S 97

Nuclear Energy Innovation Capabilities Act of 2017

Congress: 115 (2017–2019, Ended)
Chamber: Senate
Policy Area: Energy
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Law: 115-248 (Enacted Sep 28, 2018)
Official Text: https://www.congress.gov/bill/115th-congress/senate-bill/97

Sponsor

Name: Sen. Crapo, Mike [R-ID]
Party: Republican • **State:** ID • **Chamber:** Senate

Cosponsors (7 total)

Cosponsor	Party / State	Role	Date Joined
Sen. Booker, Cory A. [D-NJ]	D · NJ		Jan 11, 2017
Sen. Durbin, Richard J. [D-IL]	D · IL		Jan 11, 2017
Sen. Hatch, Orrin G. [R-UT]	R · UT		Jan 11, 2017
Sen. Murkowski, Lisa [R-AK]	R · AK		Jan 11, 2017
Sen. Risch, James E. [R-ID]	R · ID		Jan 11, 2017
Sen. Whitehouse, Sheldon [D-RI]	D · RI		Jan 11, 2017
Sen. Strange, Luther [R-AL]	R · AL		May 25, 2017

Committee Activity

Committee	Chamber	Activity	Date
Energy and Natural Resources Committee	Senate	Reported By	Jun 21, 2017

Subjects & Policy Tags

Policy Area:

Energy

Related Bills

Bill	Relationship	Last Action
115 S 1460	Related bill	**Sep 19, 2017:** Committee on Energy and Natural Resources. Hearings held. Hearings printed: S.Hrg. 115-485.
115 HR 431	Related bill	**Apr 25, 2017:** Referred to the Subcommittee on Energy.

Summary (as of Sep 28, 2018)

Nuclear Energy Innovation Capabilities Act of 2017

(Sec. 2) This bill amends the Energy Policy Act of 2005 to revise the objectives of the civilian nuclear energy research, development, demonstration, and commercial application programs of the Department of Energy (DOE) to emphasize : (1) providing research infrastructure to promote scientific progress and enable users from academia, the National Laboratories, and the private sector to make scientific discoveries relevant for nuclear, chemical, and materials science engineering; and (2) enabling the private sector to partner with the National Laboratories to demonstrate novel reactor concepts for the purpose of resolving technical uncertainty associated with the aforementioned objectives.

The bill repeals the Nuclear Power 2010 Program, and makes technical corrections removing the Office of Nuclear Energy, Science and Technology as the designated entity to conduct the research, development, and demonstration programs on advanced fuel recycling technology and cost-effective technologies for increasing the safety and security of nuclear facilities. (The Office of Nuclear Energy, Science and Technology was replaced in DOE by the Office of Nuclear Energy, the Office of Science, and the Office of Technology Transitions.)

The bill repeals requirements for development of a comprehensive plan for the operation and maintenance of its facilities at the Idaho National Laboratory to support civilian nuclear energy research, development, demonstration, and commercial application programs, including radiological facilities management, isotope production, and facilities management.

By December 31, 2017, DOE shall determine the mission need for a versatile reactor-based fast neutron source, which shall operate as a national user facility.

DOE shall ensure that the user facility will provide at a minimum: (1) fast neutron spectrum irradiation capability, and (2) capacity for upgrades to accommodate new or expanded research needs.

DOE shall leverage from the Office of Science the best practices for management, construction, and operation of national user facilities.

DOE shall carry out a program for enhancing the capability to develop new reactor technologies through high-performance computation modeling and simulation techniques. Such program shall coordinate with relevant federal agencies through the National Strategic Computing Initiative while taking into account specified objectives.

The bill authorizes a program to enable the testing and demonstration of reactor concepts to be proposed and funded by the private sector. DOE shall leverage the technical expertise of relevant federal agencies and the National Laboratories in order to minimize the time required to enable construction and operation of privately funded experimental reactors at national laboratories or other DOE-owned sites.

Such reactors shall operate to enable physical validation of advanced nuclear reactor concepts and generate research and development to improve nascent technologies.

DOE may enter into a memorandum of understanding with the Nuclear Regulatory Commission (NRC) in order to share technical expertise and knowledge through:

- testing and demonstration of advanced nuclear reactor concepts to be proposed and funded by the private sector,
- operating a database to store and share data and knowledge relevant to nuclear science and engineering between

federal agencies and the private sector,
- developing and testing electric and nonelectric integration and energy conversion systems relevant to advanced nuclear reactors,
- leveraging expertise from the NRC respecting safety analysis, and
- enabling the technical staff of the NRC to actively observe and learn about technologies developed under such testing and demonstration program.

The NRC and DOE shall enter into another memorandum of understanding to ensure that:

- DOE has sufficient technical expertise to support the timely research, development, demonstration, and commercial application by the civilian nuclear industry of safe and innovative advanced nuclear technology; and
- the NRC has sufficient technical expertise to assist in the evaluation of applications for licenses, permits, and design certifications and other requests for regulatory approval for advanced nuclear reactors.

This memorandum must also address:

- the use of computers and software to calculate the behavior and performance of advanced nuclear reactors, and
- ensuring that DOE maintains and develops the necessary facilities to enable timely research, development, demonstration, and commercial application by the civilian nuclear industry of safe and innovative reactor technology, and that the NRC has access to those facilities, as needed.

DOE shall assess its capabilities to authorize, host, and oversee privately funded experimental advanced nuclear reactors at national laboratories or other DOE-owned sites.

The bill subjects any activities carried out under such testing and demonstration program which involves the risk of public liability to the financial protection or indemnification requirements under the Price-Anderson Act.

Within 1 year of this bill's enactment, DOE must submit to Congress two specified alternative 10-year budget plans for civilian nuclear energy research and development by DOE, one assuming constant annual funding for 10 years at the appropriated FY2016 level, and the other an unconstrained budget.

DOE must also identify to Congress: (1) engineering designs for innovative fusion energy systems that have the potential to demonstrate net energy production within 15 years of the start of construction, and (2) budgetary requirements necessary for DOE to carry out a fusion innovation initiative to accelerate research and development of those designs.

(Sec. 3) DOE shall establish an Advanced Nuclear Energy Cost-Share Grant Program to make cost-share grants to applicants to fund a portion of the applicant's NRC fees for pre-application and application review activities.

DOE shall: (1) seek out technology diversity in making such grants, and (2) determine each grant's cost-share amount in accordance with the Energy Policy Act of 2005.

Grant recipients may use their grant funds to cover NRC fees, including those associated with developing a licensing project plan, obtaining a statement of licensing feasibility, reviewing topical reports, other pre-application and application review activities, and interactions with the NRC.

Actions Timeline

- **Sep 28, 2018:** Signed by President.
- **Sep 28, 2018:** Became Public Law No: 115-248.
- **Sep 24, 2018:** Presented to President.
- **Sep 13, 2018:** Mr. Weber (TX) moved to suspend the rules and pass the bill.
- **Sep 13, 2018:** Considered under suspension of the rules. (consideration: CR H8235-8239)
- **Sep 13, 2018:** DEBATE - The House proceeded with forty minutes of debate on S. 97.
- **Sep 13, 2018:** Passed/agreed to in House: On motion to suspend the rules and pass the bill Agreed to by voice vote.(text: CR H8235-8237)
- **Sep 13, 2018:** On motion to suspend the rules and pass the bill Agreed to by voice vote. (text: CR H8235-8237)
- **Sep 13, 2018:** Motion to reconsider laid on the table Agreed to without objection.
- **Mar 8, 2018:** Received in the House.
- **Mar 8, 2018:** Message on Senate action sent to the House.
- **Mar 8, 2018:** Held at the desk.
- **Mar 7, 2018:** Measure laid before Senate by unanimous consent. (consideration: CR S1419-1423)
- **Mar 7, 2018:** Passed/agreed to in Senate: Passed Senate with amendments by Voice Vote.(text: CR S1419-1421)
- **Mar 7, 2018:** Passed Senate with amendments by Voice Vote. (text: CR S1419-1421)
- **Jun 21, 2017:** Committee on Energy and Natural Resources. Reported by Senator Murkowski without amendment. With written report No. 115-115.
- **Jun 21, 2017:** Placed on Senate Legislative Calendar under General Orders. Calendar No. 153.
- **Mar 30, 2017:** Committee on Energy and Natural Resources. Ordered to be reported without amendment favorably.
- **Jan 11, 2017:** Introduced in Senate
- **Jan 11, 2017:** Read twice and referred to the Committee on Energy and Natural Resources.