

**U.S. HOUSE OF REPRESENTATIVES
COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY
SUBCOMMITTEE ON ENERGY**

HEARING CHARTER

A Review of the Nuclear Regulatory Commission's Licensing Process

Wednesday, July 29, 2015

9:00 a.m. – 11:00 a.m.

2318 Rayburn House Office Building

Purpose

The Energy Subcommittee will hold a hearing titled *A Review of the Nuclear Regulatory Commission's Licensing Process* on July 29th at 9:00 a.m. in room 2318 of the Rayburn House Office Building. The hearing will examine the extent to which the Nuclear Regulatory Commission (NRC or the Commission) may provide technical assistance to the Department of Energy (DOE) in carrying out its mission to advance nuclear energy research and development. The hearing will also examine the extent to which the DOE may provide useful experience to NRC technical staff for licensing new concepts and designs for nuclear reactors.

Witnesses

- The Honorable Stephen G. Burns, Chairman, U.S. Nuclear Regulatory Commission

Background

The NRC is an independent regulatory agency that licenses and regulates the civilian use of nuclear energy and related activities, including medical, academic, and industrial uses.¹ The NRC is composed of five Commissioners, each with “equal responsibility and authority in all decisions and actions of the Commission.”² One of the five Commissioners serves as the Chairman and “the official spokesman of the Commission in its relations with Congress, Government agencies, persons, or the public.”³

Following World War II, Congress established the Atomic Energy Commission to promote and control nuclear sciences, systems, and technology for almost three decades. Later, the Atomic Energy Act of 1954 (the AEA) provided the fundamental legal mechanism which led

¹ See generally NRC website available here: <http://www.nrc.gov/about-nrc.html>. See also Energy Reorganization Act of 1974 §201, 42 U.S.C. §5841 (2013); See also Atomic Energy Act of 1954 §101, 42 U.S.C. §2131 (2013).

² Energy Reorganization Act of 1974 §201, 42 U.S.C. §5841(a)(1) (2013).

³ *Id.*

to private development of nuclear energy and the authority for the federal government to regulate it. As a matter of United States policy, the AEA declares that “the development, use, and control of atomic energy shall be directed so as to promote world peace, improve the general welfare, increase the standard of living, and strengthen free competition in private enterprise.”⁴ The Energy Reorganization Act of 1974 (the ERA) abolished the Atomic Energy Commission and established the NRC as well as the Energy Research and Development Administration that would eventually become part of the DOE.

The ERA transferred licensing and related regulatory functions for civilian nuclear activities to the NRC,⁵ but exempted most DOE R&D activities from NRC regulation, presumably to ensure that the DOE’s responsibility to promote scientific progress would not be impaired.⁶ Under the AEA and consistent with the ERA, the DOE has authority to “exercise its powers in such a manner as to ensure the continued conduct of research and development⁷ ... by private or public institutions or persons, and to assist in the acquisition of an ever expanding fund of theoretical and practical knowledge” related to the following (emphasis added):⁸

- (1) *nuclear processes;*
- (2) *the theory and production of atomic energy, including processes, materials, and devices related to such production;*
- (3) *utilization of special nuclear material and radioactive material for medical, biological, agricultural, health, or military purposes;*
- (4) *utilization of special nuclear material, atomic energy, and radioactive material and processes entailed in the utilization or production of atomic energy or such material for all other purposes, including industrial or commercial uses, the generation of usable energy, and the demonstration of advances in the commercial or industrial application of atomic energy;*
- (5) *the protection of health and the promotion of safety during research and production activities; and*
- (6) *the preservation and enhancement of a viable environment by developing more efficient methods to meet the Nation’s energy needs.*

Currently, the DOE Office of Nuclear Energy provides funding for R&D to advance nuclear energy as a resource capable of contributing to the Nation’s energy supply and

⁴ Atomic Energy Act of 1954, 42 U.S.C. §2011 (2013).

⁵ Energy Reorganization Act of 1974 §201, 42 U.S.C. 5841 (2013).

⁶ AEA §110, 42 U.S.C. § 2140 (2013). See also ERA §202, 42 U.S.C. 5842 (2013), Transferring Licensing and Related Regulatory Functions Respecting Selected Administration Facilities, including chapters 6, 7, 8, and 10 of the AEA and other specific activities including demonstration reactors operated for the purpose of demonstrating the suitability for commercial application, but not chapter 4 of the AEA, including research and development activities related to atomic energy.

⁷ AEA §11, 42 U.S.C. §2014 (2013) defining “research and development” as “Theoretical analysis, exploration, or experimentation; or (2) the extension of investigative findings and theories of a scientific or technical nature into practical application for experimental and demonstration purposes, including the experimental production and testing of models, devices, equipment, materials, and processes.

⁸ *Id.* at §31, 42 U.S.C. §2051 (2013).

environmental and national security needs, including programs to support NRC licensing.⁹ While the Atomic Energy Commission, as DOE's predecessor, once exercised its authority willingly to construct and operate experimental reactors to advance nuclear science and technology, the DOE has not completed an experimental reactor project in decades.¹⁰ Moreover, many have questioned whether U.S. energy policy and law has kept pace with the nation's shift to a technology-based economy that now relies on the private sector to finance highly-regulated nuclear energy technology development.¹¹

As the NRC must recover 90% of its budget from licensees, of which all reactor licensees use a light-water moderated reactor core, the Commission has concentrated its technical expertise on one reactor technology.¹² This has raised questions of whether the Commission will be capable of approving licenses for alternative reactor concepts in a timely manner, including experimental fusion and advanced fission reactors.¹³ Since DOE has the mission to advance nuclear science and technology and the authority to construct and operate experimental reactors, new policy questions have arisen about whether the DOE should aggressively use its authority to rapidly expand practical knowledge of nuclear energy and enable the private sector to develop relevant intellectual property. While the DOE labs currently operate research reactors under DOE authority, the Department has not overseen the construction of a new reactor in decades and questions remain whether it can carry out this work without some form of technical assistance from the NRC.

Supplemental Material

- Congressional Research Services Memorandum, "NRC Licensing of Proposed DOE Nuclear Facilities," July 20, 2015.

⁹ See generally DOE Office of Nuclear Energy website available here: <http://www.energy.gov/ne/about-us>. See also DOE Small Modular Reactor Licensing Technical Support program here: <http://www.energy.gov/ne/nuclear-reactor-technologies/small-modular-nuclear-reactors>.

¹⁰ See, for example, Idaho National Laboratory's comprehensive list of experimental reactors here: <http://www4vip.inl.gov/research/52-reactors/>. See also DOE Hanford Fast Flux Test Facility here: <http://www.hanford.gov/page.cfm/400areafff>.

¹¹ *The Future of Nuclear Energy: Hearing Before the Subcomm. on Energy of the H. Comm. on Science, Space, and Technology*, 113th Cong. (2014), available here: <https://science.house.gov/hearing/energy-subcommittee-future-nuclear-energy>. See also *Nuclear Energy Innovation and the National Labs Before the Subcomm. on Energy of the H. Comm. Science Space and Technology*, 114th Cong. (2015), available here: <https://science.house.gov/hearing/subcommittee-energy-hearing-nuclear-energy-innovation-and-national-labs>.

¹² 10 C.F.R. §§ 170, 171.

¹³ See *The Future of Nuclear Energy*, *supra* note 11.