B)(iii) shall cease to be effec-  
16                  tive on January 1, 2030.

17                  (D) *REPORT.*—Not later than December 31,  
18                  2028, the Commission shall submit to the Com-  
19                  mittee on Appropriations and the Committee on  
20                  Environment and Public Works of the Senate  
21                  and the Committee on Appropriations and the  
22                  Committee on Energy and Commerce of the  
23                  House of Representatives a report describing the  
24                  views of the Commission on the continued appro-

1            *priateness and necessity of the funding described*  
2            *in subparagraph (B)(iii).*

3            (2) *FEES FOR SERVICE OR THING OF VALUE.—*

4            *In accordance with section 9701 of title 31, United*  
5            *States Code, the Commission shall charge fees to any*  
6            *person who receives a service or thing of value from*  
7            *the Commission to cover the costs to the Commission*  
8            *of providing the service or thing of value.*

9            (3) *ANNUAL FEES.—*

10            (A) *IN GENERAL.—Subject to subparagraph*  
11            *(B) and except as provided in subparagraph (D),*  
12            *the Commission may charge to any licensee or*  
13            *certificate holder of the Commission an annual*  
14            *fee.*

15            (B) *CAP ON ANNUAL FEES OF CERTAIN LI-*  
16            *CENSEES.—*

17            (i) *IN GENERAL.—The annual fee*  
18            *under subparagraph (A) charged to an op-*  
19            *erating reactor licensee, to the maximum ex-*  
20            *tent practicable, shall not exceed the annual*  
21            *fee amount per operating reactor licensee es-*  
22            *tablished in the final rule of the Commis-*  
23            *sion entitled “Revision of Fee Schedules;*  
24            *Fee Recovery for Fiscal Year 2015” (80*  
25            *Fed. Reg. 37432 (June 30, 2015)), as may*

1           *be adjusted annually by the Commission to*  
2           *reflect changes in the Consumer Price Index*  
3           *published by the Bureau of Labor Statistics*  
4           *of the Department of Labor.*

5           *(ii) WAIVER.—The Commission may*  
6           *waive, for a period of 1 year, the cap on*  
7           *annual fees described in clause (i) if the*  
8           *Commission submits to the Committee on*  
9           *Appropriations and the Committee on En-*  
10          *vironment and Public Works of the Senate*  
11          *and the Committee on Appropriations and*  
12          *the Committee on Energy and Commerce of*  
13          *the House of Representatives a written de-*  
14          *termination that the cap on annual fees*  
15          *may compromise the safety and security*  
16          *mission of the Commission.*

17          *(C) AMOUNT PER LICENSEE.—*

18          *(i) IN GENERAL.—The Commission*  
19          *shall establish by rule a schedule of fees fair-*  
20          *ly and equitably allocating the aggregate*  
21          *amount of charges described in subpara-*  
22          *graph (A) among licensees and certificate*  
23          *holders.*

24          *(ii) REQUIREMENT.—The schedule of*  
25          *fees under clause (i)—*

1           (I) to the maximum extent prac-  
2           ticable, shall be based on the cost of  
3           providing regulatory services; and

4           (II) may be based on the alloca-  
5           tion of the resources of the Commission  
6           among licensees or certificate holders  
7           or classes of licensees or certificate  
8           holders.

9           (D) EXEMPTION.—

10           (i) DEFINITION OF RESEARCH REAC-  
11           TOR.—In this subparagraph, the term “re-  
12           search reactor” means a nuclear reactor  
13           that—

14           (I) is licensed by the Commission  
15           under section 104 c. of the Atomic En-  
16           ergy Act of 1954 (42 U.S.C. 2134(c))  
17           for operation at a thermal power level  
18           of not more than 10 megawatts; and

19           (II) if licensed under subclause (I)  
20           for operation at a thermal power level  
21           of more than 1 megawatt, does not con-  
22           tain—

23           (aa) a circulating loop  
24           through the core in which the li-  
25           censee conducts fuel experiments;

1                                    (bb) a liquid fuel loading; or  
2                                    (cc) an experimental facility  
3                                    in the core in excess of 16 square  
4                                    inches in cross-section.

5                                   (ii) *EXEMPTION.*—Subparagraph (A)  
6                                   shall not apply to the holder of any license  
7                                   for a federally owned research reactor used  
8                                   primarily for educational training and aca-  
9                                   demic research purposes.

10                               (c) *PERFORMANCE AND REPORTING.*—

11                               (1) *IN GENERAL.*—The Commission shall develop  
12                               for the requested activities of the Commission—

13                                   (A) performance metrics; and

14                                   (B) on each request, milestone schedules.

15                               (2) *DELAYS IN ISSUANCE OF FINAL SAFETY*  
16                               *EVALUATION.*—The Executive Director for Operations  
17                               of the Commission shall inform the Commission of a  
18                               delay in issuance of the final safety evaluation for a  
19                               requested activity of the Commission by the comple-  
20                               tion date required by the performance metrics or  
21                               milestone schedule under paragraph (1) by not later  
22                               than 30 days after the completion date.

23                               (3) *DELAYS IN ISSUANCE OF FINAL SAFETY*  
24                               *EVALUATION EXCEEDING 180 DAYS.*—If the final safety  
25                               evaluation for the requested activity of the Commis-

1        *sion described in paragraph (2) is not completed by*  
2        *the date that is 180 days after the completion date re-*  
3        *quired by the performance metrics or milestone sched-*  
4        *ule under paragraph (1), the Commission shall sub-*  
5        *mit to the appropriate congressional committees a*  
6        *timely report describing the delay, including a de-*  
7        *tailed explanation accounting for the delay and a*  
8        *plan for timely completion of the final safety evalua-*  
9        *tion.*

10        *(d) ACCURATE INVOICING.—With respect to invoices*  
11        *for fees and charges described in subsection (b)(2), the Com-*  
12        *mission shall—*

13                *(1) ensure appropriate management review and*  
14                *concurrence prior to the issuance of invoices;*

15                *(2) develop and implement processes to audit in-*  
16                *voices to ensure accuracy, transparency, and fairness;*  
17                *and*

18                *(3) modify regulations to ensure fair and appro-*  
19                *priate processes to provide licensees and applicants*  
20                *an opportunity to efficiently dispute or otherwise seek*  
21                *review and correction of errors in invoices for fees*  
22                *and charges.*

23        *(e) REPORT.—Not later than September 30, 2020, the*  
24        *Commission shall submit to the Committee on Appropria-*  
25        *tions and the Committee on Environment and Public Works*



1 of the Senate and the Committee on Appropriations and  
2 the Committee on Energy and Commerce of the House of  
3 Representatives a report describing the implementation of  
4 this section, including any impacts and recommendations  
5 for improvement.

6 (f) *EFFECTIVE DATE.*—This section takes effect on Oc-  
7 tober 1, 2018.

8 **SEC. 7. ADVANCED NUCLEAR REACTOR PROGRAM.**

9 (a) *LICENSING OF COMMERCIAL ADVANCED NUCLEAR*  
10 *REACTORS.*—

11 (1) *STAGED LICENSING.*—For the purpose of pre-  
12 dictable, efficient, and timely reviews, not later than  
13 2 years after the date of enactment of this Act, the  
14 Commission shall develop and implement, within the  
15 existing regulatory framework, strategies for—

16 (A) establishing stages in the licensing proc-  
17 ess for commercial advanced nuclear reactors;  
18 and

19 (B) developing procedures and processes  
20 for—

21 (i) using a licensing project plan; and  
22 (ii) optional use of a statement of li-  
23 censing feasibility.

24 (2) *RISK-INFORMED LICENSING.*—Not later than  
25 2 years after the date of enactment of this Act, the

1        *Commission shall develop and implement, where ap-*  
2        *propriate, strategies for the increased use of risk-in-*  
3        *formed, performance-based licensing evaluation tech-*  
4        *niques and guidance for commercial advanced nuclear*  
5        *reactors within existing regulatory frameworks, in-*  
6        *cluding evaluation techniques and guidance for the*  
7        *resolution of the following:*

8                *(A) Applicable policy issues identified dur-*  
9                *ing the course of review by the Commission of a*  
10              *commercial advanced nuclear reactor licensing*  
11              *application.*

12              *(B) The issues described in SECY-93-092*  
13              *and SECY-15-077, including—*

14                      *(i) licensing basis event selection and*  
15                      *evaluation;*

16                      *(ii) source terms;*

17                      *(iii) containment performance; and*

18                      *(iv) emergency preparedness.*

19              *(3) RESEARCH AND TEST REACTOR LICENSING.—*  
20        *For the purpose of predictable, efficient, and timely*  
21        *reviews, not later than 2 years after the date of enact-*  
22        *ment of this Act, the Commission shall develop and*  
23        *implement strategies within the existing regulatory*  
24        *framework for licensing research and test reactors, in-*  
25        *cluding the issuance of guidance.*

1           (4) *TECHNOLOGY-INCLUSIVE REGULATORY*  
2 *FRAMEWORK.—Not later than December 31, 2023, the*  
3 *Commission shall complete a rulemaking to establish*  
4 *a technology-inclusive, regulatory framework for op-*  
5 *tional use by commercial advanced nuclear reactor*  
6 *applicants for new reactor license applications.*

7           (5) *TRAINING AND EXPERTISE.—As soon as*  
8 *practicable after the date of enactment of this Act, the*  
9 *Commission shall provide for staff training or the*  
10 *hiring of experts, as necessary—*

11                   (A) *to support the activities described in*  
12 *paragraphs (1) through (4); and*

13                   (B) *to support preparations—*

14                           (i) *to conduct pre-application inter-*  
15 *actions; and*

16                           (ii) *to review commercial advanced nu-*  
17 *clear reactor license applications.*

18           (6) *AUTHORIZATION OF APPROPRIATIONS.—*  
19 *There are authorized to be appropriated to the Com-*  
20 *mission to carry out this subsection such sums as are*  
21 *necessary.*

22           (b) *REPORT TO ESTABLISH STAGES IN THE COMMER-*  
23 *CIAL ADVANCED NUCLEAR REACTOR LICENSING PROC-*  
24 *ESS.—*

1           (1) *REPORT REQUIRED.*—Not later than 180  
2           days after the date of enactment of this Act, the Com-  
3           mission shall submit to the appropriate congressional  
4           committees a report for expediting and establishing  
5           stages in the licensing process for commercial ad-  
6           vanced nuclear reactors that will allow implementa-  
7           tion of the licensing process by not later than 2 years  
8           after the date of enactment of this Act (referred to in  
9           this subsection as the “report”).

10           (2) *COORDINATION AND STAKEHOLDER INPUT.*—  
11           In developing the report, the Commission shall seek  
12           input from the Secretary of Energy, the nuclear en-  
13           ergy industry, a diverse set of technology developers,  
14           and other public stakeholders.

15           (3) *COST AND SCHEDULE ESTIMATES.*—The re-  
16           port shall include proposed cost estimates, budgets,  
17           and timeframes for implementing strategies to estab-  
18           lish stages in the licensing process for commercial ad-  
19           vanced nuclear reactor technologies.

20           (4) *REQUIRED EVALUATIONS.*—Consistent with  
21           the role of the Commission in protecting public health  
22           and safety and common defense and security, the re-  
23           port shall evaluate—

24                    (A)(i) the unique aspects of commercial ad-  
25                    vanced nuclear reactor licensing, including the

1           *use of alternative coolants or alternative fuels,*  
2           *operation at or near atmospheric pressure, and*  
3           *the use of passive safety strategies; and*

4           *(ii) for the purposes of predictable, efficient,*  
5           *and timely reviews, any associated legal, regu-*  
6           *latory, and policy issues the Commission should*  
7           *address with regard to the licensing of commer-*  
8           *cial advanced nuclear reactor technologies;*

9           *(B) options for licensing commercial ad-*  
10          *vanced nuclear reactors under the regulations of*  
11          *the Commission contained in title 10, Code of*  
12          *Federal Regulations (as in effect on the date of*  
13          *enactment of this Act), including—*

14           *(i) the development and use under the*  
15           *regulatory framework of the Commission in*  
16           *effect on the date of enactment of this Act*  
17           *of a licensing project plan that could estab-*  
18           *lish—*

19                   *(I) milestones that—*

20                           *(aa) correspond to stages of a*  
21                           *licensing process for the specific*  
22                           *situation of a commercial ad-*  
23                           *vanced nuclear reactor project;*  
24                           *and*

1                    *(bb) use knowledge of the*  
2                    *ability of the Commission to re-*  
3                    *view certain design aspects; and*

4                    *(II) guidelines defining the roles*  
5                    *and responsibilities between the Com-*  
6                    *mission and the applicant at the onset*  
7                    *of the interaction—*

8                    *(aa) to provide the founda-*  
9                    *tion for effective communication*  
10                   *and effective project management;*  
11                   *and*

12                   *(bb) to ensure efficient*  
13                   *progress;*

14                   *(ii) the use of topical reports, standard*  
15                   *design approval, and other appropriate*  
16                   *mechanisms as tools to introduce stages into*  
17                   *the commercial advanced nuclear reactor li-*  
18                   *censing process, including how the licensing*  
19                   *project plan might structure the use of those*  
20                   *mechanisms;*

21                   *(iii) collaboration with standards-set-*  
22                   *ting organizations to identify specific tech-*  
23                   *nical areas for which new or updated stand-*  
24                   *ards are needed and providing assistance if*  
25                   *appropriate to ensure the new or updated*

1           standards are developed and finalized in a  
2           timely fashion;

3           (iv) the incorporation of consensus-  
4           based codes and standards developed under  
5           clause (iii) into the regulatory framework—

6           (I) to provide predictability for  
7           the regulatory processes of the Commis-  
8           sion; and

9           (II) to ensure timely completion  
10          of specific licensing actions;

11          (v) the development of a process for,  
12          and the use of, statements of licensing feasi-  
13          bility; and

14          (vi) identification of any policies and  
15          guidance for staff that will be needed to im-  
16          plement clauses (i) and (ii);

17          (C) options for improving the efficiency,  
18          timeliness, and cost-effectiveness of licensing re-  
19          views of commercial advanced nuclear reactors,  
20          including opportunities to minimize the delays  
21          that may result from any necessary amendment  
22          or supplement to an application;

23          (D) options for improving the predictability  
24          of the commercial advanced nuclear reactor li-  
25          censing process, including the evaluation of op-

1            *portunities to improve the process by which ap-*  
2            *plication review milestones are established and*  
3            *met; and*

4            *(E) the extent to which Commission action*  
5            *or modification of policy is needed to implement*  
6            *any part of the report.*

7            *(c) REPORT TO INCREASE THE USE OF RISK-IN-*  
8            *FORMED AND PERFORMANCE-BASED EVALUATION TECH-*  
9            *NIQUES AND REGULATORY GUIDANCE.—*

10            *(1) REPORT REQUIRED.—Not later than 180*  
11            *days after the date of enactment of this Act, the Com-*  
12            *mission shall submit to the appropriate congressional*  
13            *committees a report for increasing, where appro-*  
14            *priate, the use of risk-informed and performance-*  
15            *based evaluation techniques and regulatory guidance*  
16            *in licensing commercial advanced nuclear reactors*  
17            *within the existing regulatory framework (referred to*  
18            *in this subsection as the “report”).*

19            *(2) COORDINATION AND STAKEHOLDER INPUT.—*  
20            *In developing the report, the Commission shall seek*  
21            *input from the Secretary of Energy, the nuclear en-*  
22            *ergy industry, technology developers, and other public*  
23            *stakeholders.*

24            *(3) COST AND SCHEDULE ESTIMATE.—The re-*  
25            *port shall include proposed cost estimates, budgets,*



1        *and timeframes for implementing a strategy to in-*  
2        *crease the use of risk-informed and performance-based*  
3        *evaluation techniques and regulatory guidance in li-*  
4        *censing commercial advanced nuclear reactors.*

5            (4) *REQUIRED EVALUATIONS.*—*Consistent with*  
6        *the role of the Commission in protecting public health*  
7        *and safety and common defense and security, the re-*  
8        *port shall evaluate—*

9            (A) *the ability of the Commission to develop*  
10        *and implement, where appropriate, risk-in-*  
11        *formed and performance-based licensing evalua-*  
12        *tion techniques and guidance for commercial ad-*  
13        *vanced nuclear reactors within existing regu-*  
14        *latory frameworks not later than 2 years after*  
15        *the date of enactment of this Act, including poli-*  
16        *cies and guidance for the resolution of—*

17            (i) *issues relating to—*

18                    (I) *licensing basis event selection*  
19                    *and evaluation;*

20                    (II) *use of mechanistic source*  
21                    *terms;*

22                    (III) *containment performance;*  
23                    *and*

24                    (IV) *emergency preparedness; and*

1                   (ii) other policy issues previously iden-  
2                   tified; and

3                   (B) the extent to which Commission action  
4                   is needed to implement any part of the report.

5           (d) *REPORT TO PREPARE THE RESEARCH AND TEST*  
6 *REACTOR LICENSING PROCESS.*—

7                   (1) *REPORT REQUIRED.*—Not later than 1 year  
8                   after the date of enactment of this Act, the Commis-  
9                   sion shall submit to the appropriate congressional  
10                  committees a report for preparing the licensing proc-  
11                  ess for research and test reactors within the existing  
12                  regulatory framework (referred to in this subsection  
13                  as the “report”).

14                  (2) *COORDINATION AND STAKEHOLDER INPUT.*—  
15                  In developing the report, the Commission shall seek  
16                  input from the Secretary of Energy, the nuclear en-  
17                  ergy industry, a diverse set of technology developers,  
18                  and other public stakeholders.

19                  (3) *COST AND SCHEDULE ESTIMATES.*—The re-  
20                  port shall include proposed cost estimates, budgets,  
21                  and timeframes for preparing the licensing process for  
22                  research and test reactors.

23                  (4) *REQUIRED EVALUATIONS.*—Consistent with  
24                  the role of the Commission in protecting public health

1        *and safety and common defense and security, the re-*  
2        *port shall evaluate—*

3                *(A) the unique aspects of research and test*  
4                *reactor licensing and any associated legal, regu-*  
5                *latory, and policy issues the Commission should*  
6                *address to prepare the licensing process for re-*  
7                *search and test reactors;*

8                *(B) the feasibility of developing guidelines*  
9                *for advanced reactor demonstrations to support*  
10               *the review process for advanced reactors designs,*  
11               *including designs that use alternative coolants or*  
12               *alternative fuels, operate at or near atmospheric*  
13               *pressure, and use passive safety strategies; and*

14               *(C) the extent to which Commission action*  
15               *or modification of policy is needed to implement*  
16               *any part of the report.*

17        *(e) REPORT TO COMPLETE A RULEMAKING TO ESTAB-*  
18        *LISH A TECHNOLOGY-INCLUSIVE REGULATORY FRAMEWORK*  
19        *FOR OPTIONAL USE BY COMMERCIAL ADVANCED NUCLEAR*  
20        *REACTOR TECHNOLOGIES IN NEW REACTOR LICENSE AP-*  
21        *PLICATIONS AND TO ENHANCE COMMISSION EXPERTISE*  
22        *RELATING TO ADVANCED NUCLEAR REACTOR TECH-*  
23        *NOLOGIES.—*

24               *(1) REPORT REQUIRED.—Not later than 30*  
25               *months after the date of enactment of this Act, the*

1       *Commission shall submit to the appropriate congres-*  
2       *sional committees a report (referred to in this sub-*  
3       *section as the “report”) for—*

4               *(A) completing a rulemaking to establish a*  
5               *technology-inclusive regulatory framework for*  
6               *optional use by applicants in licensing commer-*  
7               *cial advanced nuclear reactor technologies in*  
8               *new reactor license applications; and*

9               *(B) ensuring that the Commission has ade-*  
10              *quate expertise, modeling, and simulation capa-*  
11              *bilities, or access to those capabilities, to support*  
12              *the evaluation of advanced reactor license appli-*  
13              *cations.*

14              *(2) COORDINATION AND STAKEHOLDER INPUT.—*  
15       *In developing the report, the Commission shall seek*  
16       *input from the Secretary of Energy, the nuclear en-*  
17       *ergy industry, a diverse set of technology developers,*  
18       *and other public stakeholders.*

19              *(3) COST AND SCHEDULE ESTIMATE.—The re-*  
20       *port shall include proposed cost estimates, budgets,*  
21       *and timeframes for developing and implementing a*  
22       *technology-inclusive regulatory framework for licens-*  
23       *ing commercial advanced nuclear reactor technologies,*  
24       *including completion of a rulemaking.*

1           (4) *REQUIRED EVALUATIONS.*—*Consistent with*  
2 *the role of the Commission in protecting public health*  
3 *and safety and common defense and security, the re-*  
4 *port shall evaluate—*

5                   (A) *the ability of the Commission to com-*  
6 *plete a rulemaking to establish a technology-in-*  
7 *clusive regulatory framework for licensing com-*  
8 *mercial advanced nuclear reactor technologies by*  
9 *December 31, 2023;*

10                   (B) *the extent to which additional legisla-*  
11 *tion, or Commission action or modification of*  
12 *policy, is needed to implement any part of the*  
13 *new regulatory framework;*

14                   (C) *the need for additional Commission ex-*  
15 *pertise, modeling, and simulation capabilities, or*  
16 *access to those capabilities, to support the eval-*  
17 *uation of licensing applications for commercial*  
18 *advanced nuclear reactors and research and test*  
19 *reactors, including applications that use alter-*  
20 *native coolants or alternative fuels, operate at or*  
21 *near atmospheric pressure, and use passive safe-*  
22 *ty strategies; and*

23                   (D) *the budgets and timeframes for acquir-*  
24 *ing or accessing the necessary expertise to sup-*  
25 *port the evaluation of license applications for*

1           *commercial advanced nuclear reactors and re-*  
2           *search and test reactors.*

3 **SEC. 8. ADVANCED NUCLEAR ENERGY LICENSING COST-**  
4           **SHARE GRANT PROGRAM.**

5           *(a) ESTABLISHMENT.—The Secretary of Energy (re-*  
6           *ferred to in this section as the “Secretary”) shall establish*  
7           *a grant program to be known as the “Advanced Nuclear*  
8           *Energy Cost-Share Grant Program” (referred to in this sec-*  
9           *tion as the “program”), under which the Secretary shall*  
10          *make cost-share grants to applicants for the purpose of*  
11          *funding a portion of the Commission fees of the applicant*  
12          *for pre-application and application review activities.*

13          *(b) REQUIREMENT.—The Secretary shall seek out tech-*  
14          *nology diversity in making grants under the program.*

15          *(c) COST-SHARE AMOUNT.—The Secretary shall deter-*  
16          *mine the cost-share amount for each grant.*

17          *(d) USE OF FUNDS.—Recipients of grants under the*  
18          *program may use the grant funds to cover Commission fees,*  
19          *including those fees associated with—*

- 20                  *(1) developing a licensing project plan;*  
21                  *(2) obtaining a statement of licensing feasibility;*  
22                  *(3) reviewing topical reports; and*  
23                  *(4) other pre-application and application review*  
24          *activities and interactions with the Commission.*

1       (e) *AUTHORIZATION OF APPROPRIATIONS.*—*There are*  
2 *authorized to be appropriated to the Secretary to carry out*  
3 *this section such sums as are necessary.*

4 **SEC. 9. URANIUM RECOVERY REPORT.**

5       *Not later than 1 year after the date of enactment of*  
6 *this Act, the Commission shall submit to the appropriate*  
7 *congressional committees a report regarding the safety and*  
8 *feasibility of extending the duration of uranium recovery*  
9 *licenses from 10 to 20 years, including any potential bene-*  
10 *fits of the extension.*

Calendar No. 528

114<sup>TH</sup> CONGRESS  
2<sup>D</sup> SESSION

**S. 2795**

[Report No. 114-285]

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**A BILL**

To modernize the regulation of nuclear energy.

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JUNE 23, 2016

Reported with an amendment