



April 27, 2016

TO: Members, Subcommittee on Energy and Power

FROM: Committee Majority Staff

RE: Hearing entitled “H.R. 4979, the Advanced Nuclear Technology Development Act of 2016 and H.R.____, the Nuclear Utilization of Keynote Energy Policies Act”

I. INTRODUCTION

On Friday, April 29, 2016, at 9:30 a.m. in 2123 Rayburn House Office Building, the Subcommittee on Energy and Power will hold a hearing entitled “H.R. 4979, the Advanced Nuclear Technology Development Act of 2016 and H.R.____, the Nuclear Utilization of Keynote Energy Policies Act.”

II. WITNESSES

- Marvin Fertel, President and Chief Executive Officer, Nuclear Energy Institute;
- Jeffrey S. Merrifield, Partner, Pillsbury Law Firm; Chairman, Advanced Reactors Task Force, Nuclear Infrastructure Council;
- Todd Allen, Senior Fellow, Clean Energy Program, Third Way; and,
- Geoffrey Fettus, Senior Attorney, Natural Resources Defense Council.

III. BACKGROUND

In the United States, 100 operating commercial nuclear power reactors currently generate approximately 20 percent of the nation’s electricity. The fleet of existing power reactors use light-water reactor (LWR) technology, which utilizes water to transfer heat to generate electricity and also cool the nuclear fuel rods. Non-LWR reactor designs have been demonstrated by the Department of Energy (DOE) and its predecessor agencies,¹ but none are currently licensed for commercial power operation in the United States.

Commercial nuclear power reactors are licensed and overseen by the Nuclear Regulatory Commission (NRC) under the authority granted by the Atomic Energy Act of 1954 (AEA).² NRC’s Office of Nuclear Reactor Regulation (NRR) oversees regulatory activities such as rulemaking, licensing, oversight, and incident response for commercial nuclear power reactors, and test and research reactors.³ NRC’s New Reactors Office (NRO) is responsible for licensing

¹ For example, 52 experimental and test reactors have been constructed and operated in Idaho since 1951. A list of those reactors can be found here: <http://www4vip.inl.gov/research/52-reactors/d/52-reactors.pdf>

² P.L. 83-703

³ More information on NRR can be found at: <http://www.nrc.gov/about-nrc/organization/nrrfuncdesc.html>

and regulating the design, siting, construction and operation of new commercial nuclear power facilities. NRC is statutorily required to recover approximately 90 percent of its budget from fees charged to applicants and license holders.

The NRC requests \$5 million in its Fiscal Year (FY) 2017 budget request for activities related to the development of regulatory infrastructure for advanced nuclear reactor technologies. NRC proposes that this funding would be included in its annual appropriation from Congress and would not derive from NRC's fee collection.

The DOE Office of Nuclear Energy's (NE) mission is to "advance nuclear power as a resource capable of meeting the Nation's energy, environmental, and national security needs by resolving technical, cost, safety, proliferation resistance, and security barriers through research, development, and demonstration as appropriate."⁴ NE's nuclear reactor technologies program sponsors research and development efforts on advanced reactor technologies.

In 2015, DOE and the NRC held a workshop on advanced, non-LWR technology. The workshop was to "explore options for increased efficiency, from both a technical and regulatory perspective, in the safe development and deployment of innovative reactor technologies."⁵ A second workshop is planned for June 7 and 8, 2016.

Numerous organizations, including the Government Accountability Office (GAO),⁶ Nuclear Innovation Alliance (NIA),⁷ and Third Way,⁸ have found NRC's existing regulatory structure to be costly and burdensome for the development of advanced nuclear reactor technologies. NIA's report recommends the establishment of a staged-licensing process; modification of the LWR-centric requirements for non-LWR; implementation of a technology-inclusive, risk-informed regulatory framework; and continuation of the DOE/NRC Advanced Reactor Licensing Initiative.⁹

IV. LEGISLATION

Advanced Nuclear Technology Development Act of 2016

H.R. 4979 was introduced on April 18, 2016 by Rep. Bob Latta (R-OH), together with Rep. Jerry McNerney (D-CA). Provisions include the following:

Section 1. Short Title: This section provides the short title of "Advanced Nuclear Technology Development Act of 2016."

⁴ Department of Energy, Office of Nuclear Energy "Mission." Accessible at: <http://energy.gov/ne/mission>

⁵ More information can be found at: <http://www.nrc.gov/public-involve/conference-symposia/adv-rx-non-lwr-ws/2015-09.html>

⁶ Government Accountability Office, "Nuclear Reactors: Status and Challenges in Development and Deployment of New Commercial Concepts," GAO-15-652, July 28, 2015. Accessible at: <http://www.gao.gov/products/GAO-15-652>

⁷ Nuclear Innovation Alliance, "Enabling Nuclear Innovation: Strategies for Advanced Reactor Licensing," April 2016. Accessible at: <http://www.nuclearinnovationalliance.org/#!advanced-reactor-licensing/xqkhn>

⁸ Third Way, "Advanced Nuclear 101," December 1, 2015. Accessible at: <http://www.thirdway.org/report/advanced-nuclear-101>

⁹ Nuclear Innovation Alliance.

Section 2. Findings: This section provides several findings about the importance of nuclear power for the United States, including national security and economic activity.

Section 3. Definitions: This section contains the following definitions:

- (1) The term “Advanced Reactor” means a nuclear fission reactor with significant design improvements over the most recent generation of nuclear reactors.
- (2) The term “Department” means the Department of Energy.
- (3) The term “Licensing” means NRC activities related to reviewing applications for licenses, permits, design certifications, and requests for any other regulatory approval for nuclear reactors within the responsibility of the NRC under the Atomic Energy Act of 1954.
- (4) The term “National Laboratory” has the meaning given that term in section 2 of the Energy Policy Act of 2005.
- (5) The term “NRC” means the Nuclear Regulatory Commission.
- (6) The term “Secretary” means the Secretary of Energy.

Section 4. Agency Coordination: This section instructs DOE and NRC to enter into a Memorandum of Understanding regarding the following topics:

- (1) Technical Expertise,
- (2) Modeling and Simulation, and
- (3) Facilities.

Section 5. Reporting to Congress: This section requires the Secretary to report to Congress regarding the status of activities intended to facilitate the testing and demonstration of advanced reactors.

Section 6. Advanced Reactor Licensing Framework: Section 6(a) requires the NRC to report to Congress a plan for developing an efficient, risk-informed, technology-neutral framework for advanced reactor licensing including:

- (1) Unique aspects of advanced reactor licensing, including legal, regulatory and policy issues;
- (2) Options to license under existing NRC regulations, a proposed new framework, or a combination of the two;
- (3) Options to streamline and expedite licensing process for advanced reactors;
- (4) Options to incorporate consensus based codes and standards into the licensing process;
- (5) Options to make the framework more predictable, potentially establishing milestones;
- (6) Options for a phased review process, including conditional approvals for partial applications, early design information, and information that helps to inform the later phases of design review;

- (7) The extent to which NRC action or policy is needed to implement any part of the framework; and
- (8) The role of licensing advanced reactors within NRC's long-term planning, staffing, and funding.

Section 6(b) requires the NRC to seek input from DOE, the nuclear industry, and other public stakeholders.

Section 6(c) requires that the plan include a proposed cost estimate, budget, and implementation plan to implement the framework by 2019.

Section 7. User Fees and Annual Charges: This section authorizes appropriations for the purposes of developing a regulatory infrastructure for advanced nuclear reactor technologies. The authorization sunsets in 2020.

Nuclear Utilization of Keynote Energy Policies Act

The "Nuclear Utilization Keynote Energy Policies Act" is draft legislation from Rep. Adam Kinzinger (R-IL). Provisions include the following:

Section 1. Short Title: This section provides the short title of "Nuclear Utilization of Keynote Energy Policies Act."

Section 2. Fair and Equitable NRC Funding: This section amends section 6101(c)(2) of the Omnibus Budget Reconciliation Act of 1990 (42 U.S.C. 2214(c)(2)) to revise the amount of annual charges collected from all licensees and certificate holders to equal 100 percent of the budget authority of the NRC for the fiscal year, less existing funding exemptions, infrastructure, and corporate support costs.

Section 3. Study on Elimination of Foreign Licensing Restrictions: This section requires the Comptroller General, in consultation with the Secretary of Energy, to study the feasibility and implications of repealing restrictions under sections 103(d) and 104(d) of the AEA on licensing of certain nuclear facility operations by foreign persons.

Section 4. Elimination of Mandatory Hearing for Uncontested Licensing Applications: This section amends the AEA to eliminate the requirement to hold a public hearing for new plant construction applications while maintaining measures for affected parties to request the Commission hold a hearing.

Section 5. Informal Hearing Procedures: This section amends the AEA to allow informal adjudicatory procedures established under the Administrative Procedures Act to meet requirements for hearings and judicial review, unless the Commission determines that formal adjudicatory procedures are necessary to provide a sufficient record or to achieve fairness.

Section 6. Inspections, Tests, Analyses, and Acceptance Criteria: This section amends the AEA to provide hearings on inspections, test, analyses, and acceptance criteria are accepted

unless substantial evidence that one or more of the criteria have not been met and the operational consequences will not adequately provide for the protection of public health and safety.

Section 6(b) amends the number of days for a request of a hearing for the Commission. It also requires the Commission to evaluate all relevant information whether acceptance criteria is likely to result in safety or security concern and to take into consideration any mitigation or protective measures that the licensee will take during interim operations

Section 7. Application Reviews for Nuclear Energy Projects: This section amends the AEA to establish deadlines for the NRC to complete major license application milestones, including: draft environmental impact statement within one year, technical review process and safety evaluation report within two years, and public licensing hearings within 30 months. The section allows for environmental impact statements for new nuclear projects at existing sites to be incorporated into the early site permit for new plant applications.

Section 8. Nuclear Reactor Decommissioning: This section amends the AEA by directing the NRC to initiate a rulemaking proceeding, including opportunity for public comment, within 48 months to address the regulatory framework for decommissioning nuclear reactors.

V. ISSUES

The following issues may be examined at the hearing:

- The provisions of H.R. 4797 and H.R. _____, the Nuclear Utilization Keynote Energy Polices Act;
- Opportunities for DOE and NRC collaboration on advanced reactor development and licensing; and,
- Statutory requirements for NRC licensing of nuclear power reactors.

VI. STAFF CONTACTS

If you have any questions regarding this hearing, please contact Andy Zach or Tom Hassenboehler of the Committee staff at (202) 225-2927.