COMMITTEE ON
ENERGY & COMMERCE
CHAIRMAN FRANK PALLONE, JR.

MEMORANDUM

July 11, 2021

To: Subcommittee on Energy and Subcommittee on Environment and Climate Change Members and Staff

Fr: Committee on Energy and Commerce Staff

Re: Hearing on "Keeping Us Safe and Secure: Oversight of the Nuclear Regulatory Commission"

On **Wednesday, July 14, 2021, at 11:30 a.m. (EDT) in the John D. Dingell Room, 2123 of the Rayburn House Office Building, and using Cisco Webex online video conferencing**, the Subcommittee on Energy and the Subcommittee on Environment and Climate Change will hold a joint hearing entitled, "Keeping Us Safe and Secure: Oversight of the Nuclear Regulatory Commission."

I. NUCLEAR REGULATORY COMMISSION FISCAL YEAR 2022 BUDGET

For fiscal year (FY) 2022, the Nuclear Regulatory Commission (NRC) requested $887.7 million, an increase of $43.4 million above the FY 2021 enacted budget. This funding level provides for 2,879 full-time equivalent employees (FTEs), an increase of 11 FTEs as compared to FY 2021. NRC has expressed a need for resources to accomplish critical activities in the Nuclear Reactor Safety Program and the Nuclear Material and Waste Safety Program, and to prepare for the next generation of advanced reactors. NRC estimates it will recover $756.7 million of its FY 2022 budget from fees assessed to NRC licensees, which will result in a net budget authority of $131 million. Since FY 2014, the agency budget has decreased by almost 16 percent and FTEs have decreased by more than 24 percent.[1]

II. ECONOMIC VIABILITY OF NUCLEAR POWER PLANTS

U.S. nuclear power plants face increased financial pressure stemming from low natural gas prices, increases in renewable energy use, and flat energy demand.[2] Twelve U.S. reactors permanently closed from 2013 through April 2021, and seven more are planned for closure through the mid-2020s. In the past decade, plans for 30 new nuclear plants in the United States

[1] Nuclear Regulatory Commission, *FY 2022 Congressional Budget Justification Summary* (NUREG-1100, Volume 37) (June 2021)

[2] Congressional Research Service, *Nuclear Energy: Overview of Congressional Issues* (May 6, 2021) (R42853).

have been put on hold.[3] Only one project, comprised of two new reactors at Plant Vogtle in Georgia, is currently under construction.[4] In 2017, SCANA Corporation canceled the V.C. Summer project in South Carolina due to rising costs and lengthy construction delays.[5]

Over the last decade, NRC's budget for new reactors had increased to align with the numerous proposals and plans for the construction of new conventional nuclear reactors. Many of these planned projects, however, were similarly canceled. Subsequently, NRC repurposed its requests for increased funding to support advanced nuclear reactor technologies licensing.[6]

III. DECOMMISSIONING NUCLEAR POWER PLANTS

The process of ceasing operations, terminating a plant owner's operating license, and decontaminating the site of a nuclear power plant is known as decommissioning. In recent years, 32 nuclear reactors in the United States have ceased operations for a variety of reasons including economic concerns, political considerations, and age.[7]

The International Atomic Energy Agency (IAEA)—of which the United States is a participating member—currently recognizes three non-mutually exclusive methods for decommissioning nuclear facilities:[8]

- *Immediate dismantling* – the removal or decontamination of equipment, parts, and associated infrastructure such that the facility may ultimately be used for any purpose;

- *Deferred dismantling* – the sequestration, processing, and storage of radioactive contaminants such that they can be maintained safely until decontamination is possible. This method may result in a facility being designated for unrestricted or restricted use

[3] Id.

[4] International Atomic Energy Agency, Power Reactor Information System, Country Statistics: United States of America (www.pris.iaea.org/PRIS/CountryStatistics/CountryDetails.aspx?current=US) (accessed June 30, 2021).

[5] *S.C. Lawmakers Grapple with Reactor Project Fallout*, E&E News (Nov. 22, 2017).

[6] *See* note 2.

[7] World Nuclear Association, Decommissioning Nuclear Facilities (www.world-nuclear.org/information-library/nuclear-fuel-cycle/nuclear-wastes/decommissioning-nuclear-facilities.aspx) (accessed June 30, 2021).

[8] International Atomic Energy Agency (IAEA) , Decommissioning of Facilities (No. GSR Part 6) (2014).

depending on contamination levels and thresholds set by a member state's associated regulatory agency;[9] and

- *Entombment* – the long-term encasing of radioactive contaminants until such time that radioactivity has decayed to a level that allows use of the facility. Due to the extreme nature of this method, the IAEA does not consider it to be a viable strategy for planned decommissioning.[10]

NRC is currently developing a proposed rule to ease cyber and physical security requirements for nuclear reactor facilities undergoing decommissioning. Among other things in its proposal, NRC contends that shuttered nuclear facilities should not be required to follow stringent cybersecurity plans if operations have ceased for such time that spent nuclear fuel no longer presents a significant risk for disaster in the event of a cyber attack. The proposal also seeks to relax physical security standards for shuttered nuclear facilities by striking the requirement to treat the reactor control room as a "vital area" once the reactor has been removed. NRC estimates that the rule may save consumers, the nuclear energy industry, and the public sector a total of approximately $19 million.[11]

IV. NUCLEAR WASTE STORAGE AND DISPOSAL

On January 29, 2015, NRC issued the final volumes of its Safety Evaluation Report, a multi-volume report summarizing the Yucca Mountain nuclear waste disposal facility application, the technical staff's safety review, and staff findings and recommendations. The report noted that the Department of Energy's (DOE) license application met regulatory requirements, except for certain requirements related to ownership of land and water rights. The report recommended that "the [Nuclear Regulatory] Commission should not authorize construction of the repository because DOE has not met certain land and water rights

[9] The terms "unrestricted use" and "restricted use" refer to the activities that may be conducted on the premises of a formerly operational nuclear facility following decommissioning. In general, facilities that have been released for unrestricted use are deemed safe for any subsequent purpose, whereas latent contamination may result in a regulatory body prohibiting certain activities on those premises due to safety concerns ("restricted use").

[10] There have been instances, however, where the level of contamination or other extenuating circumstances have led to the use of entombment, such as the decommissioned Boiling Nuclear Superheater (BONUS) located northwest of Rincón, Puerto Rico. For additional information on the BONUS reactor, see Department of Energy, Oak Ridge Operations Office, *Environmental Assessment for Authorizing the Puerto Rico Electric Power Authority (PREPA) to allow Public Access to the Boiling Nuclear Superheat (BONUS) Reactor Building, Rincón, Puerto Rico* (Jan. 2003).

[11] *NRC moves to ease rules for shuttering nuclear plants*, E&E News (May 23, 2018).

requirements…and a supplement to DOE's environmental impact statement (EIS) has not yet been completed."[12]

In March 2015, NRC announced that its staff would prepare a supplement to DOE's EIS to address "the impacts of the proposed repository at Yucca Mountain on groundwater as well as the impacts from groundwater discharges to the surface."[13] On issuing its supplement to the DOE EIS in May 2016, NRC found the estimated radiological doses in the groundwater surrounding the Yucca Mountain site to be small because they are a small fraction of the background radiation dose.[14] In 2020, NRC voted to produce a management roadmap for the suspended Yucca Mountain license review, which would assist staff in resuming licensing work should Congress appropriate funds to resume licensing work in the future.[15]

The Administration's FY 2022 budget request allocates $7.5 million to DOE from the Nuclear Waste Fund (NWF) to fund responsibilities for managing the NWF itself, administering the standard contract, and maintaining the security of the Yucca Mountain site. This is $20 million less than the FY 2021 funds Congress appropriated to begin activities to site an interim storage facility to consolidate waste away from reactor sites.[16] NRC has received two applications for consolidated interim storage facilities: one in Andrews County, Texas and the other in Lea County, New Mexico. NRC plans to complete the safety, security, and environmental reviews for these applications in 2021.[17]

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[12] Nuclear Regulatory Commission, *NRC Publishes Final Two Volumes of Yucca Mountain Safety Evaluation* (Jan. 29, 2015).

[13] U.S. Nuclear Regulatory Commission Chairman Stephen G. Burns, *Prepared Remarks Before United States Energy Association Meeting, National Press Club* (Apr. 30, 2015).

[14] U.S. Nuclear Regulatory Commission, *Supplement to the U.S. Department of Energy's Environmental Impact Statement for a Geologic Repository for the Disposal of Spent Nuclear Fuel and High-Level Radioactive Waste at Yucca Mountain, Nye County, Nevada* (May 2016).

[15] NRC approves Yucca Mountain Roadmap, Nuclear Newswire, (Oct. 14 2020).

[16] Department of Energy, FY 2022 Congressional Budget Request, Budget in Brief (DOE/CF-0177) .

[17] United States Nuclear Regulatory Comission, Consolidated Interim Storage Facility (CISF), (Dec. 08, 2020).

V. WITNESSES

The Honorable Christopher T. Hanson
Chairman
Nuclear Regulatory Commission

The Honorable Jeff Baran
Commissioner
Nuclear Regulatory Commission

The Honorable David A. Wright
Commissioner
Nuclear Regulatory Commission