

**STATEMENT OF STEPHEN G. BURNS, CHAIRMAN
U.S. NUCLEAR REGULATORY COMMISSION
BEFORE THE
SENATE ENVIRONMENT AND PUBLIC WORKS
COMMITTEE
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Chairman Inhofe, Ranking Member Boxer, Chairwoman Capito, Ranking Member Carper, and distinguished Members of the Committee, my colleagues and I appreciate the opportunity to testify this morning to provide an update on the U.S. Nuclear Regulatory Commission's (NRC) Fiscal Year (FY) 2017 budget request and the agency's current regulatory activities.

As you know, the NRC is an independent agency established to license and regulate the civilian use of radioactive materials in the United States to ensure adequate protection of public health and safety, promote the common defense and security, and protect the environment. The resources we are requesting for FY 2017 will allow the NRC to continue to uphold our important safety and security mission.

This budget request reflects a substantial reduction from the 2016 enacted budget. NRC's Project Aim is delivering on the promise to achieve efficiencies in both corporate and programmatic areas. The NRC has taken a hard look at the proposed FY 2017 budget, and is proposing reductions in both full-time equivalents (FTE) and contract support dollars that represent real savings. As we continue our work through the Project Aim initiative, we anticipate additional savings and efficiencies to come.

To put this in context, the FY 2017 budget request reflects a decrease of \$73.7 million and 279.7 full-time equivalent employees from the FY 2014 enacted budget. We believe this FY 2017

budget request reflects our continuing focus on our important mission while achieving resource savings and improving the agency's efficiency and effectiveness.

THE CHANGING REGULATORY ENVIRONMENT

Beginning in 2001, the agency grew significantly to enhance its security and incident response regulatory structure, and to prepare for the projected growth in nuclear power in the United States. That forecast in growth has been adjusted downward in response to changes in the nuclear industry. As is appropriate, the NRC is being scrutinized by its stakeholders for its response to these changes and the resulting use of resources. The NRC's safety and security mission remains paramount as actions are taken to re-baseline the agency, take a hard look at our workload and achieve efficiencies.

We are confident the agency is on the right track with our Project Aim initiative to find efficiencies, use resources wisely, and streamline processes and regulatory decision making while continuing to meet our critically important safety and security mission. More than \$9 million in savings in the FY 2017 budget proposal has already been identified through a comprehensive evaluation that involved staff at all levels of the agency, as well as stakeholder input. The savings, particularly in the areas of rulemaking, travel and corporate support are significant. However, we are continuing to pursue additional efficiencies.

The Project Aim Steering Committee has delivered to the Commission a rebaselining paper that outlines additional proposed efficiencies. While still under Commission review, the now-public paper reflects more than 150 activities that could be eliminated or reduced over the next six months, for a savings of about \$41.1 million in FY 2017 (of which, \$9.9 million of the reduction has already been applied in the FY17 Presidents' Budget). Total potential reductions identified over 18

months are \$49.5 million. The staff recently submitted to the Commission a paper outlining additional areas for longer-term efficiencies and projected workload changes through FY 2020.

However, we cannot emphasize strongly enough that the NRC's ability to ensure adequate protection of public health and safety and the common defense and security will always be our main concern. While our size may change to reflect workload reductions and efficiency gains, the need for the great majority of the services we provide the American people remains unchanged.

As we proceed, the agency remains mindful of the importance of its highly skilled technical staff and the need to maintain our expertise. We must keep a focus on knowledge management as senior staff retire and new experts take their place. We must not forget the success of the agency is due, in no small part, to the quality and dedication of the agency's people. Remaining one of the best places to work in the Federal government is important to our ability to continue to recruit the most talented candidates, and retain our skilled and knowledgeable technical experts.

To highlight one other area where the Commission is focusing on improvement: the Commission's rulemaking process. Over the last several years, the Commission has revised its rulemaking processes to improve its understanding of, and, where possible, reduce the cumulative effects of regulations. These new processes include increased opportunities for stakeholder interactions and feedback, publishing draft supporting guidance concurrent with proposed rules, requesting specific comment on the cumulative effects of regulations in proposed rules, and developing better-informed implementation timeframes. In addition, the Commission has recently issued its direction to staff on a proposed plan, which presented eight recommendations to better define and enhance the Commission's role in the early stages of rulemaking, before significant resources are expended.

Further, the staff is tasked with providing a vote paper to the Commission this month recommending a single, unified approach to tracking rulemaking activities so the public and stakeholders have “real time” access to current information. While the NRC prides itself on being one of the most transparent agencies in the federal government, this tasking will improve communication and ensure the accuracy and timeliness of rulemaking information.

FY 2017 BUDGET REQUEST

The NRC’s proposed FY 2017 budget is \$970.2 million and 3,462 FTE, excluding the Office of the Inspector General (OIG). The proposal represents a net decrease of \$19.8 million from the FY 2016 enacted budget, as well as a decrease of 90 FTE.

The OIG’s component of the FY 2017 budget is \$12.1 million, of which \$11.2 million is for auditing and investigation activities for NRC programs and \$1 million is for auditing and investigation activities of the Defense Nuclear Facilities Safety Board (DNFSB). These resources will allow the OIG to carry out its mission to independently and objectively conduct audits and investigations to ensure the efficiency and integrity of the NRC and DNFSB, to promote cost-effective management, and to prevent and detect fraud, waste, and abuse.

Consistent with the provisions of the Omnibus Budget Reconciliation Act of 1990, as amended, the NRC FY 2017 budget request provides for 90 percent fee recovery, less the amounts appropriated for generic homeland security activities, waste incidental to reprocessing activities and DNFSB activities. Accordingly, \$861.2 million of the FY 2017 budget will be recovered from fees assessed to NRC licensees, resulting in a net appropriation of \$121.1 million. This appropriation is an increase of \$2.1 million compared with the FY 2016 enacted budget due to the inclusion of \$5 million in non-fee-recoverable resources for advanced nuclear reactor technology.

The NRC carries out its safety and security activities through two major programs: Nuclear Reactor Safety, which includes both Operating Reactors and New Reactors, and Nuclear Materials and Waste Safety, consisting of fuel facilities, nuclear materials users, decommissioning and low-level waste, and spent fuel storage and transportation. Compared to the FY 2016 enacted budget, the NRC's Nuclear Reactor Safety Program decreased by \$3 million and 61.9 FTE; the Nuclear Materials and Waste Safety Program, including Decommissioning and Low-Level Waste, decreased by \$1.8 million and 28.1 FTE.

Below are some highlights of the FY 2017 budget request.

NUCLEAR REACTOR SAFETY

Operating Reactors

The FY 2017 budget request for the Operating Reactors Business Line is \$587.5 million, a decrease of \$1.7 million from the FY 2016 enacted budget. This reflects declining or completed workload associated with, among other activities, implementation of the Fukushima lessons learned, license renewals and National Fire Protection Association 805 license amendment requests.

In FY 2017, the NRC will continue licensing and oversight activities for 100 operating commercial nuclear power reactors, including the Watts Bar Unit 2 nuclear power station slated to begin commercial operation later in calendar year 2016, and 31 research and test reactors.

The resources requested for FY 2017 also support ongoing work associated with implementing lessons learned from the Fukushima Dai-ichi Nuclear Power Plant accident in Japan. We expect

the bulk of the most safety significant enhancements to be completed in calendar year 2016 and to bring to closure our evaluation of the longer-term “Tier 2 and 3” issues. Resources requested for FY 2017 support the continued implementation of the “Tier 1” enhancements, including continued implementation and documentation of NRC Orders on mitigation strategies, spent fuel pool instrumentation and severe-accident-capable hardened containment vents, and completing the mitigation of beyond-design-basis events rulemaking. Resources will also support reviews associated with seismic and flooding hazard reevaluations.

The NRC has made great strides in enhancing U.S. nuclear power plants' already robust safety measures in the five years since the Fukushima Daiichi accident. We took swift action after the accident, ordering a variety of upgrades to plant safety. A key lesson from the accident was that plants must be prepared for events not contemplated when they were designed and constructed. Just as important, strategies to address events must be flexible to deal with variety of circumstances.

About half of U.S. commercial reactors have completed integrating portable pumps, generators and other resources and procedures to maintain key safety functions. We expect every U.S. plant to have these physical resources in place by the end of the year. The industry also has two fully operational national rapid response centers in Phoenix and Memphis with portable equipment that can be dispatched if needed.

Significant progress has been made on the NRC's requests for U.S. plants to re-examine earthquakes and flooding hazards. Every plant has updated its understanding of potential earthquakes at its site. A quarter of the plants have completed all their earthquake-related work. The remainder are assessing whether their new quake hazard affects the plant's ability to safely shut down. While improving flooding hazard information has proven more complex, more than half

of the plants have updated their understanding of flooding sources. All the plants will continue examining any risk changes due to revised flooding estimates.

Our next step is inspecting the work that's been done and ensuring the plants maintain their progress. We're adapting our inspections and other processes to cover these enhancements. We're also updating our assessment process to cover potential inspection findings related to the post-Fukushima upgrades. We're now to the point of incorporating the Fukushima-related work into our ongoing inspection and oversight processes. We strongly believe U.S. plants are better prepared for extreme events now than they were in 2011.

On a related note, the NRC recently issued letters to the nation's commercial operating nuclear plants about their 2015 performance. These assessment letters ensure all stakeholders clearly understand the basis for our assessments of plant safety and security performance and the actions we are taking to address any identified performance deficiencies.

All but three plants were in the two highest performance categories. Three reactors at two sites were deemed to be in the fourth, or lowest, performance category. One site, the Pilgrim nuclear power plant, is in that category due to long-standing issues of low-to-moderate safety significance. The plant will receive substantial additional inspection to confirm performance issues are being addressed. An additional Resident Inspector has been placed onsite to support more inspections in targeted areas, as well as more in-depth inspections.

Arkansas Nuclear One 1 and 2 are also under increased oversight because of two safety findings of substantial significance identified as a result of an industrial accident that occurred in March 2013. One worker was killed and eight were injured as a result of the accident, which was not radiological in nature.

The NRC has conducted several supplemental inspections as a result of its additional oversight at Arkansas Nuclear One. A public meeting to discuss the preliminary results of the inspection is being held today. A final report documenting the NRC inspectors' findings will be issued in June.

Also in June, the Commission will hold a briefing to hear the results of the Agency Action Review Meeting related to the performance at these two sites. The Commission will hear from NRC staff and officials from Entergy, which owns both sites, on how performance deficiencies are being addressed.

In FY 2017, the NRC's research program will continue to support the NRC's regulatory activities by evaluating and resolving generic safety issues for NRC-regulated nuclear power plants, other nuclear facilities and materials users that the agency regulates. The NRC will further enhance its regulatory programs through coordination and cooperation with other Federal agencies, States, Tribes, and international organizations and foreign governments. The NRC will continue to support international conventions on safety and treaty compliance, and support a wide range of activities to help foreign regulatory counterparts develop or enhance their programs and their controls over radioactive sources.

New Reactors

The FY 2017 budget request for new reactors is \$169.9 million, which represents a funding decrease of \$1.4 million when compared with the FY 2016 enacted budget. The decrease is a result of delays in application submittals, and project slowdowns or suspensions. The New Reactors Business Line is responsible for the regulatory activities associated with siting, licensing, and overseeing construction of new nuclear power reactors.

During FY 2017, the NRC expects to continue reviewing three new reactor combined license applications. These applications are for new plants at North Anna, Turkey Point and Bell Bend. Additionally, the NRC will continue to conduct inspections of four new reactor unit under construction – Vogtle Electric Generating Plant, Units 3 and 4, and Virgil C. Summer Nuclear Station, Units 2 and 3 – and will continue to carry out its vendor inspection program for both new and operating reactors. The NRC also expects to receive and begin review of one small modular reactor design certification application from NuScale.

The FY 2017 budget request includes \$5 million in non-fee-recoverable activities to implement a strategy for developing the regulatory infrastructure for advanced, non-light water nuclear reactor technologies. This funding would prepare the NRC to undertake effective and efficient licensing reviews of advanced reactor technologies consistent with the maturity and development pace of the technologies.

The strategy and associated activities to be initiated in FY 2017 would fall into three primary areas: licensing infrastructure, technical preparation, and outreach.

Under the licensing infrastructure activities, we would use the funding to conduct a gap analysis of regulations and guidance to determine areas where revisions are needed, and begin developing revised regulations and guidance for advanced reactors. We would also complete development of advanced reactor design criteria, evaluate new approaches to review conceptual designs on an incremental basis, and evaluate unique policy issues.

As for our technical preparation activities, staff intends to observe international design reviews as opportunities become available, to increase our expertise in advanced reactor technology and to

obtain lessons learned from advanced reactor technology licensing. For example, the Canadian Nuclear Safety Commission will be performing a design review for an advanced molten salt reactor designed by Terrestrial Energy.

Additionally, we would develop proposed revisions to industry codes and standards to address certain advanced reactor designs and develop related requirements. Further, we would conduct a hazard analysis to better understand the potential hazards and safety requirements to prevent or mitigate these hazards.

Important outreach activities would include the continuation of periodic engagements with designers of advanced reactors, participation in standards development for advanced reactors and information sharing with various national and international groups, including the Department of Energy, the Organisation for Economic Co-operation and Development's Nuclear Energy Agency and the International Atomic Energy Agency.

Being prepared to evaluate potential applications for light water-based small modular reactors and non-light water reactor technologies presents some challenges for the NRC, but the NRC is ready to receive and review any such applications under its existing framework.

Further, the FY 2017 budget request supports NRC plans to review three applications for medical isotope production facilities, including reviewing an operating license for one facility and conducting environmental and safety reviews of construction permits at two others.

NUCLEAR MATERIALS AND WASTE SAFETY

Fuel Facilities

The FY 2017 budget request for fuel facilities is \$41.5 million, which represents an overall funding decrease of \$2.9 million when compared with the FY 2016 enacted budget. The Fuel Facilities Business Line supports licensing, oversight, rulemaking, international activities, research, generic homeland security, and event response associated with the safe and secure operation of various operating and new fuel facilities such as conversion, enrichment, and fuel fabrication facilities, and nuclear fuel research and pilot facilities.

Nuclear Materials Users

The FY 2017 budget request for nuclear material users is \$92.5 million, which represents a funding increase of \$0.9 million when compared with the FY 2016 enacted budget.

The Nuclear Materials Users Business Line supports the safe and secure possession, processing, and handling of nuclear materials in many diverse applications, along with associated activities related to licensing, oversight, rulemaking, international engagements, research, generic homeland security, event response, and State, Tribal, and Federal Program interfaces. This increase is due to the resumption of a security rulemaking to address an industry petition and to conduct a rulemaking for cyber security at fuel cycle facilities. These were delayed in FY 2016.

The FY 2017 budget request ensures the NRC can continue to license and oversee the safe and secure use of radioactive materials used for medical, academic, industrial and research purposes. The NRC and Agreement states oversee approximately 21,000 specific materials licensees. In FY 2017, the NRC will complete approximately 2,000 materials licensing actions and approximately 900 routine health and safety inspections, as well as reactive and follow-up inspections.

Spent Fuel Storage and Transportation

The FY 2017 budget request for spent fuel storage and transportation is \$37.2 million, which represents an overall funding increase of \$1.1 million when compared with the FY 2016 enacted budget. The Spent Fuel Storage and Transportation Business Line supports licensing, oversight, rulemaking, international activities, research, and generic homeland security associated with the safe and secure storage and transportation of spent nuclear fuel and other radioactive materials. This increase is due to safety and environmental reviews of an interim consolidated storage facility and related safety analysis.

In FY 2017, the NRC will continue its oversight over nuclear waste and spent fuel storage facilities, certify storage and transportation containers, and respond to events involving our licensees. The NRC expects to receive and review one application for an interim consolidated storage facility.

Decommissioning and Low-Level Waste

The FY 2017 budget request for decommissioning and low-level waste is \$41.6 million, which represents an overall funding decrease of \$1 million when compared with the FY 2016 enacted budget. The Decommissioning and Low-Level Waste Business Line supports licensing, oversight, rulemaking, international activities, and research associated with the safe and secure operation of uranium recovery facilities, removal of nuclear facilities from service and reduction of residual radioactivity to a level that permits termination of the NRC license, and disposition of low-level radioactive waste from all civilian sources.

The FY 2017 budget request provides funding for licensing reviews and oversight activities at power reactors undergoing decommissioning, including Kewaunee Power Station, San Onofre Nuclear Generating Station Units 2 and 3, Crystal River 3 Nuclear Power Plant and Vermont Yankee Nuclear Power Plant. At least one additional plant, Entergy's James A. FitzPatrick Nuclear Power Plant near Oswego, New York, has announced plans to shut down on January 27, 2017.

The NRC has initiated a rulemaking on reactor decommissioning in accordance with direction from the Commission, with a goal of completion in 2019. NRC published an advanced notice of proposed rulemaking to solicit stakeholder input in November 2015, with a public comment period that recently closed in March. The staff is currently evaluating these public comments and developing the regulatory basis for the decommissioning rulemaking. To augment its outreach activities on this rulemaking, the Commission held a public meeting with a wide selection of stakeholders to hear their perspectives.

Public comment was sought on a variety of topics relevant to the rulemaking, such as achieving efficiencies in the decommissioning process, reducing the need for exemptions from existing regulations for operating plants, and addressing the timeliness of decommissioning and the role of state and local government, and other organizations. The NRC will continue processing current and pending applications for decommissioning amendments and exemptions until that regulatory work is complete.

CLOSING

This budget request represents a substantial reduction from the 2016 enacted budget. The President's Budget takes advantage of the Project Aim-identified efficiencies, and, as we continue

our work, we anticipate additional savings and efficiencies to come.

Chairman Inhofe, Ranking Member Boxer, Chairwoman Capito, Ranking Member Carper, and distinguished Members of the Committee, this concludes my formal testimony. On behalf of the Commission, I thank you for the opportunity to appear before you. I know you share our dedication to the vital mission of the NRC.

I would be pleased to respond to your questions. Thank you.