

115TH CONGRESS
1ST SESSION

H. R. 590

IN THE SENATE OF THE UNITED STATES

JANUARY 24, 2017

Received; read twice and referred to the Committee on Commerce, Science,
and Transportation

FEBRUARY 10, 2017

Committee discharged; referred to the Committee on Environment and Public
Works

AN ACT

To foster civilian research and development of advanced nuclear energy technologies and enhance the licensing and commercial deployment of such technologies.

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 “Advanced Nuclear
5 Technology Development Act of 2017”.

6 **SEC. 2. FINDINGS.**

7 Congress finds the following:

8 (1) Nuclear energy generates approximately 20
9 percent of the total electricity and approximately 60

1 percent of the carbon-free electricity of the United
2 States.

3 (2) Nuclear power plants operate consistently at
4 a 90 percent capacity factor, and provide consumers
5 and businesses with reliable and affordable elec-
6 tricity.

7 (3) Nuclear power plants generate billions of
8 dollars in national economic activity through nation-
9 wide procurements and provide thousands of Ameri-
10 cans with high paying jobs contributing substantially
11 to the local economies in communities where they
12 operate.

13 (4) The United States commercial nuclear in-
14 dustry must continue to lead the international civil-
15 ian nuclear marketplace, because it is one of our
16 most powerful national security tools, guaranteeing
17 the safe, secure, and exclusively peaceful use of nu-
18 clear energy.

19 (5) Maintaining the Nation's nuclear fleet of
20 commercial light water reactors and expanding the
21 use of new advanced reactor designs would support
22 continued production of reliable baseload electricity
23 and maintain United States global leadership in nu-
24 clear power.

1 (6) Nuclear fusion technology also has the po-
2 tential to generate electricity with significantly in-
3 creased safety performance and no radioactive waste.

4 (7) The development of advanced reactor de-
5 signs would benefit from a performance-based, risk-
6 informed, efficient, and cost-effective regulatory
7 framework with defined milestones and the oppor-
8 tunity for applicants to demonstrate progress
9 through Nuclear Regulatory Commission approval.

10 **SEC. 3. DEFINITIONS.**

11 In this Act:

12 (1) **ADVANCED NUCLEAR REACTOR.**—The term
13 “advanced nuclear reactor” means—

14 (A) a nuclear fission reactor with signifi-
15 cant improvements over the most recent genera-
16 tion of nuclear fission reactors, which may in-
17 clude inherent safety features, lower waste
18 yields, greater fuel utilization, superior reli-
19 ability, resistance to proliferation, and increased
20 thermal efficiency; or

21 (B) a nuclear fusion reactor.

22 (2) **DEPARTMENT.**—The term “Department”
23 means the Department of Energy.

24 (3) **LICENSING.**—The term “licensing” means
25 NRC activities related to reviewing applications for

1 licenses, permits, and design certifications, and re-
2 quests for any other regulatory approval for nuclear
3 reactors within the responsibilities of the NRC under
4 the Atomic Energy Act of 1954.

5 (4) NATIONAL LABORATORY.—The term “Na-
6 tional Laboratory” has the meaning given that term
7 in section 2 of the Energy Policy Act of 2005 (42
8 U.S.C. 15801).

9 (5) NRC.—The term “NRC” means the Nu-
10 clear Regulatory Commission.

11 (6) SECRETARY.—The term “Secretary” means
12 the Secretary of Energy.

13 **SEC. 4. AGENCY COORDINATION.**

14 The NRC and the Department shall enter into the
15 a memorandum of understanding regarding the following
16 topics:

17 (1) TECHNICAL EXPERTISE.—Ensuring that
18 the Department has sufficient technical expertise to
19 support the civilian nuclear industry’s timely re-
20 search, development, demonstration, and commercial
21 application of safe, innovative advanced reactor tech-
22 nology and the NRC has sufficient technical exper-
23 tise to support the evaluation of applications for li-
24 censes, permits, and design certifications, and other

1 requests for regulatory approval for advanced reac-
2 tors.

3 (2) MODELING AND SIMULATION.—The use of
4 computers and software codes to calculate the behav-
5 ior and performance of advanced reactors based on
6 mathematical models of their physical behavior.

7 (3) FACILITIES.—Ensuring that the Depart-
8 ment maintains and develops the facilities to enable
9 the civilian nuclear industry’s timely research, devel-
10 opment, demonstration, and commercial application
11 of safe, innovative reactor technology and ensuring
12 that the NRC has access to such facilities, as need-
13 ed.

14 **SEC. 5. ADVANCED REACTOR REGULATORY FRAMEWORK.**

15 (a) PLAN REQUIRED.—Not later than 1 year after
16 the date of enactment of this Act, the NRC shall transmit
17 to Congress a plan for developing an efficient, risk-in-
18 formed, technology-neutral framework for advanced reac-
19 tor licensing. The plan shall evaluate the following sub-
20 jects, consistent with the NRC’s role in protecting public
21 health and safety and common defense and security:

22 (1) The unique aspects of advanced reactor li-
23 censing and any associated legal, regulatory, and
24 policy issues the NRC will need to address to de-
25 velop a framework for licensing advanced reactors.

1 (2) Options for licensing advanced reactors
2 under existing NRC regulations in title 10 of the
3 Code of Federal Regulations, a proposed new regu-
4 latory framework, or a combination of these ap-
5 proaches.

6 (3) Options to expedite and streamline the li-
7 censing of advanced reactors, including opportunities
8 to minimize the time from application submittal to
9 final NRC licensing decision and minimize the
10 delays that may result from any necessary amend-
11 ments or supplements to applications.

12 (4) Options to expand the incorporation of con-
13 sensus-based codes and standards into the advanced
14 reactor regulatory framework to minimize time to
15 completion and provide flexibility in implementation.

16 (5) Options to make the advanced reactor li-
17 censing framework more predictable. This evaluation
18 should consider opportunities to improve the process
19 by which application review milestones are estab-
20 lished and maintained.

21 (6) Options to allow applicants to use phased
22 review processes under which the NRC issues ap-
23 provals that do not require the NRC to re-review
24 previously approved information. This evaluation
25 shall consider the NRC's ability to review and condi-

1 tionally approve partial applications, early design in-
2 formation, and submittals that contain design cri-
3 teria and processes to be used to develop information
4 to support a later phase of the design review.

5 (7) The extent to which NRC action or modi-
6 fication of policy is needed to implement any part of
7 the plan required by this subsection.

8 (8) The role of licensing advanced reactors
9 within NRC long-term strategic resource planning,
10 staffing, and funding levels.

11 (9) Options to provide cost-sharing financial
12 structures for license applicants in a phased licens-
13 ing process.

14 (b) COORDINATION AND STAKEHOLDER INPUT RE-
15 QUIRED.—In developing the plan required by subsection
16 (a), the NRC shall seek input from the Department, the
17 nuclear industry, and other public stakeholders.

18 (c) COST AND SCHEDULE ESTIMATE.—The plan re-
19 quired by subsection (a) shall include proposed cost esti-
20 mates, budgets, and specific milestones for implementing
21 the advanced reactor regulatory framework by September
22 30, 2019.

23 (d) DESIGN CERTIFICATION STATUS.—In the NRC's
24 first budget request after the acceptance of any design cer-
25 tification application for an advanced nuclear reactor, and

1 annually thereafter, the NRC shall provide the status of
2 performance metrics and milestone schedules. The budget
3 request shall include a plan to correct or recover from any
4 milestone schedule delays, including delays because of
5 NRC’s inability to commit resources for its review of the
6 design certification applications.

7 **SEC. 6. USER FEES AND ANNUAL CHARGES.**

8 Section 6101(c)(2)(A) of the Omnibus Budget Rec-
9 onciliation Act of 1990 (42 U.S.C. 2214(c)(2)(A)) is
10 amended—

11 (1) by striking “and” at the end of clause (iii);

12 (2) by striking the period at the end of clause

13 (iv) and inserting “; and”; and

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

15 “(v) for fiscal years ending before Oc-
16 tober 1, 2020, amounts appropriated to
17 the Commission for activities related to the
18 development of regulatory infrastructure
19 for advanced nuclear reactor tech-
20 nologies.”.

Passed the House of Representatives January 23,
2017.

Attest:

KAREN L. HAAS,

Clerk.