

**WRITTEN STATEMENT**  
**BY ALLISON M. MACFARLANE, CHAIRMAN**  
**UNITED STATES NUCLEAR REGULATORY COMMISSION**  
**TO THE**  
**SENATE COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS**  
**JANUARY 30, 2014**

Chairman Boxer, Ranking Member Vitter, Chairman Carper, Ranking Member Sessions, and Members of the Committee, my colleagues and I appreciate the opportunity to appear before you today on behalf of the U.S. Nuclear Regulatory Commission (NRC).

Over the last year, the NRC has continued to ensure the safety and security of the nation's civilian nuclear activities, made enhancements based on lessons learned from the Fukushima Dai-ichi accident, and met challenges in a number of other areas. In doing so, my fellow Commissioners and I continue to work collegially to carry out the NRC's mission of protecting public health and safety and the environment and promoting the common defense and security. I continue to greatly value the NRC staff's expertise and dedication to our mission.

I have had the opportunity to visit each of the NRC's four regional offices, as well as seven nuclear power plants and several other licensed facilities. These visits have reinforced my belief that the agency's high caliber and dedicated staff of experts is ably fulfilling our critical mission. The NRC's resident inspectors give me particular confidence that the agency is protecting the public's health, safety and security. In short, I believe the NRC is operating very well. We are successfully meeting the variety of challenges we face while also seeking to continuously improve in order to remain a strong and effective regulator.

Today, I'd like to highlight some of the NRC's accomplishments and challenges.

## **FUKUSHIMA**

Nearly three years after the Fukushima accident, the NRC and the international community have a more informed understanding of the event sequence and the appropriate safety enhancements required in implementing the lessons learned. Additionally, based on lessons learned from the Three Mile Island accident, we are committed to appropriately prioritizing and integrating the Fukushima lessons learned to ensure that they do not create an adverse impact on the agency's other safety-significant work. We are taking the time necessary to conduct the detailed research, develop the comprehensive regulatory requirements, if necessary, and seek input from a broad array of constituents, to ensure that the actions we are taking are technically sound and provide the most appropriate safety enhancements.

I am pleased to report that we have done extensive inspections at each U.S. nuclear power plant and that the Commission remains confident that the fleet continues to operate safely. The additional actions we are requiring will enhance licensees' abilities to mitigate the effects of a beyond design-basis accident. The licensees have also conducted thorough "walkdown" inspections at their facilities, are in the process of re-evaluating their seismic and flooding hazards, and are making significant progress in implementing the new requirements stemming from the Fukushima lessons learned.

Recently, there has been increased focus on radioactive contamination at the Fukushima site. While the NRC has no direct role in overseeing actions at the Fukushima site, we cooperate with our federal partners and our counterpart agency in Japan, the Nuclear Regulation Authority, as well as take advantage of reports from TEPCO and other sources to remain aware of activities at the Fukushima site. We remain cognizant of this information to help identify potential lessons learned for U.S. reactors. Other U.S. federal agencies are also offering assistance to the Japanese in their efforts to address the ongoing cleanup and decommissioning of the damaged power station. The Government of Japan and TEPCO

continue to monitor the effluent releases from the site, and the NRC receives regular reports on Japan's efforts to confine the radioactive materials at the Fukushima site.

Information about the current concentrations of radioactive contamination in the Japanese countryside and in the Pacific Ocean is made available to the public by the Government of Japan and TEPCO – and NRC staff, as well as other federal and state agencies, monitor this data to inform our decision-making, and to respond to questions from the public. The concentrations of radioactive elements in the Pacific Ocean off the coast of Japan remain very low – well below the international and U.S. regulatory limits for drinking water. Although some of the contamination has made its way across the Pacific Ocean to the western coast of North America, the concentrations are even lower – hundreds or even thousands of times below the concentrations established by the U.S. and international regulatory bodies as allowable limits intended to protect public health and the environment. Based on the best scientific data available, neither the NRC, nor any of the other federal agencies, state governments in the Western U.S., nor international organizations have identified any evidence that the minute amounts of contamination from the Fukushima site that may reach the West Coast of the U.S. may pose any concerns to the U.S. food supply, water supply, or public health.

In terms of our efforts to implement high-priority, safety-significant lessons learned at operating nuclear power plants in the United States, I would like to summarize the progress the NRC and our licensees have made.

#### Seismic and Flooding Evaluations and Inspections

Following the accident, the NRC moved swiftly to require reactor licensees to confirm their capability to protect against seismic and flooding events within the plant's current design basis. In November 2012, the licensees submitted their final reports, which are being reviewed by the NRC staff. The NRC is also inspecting the licensees' performance. At this time, no issues identified by the licensees or the NRC raise safety concerns. A few plants reported

some discrepancies in flood protection such as: degraded flooding seals; procedure deficiencies; and temporary flood barriers that may not have performed as designed should they have been called upon to function. Examples of potential seismic issues included degraded equipment or hardware (e.g., missing bolts, corrosion), potential for spatial seismic interactions, and problems associated with housekeeping procedures. The licensees are correcting these issues in a timely manner under NRC oversight. To confirm licensees conducted the walkdowns correctly, NRC staff conducted audits this past summer at select plants and sites to gather additional information. As the next step, the NRC is completing and publicly issuing detailed safety assessments of each of the licensees' walkdown reports.

#### Seismic and Flooding Reevaluations

To ensure adequate protection against natural hazards, the NRC is requiring each plant to use current methodologies and updated regulatory guidance to reevaluate seismic and flooding hazards and then evaluate the plant response to those hazards. The NRC will use the results of these assessments to determine whether additional site-specific safety enhancements are necessary.

For the flooding hazard reevaluations, the NRC categorized the plants based on factors such as the complexity of the analyses required, co-location with a site considering a new reactor application and the potential for needing an integrated assessment of the re-evaluated hazard to the current design basis. Sixteen sites have already provided the results of their reevaluated flood hazard, and the others are on a staggered deadline schedule through March 2015.

Sites with reevaluated hazard results that are bounded by their current design basis do not need to take further action. Licensees whose flooding hazard reevaluation results are not bounded by their current design basis were requested to describe any interim actions, taken or planned, to address the reevaluated flooding hazard. In addition, these sites must complete an

assessment of the site's flood protection and mitigation capability within two years of submitting the hazard reevaluation results to determine whether permanent safety enhancements are necessary.

At present, the NRC is reviewing the interim actions for flooding that were proposed by individual sites and is performing on-site inspections to ensure that the interim actions are protective of public health and safety. Concurrently, the NRC is reviewing the flood hazard reevaluation results submitted by the licensees to ensure they correctly utilized current methodologies. Of the sites that submitted their hazard reevaluations on March 12, 2013, the majority have identified hazards that are greater than their current design bases and will need to take further action.

Seismic hazard assessments are on a separate schedule, and work is well underway at the plants. Licensees have begun the process of performing the analyses necessary to reassess the seismic hazards for their facilities. In establishing the methodologies for performing this reassessment, the NRC and industry concluded that ground motion models for plants in the central and eastern United States should be updated. These ground motion model updates were completed at the end of May 2013 and approved by the NRC staff in August for licensees to use in the reassessment of the seismic hazards. Licensees whose plants are located in the central and eastern United States have recently submitted to the NRC a portion of their hazard reassessments and will submit the complete reevaluations by March 2014. Licensees whose plants are located in the Western United States are scheduled to submit their hazard reevaluations by March 2015. Because the U.S. Geological Survey recently updated seismic hazards for the central and eastern United States, plants in those areas could incorporate this new data directly. The three plants in the Western United States must conduct significant additional research in order to submit their seismic hazard reassessments.

As an interim step to implement safety enhancements more quickly than originally scheduled, the NRC and industry have developed a revised approach to upgrade certain safety

systems at the facilities. Licensees will now use their updated seismic hazard assessments to identify and implement seismic upgrades to certain safety significant equipment. Previously, they were to conduct comprehensive plant risk analyses before determining what upgrades may be necessary. This change allows for certain seismic-related safety enhancements to be completed at the sites sooner than originally planned, with many plants completing safety enhancements by 2016. The NRC will still require licensees to complete the seismic probabilistic risk assessments to determine if any further safety enhancements are warranted.

#### Enhanced Capabilities to Mitigate Beyond-Design-Basis Accidents

To ensure that sites are better prepared to respond to beyond-design-basis accidents, the NRC has required licensees to provide additional capabilities to maintain or restore core cooling, containment, and spent fuel pool cooling for all units at a site simultaneously following an extreme natural event. This includes procurement of portable power supplies, cooling pumps, and supporting equipment to supplement the existing plant safety systems. To implement these requirements, in February 2013, the licensees submitted their integrated safety plans for NRC approval. They have begun to procure the equipment for their sites. Many of the sites with operating reactors will achieve full implementation by the end of 2015, with the remaining sites to be completed by 2016. The industry is also establishing Regional Support Centers in Memphis, Tennessee and Phoenix, Arizona with the capability to deploy equipment to any reactor site within 24 hours. These Centers will be fully operational by the end of 2014. During and after implementation, the NRC will conduct inspections to verify that nuclear power plants have put appropriate strategies in place to mitigate beyond design-basis accidents.

The NRC is conducting a rulemaking that would codify in the regulations requirements already imposed in a March 2012 Order to mitigate a prolonged station blackout condition. This rulemaking will incorporate feedback and lessons-learned from implementation of the previously

imposed Order to inform the new regulations to enhance capabilities to mitigate beyond-design-basis accidents at the sites. This rulemaking remains on schedule to be completed by 2016.

#### Emergency Preparedness Communication and Staffing

To ensure that nuclear power plant sites have adequate staffing and sufficient communication capacity in place to cope with prolonged accident conditions, particularly involving multiple units, the NRC requested that licensees reassess their emergency response capabilities. This includes examining staffing plans, conducting periodic training for staff on multi-unit accident scenarios, and ensuring that communication equipment can function during a prolonged loss of power at the site. Licensees are performing these activities and are required to complete them by 2016. Portions of these activities related to staffing and communications have already been completed and submitted to the NRC. The NRC staff has issued safety assessments concerning the communications portion to operating licensees. The staff will follow up with licensees to confirm that the enhancements to the sites' communication systems are completed. The NRC is conducting a rulemaking to integrate emergency operating procedures, severe accident management guidelines, and extensive damage mitigation guidelines. This rulemaking will require these safety procedures to be effectively implemented in a coordinated manner during a nuclear accident. The new requirements will better equip licensees to address accidents outside of a plant's current design basis, and promote proper training to address these scenarios. This rulemaking remains on schedule to be completed by 2016. The NRC will then ensure that the licensees take the actions specified in the final rule.

#### Spent Fuel Pool Instrumentation

To ensure the capability to continuously monitor spent fuel pool water levels and conditions during an extreme event, the NRC has required by Order the installation of enhanced instruments at all nuclear plants. This additional equipment expands upon the capabilities of

that which is currently installed and will indicate the full range of water level above the spent fuel assemblies. To ensure coordinated implementation of all high-priority enhancements, licensees must complete installation of this instrumentation along with the installation of the enhanced spent fuel pool cooling capabilities, with full implementation at all sites by 2016. Licensees submitted their integrated safety plans to implement this requirement in February 2013. The NRC reviewed those safety plans and issued all of its interim staff evaluations by the end of 2013. The NRC will ultimately issue final safety evaluations and inspect each site to verify that the licensees have appropriately implemented this requirement.

#### Reliable Hardened Vents

To protect containment integrity in the 31 boiling water reactors with Mark I and II containments, similar in design to those found at Fukushima Dai-ichi, the NRC required by Order installation of reliable hardened vents capable of relieving high pressure in the reactor containment. In response, licensees submitted their plans for implementing this requirement in February 2013. These requirements were initially on the same schedule as those I just described, with full implementation scheduled for 2016. The Commission subsequently directed the staff to expand those requirements to ensure that the vents can be operated during severe accidents. The NRC issued new requirements for operation of vents in June 2013. These include a revised schedule requiring licensees to submit implementation plans in June 2014 and have in place severe accident capable venting systems by June 2017.

The Commission also directed the NRC staff to undertake a rulemaking to consider additional requirements for these reactors to retain and filter radioactive material during an accident and enhance the capability to maintain containment integrity and cool core debris. The NRC staff is exploring the requirements associated with measures to enhance the capability to maintain containment integrity and to cool core debris during severe accidents. In keeping with



NRC rulemaking practices, there will be multiple opportunities for public participation in the process.

#### Spent Fuel Pool Study and Expedited Transfer Issues

Although inspections of the Fukushima Dai-ichi facility determined that spent fuel pool integrity had been maintained and the spent fuel had been adequately cooled during the accident, the event led the NRC staff to undertake efforts to confirm the safe storage of spent fuel and to determine whether the NRC should undertake a regulatory action to require expedited transfer of spent fuel to dry cask storage at U.S. nuclear power plants. In the summer of 2011, the NRC staff initiated a research project entitled, “Consequence Study of a Beyond-Design-Basis Earthquake Affecting the Spent Fuel Pool for a U.S. Mark I Boiling Water Reactor.” The study used the Peach Bottom plant in Pennsylvania as a “reference plant.” A draft of the study was completed and the NRC solicited public comment on the report in July 2013. The final report was completed and made available to the public in October 2013. The staff also undertook a generic assessment – looking at all reactor types and various initiating events – to determine if the potential safety benefits of reducing the amount of spent fuel stored in storage pools would: (i) meet the NRC’s criteria for a substantial safety improvement at existing nuclear power plants; and (ii) meet criteria for a cost-justified safety improvement for future nuclear power plants. On January 6, the Commission held a public briefing on spent fuel pool safety and consideration of expedited transfer of spent fuel to dry casks, which gave both the NRC staff and selected stakeholders the opportunity to present. The Commission is evaluating the staff’s assessment and proposal, along with the information received at the briefing, and will make a decision in the near future.

### National Academy of Sciences Study

As directed by Congress, the NRC issued a grant to the National Academy of Sciences (NAS) to provide an assessment of lessons learned from the Fukushima nuclear accident for improving the safety and security of nuclear plants in the United States. This assessment will address the following issues: (1) causes of the Fukushima nuclear accident; (2) re-evaluation of the conclusions from previous NAS studies; (3) lessons to improve plant safety and security systems and operations; and (4) lessons to improve plant safety and security regulations, including processes for identifying and applying design basis events for accidents and terrorist attacks to existing nuclear plants. The NRC staff is providing the assistance needed to support NAS' completion of the report.

### Longer-Term Actions Associated with Fukushima Lessons Learned

The end of 2016 will mark an important milestone for the NRC to measure its progress in implementing the lessons learned from the Fukushima accident. The summary provided thus far has shown the significant progress that the agency has made or will make by this date. We have focused on the highest-priority, most safety-significant lessons learned first. The agency will meet or exceed the five-year schedule in completing the most safety-significant enhancements.

Over the coming months and years, as we gain insights from implementation of the highest priority actions, the decommissioning activities at the Fukushima Dai-ichi site, and resources become available with the critical skill sets, the schedules for the remaining lessons learned will become clearer. The NRC remains committed to implementing the appropriate Fukushima lessons learned in an effective, timely, and safety-focused manner and without adverse impact on the agency's other safety-significant work.

The NRC continues to interact with our licensees and interested members of the public as we move forward to implement these Fukushima safety enhancements. We have held more

than 150 public meetings over the last two and a half years in an effort to keep the public apprised of our activities. We remain mindful of the cumulative impacts of regulation and have established a process that attempts to manage cumulative impacts. The NRC is taking a careful and deliberate approach to this work to prevent these regulatory actions from distracting us or the industry from day-to-day nuclear safety priorities, and to avoid unintended safety or security consequences. We recall the lessons learned from previous events such as the September 11, 2001, terrorist attacks, knowing that a change in one system has the potential to adversely affect another system if not considered holistically.

## **OPERATING REACTOR FLEET**

The day-to-day safe and secure operation of the NRC's licensed facilities, including power reactors, and the safe and secure use of radioactive materials remains our top priority. All operating reactors in the United States are performing safely. The NRC's Reactor Oversight Process measures plant performance in five categories, or "columns." Column 1 consists of those reactors that we have assessed as having the best level of safety and security performance. On average, these plants receive a baseline level of approximately 2,370 hours per site of direct inspection effort, per year, with an additional approximately 2,420 hours per site for all associated monitoring of plant status, preparatory work, and inspection documentation. Plants in Columns 2, 3, and 4 receive an increasing level of NRC oversight, characterized by significantly enhanced inspections. Plants in Column 4 receive the most NRC attention short of a mandated shutdown. Column 5 encompasses those plants that are experiencing problems of sufficient safety significance as to require a shutdown until the problems are addressed.

On September 6, 2013, the NRC issued its calendar year 2013 mid-cycle assessments for all operating power reactors in the United States. These results document the plants' performance through the first half of 2013. There are currently seventy-nine reactors in Column

1, fourteen in Column 2, seven in Column 3, and one, Browns Ferry Unit 1, in Column 4. The NRC is maintaining focus on the plants in the lower performance categories and will conduct follow-up inspections of identified issues and ensure that corrective actions are implemented.

The Fort Calhoun Nuclear Generating Station, located in Nebraska, recently restarted after having been shut down since April 2011 for a refueling outage that was extended due to record Missouri river flooding. The plant remained shut down to correct a variety of concerns with plant equipment, programs and processes. The plant remains under special inspection oversight, separate from the normal performance categories, until sustained licensee performance justifies a return to the reactor oversight process.

With respect to the renewal of licenses in the power reactor fleet, the NRC has approved renewals for 73<sup>1</sup> reactors, most of which have already replaced, or plan to replace, major components such as reactor pressure vessel heads and steam generators. The NRC also reviews aging management programs for each licensed facility seeking license renewal. License renewals impacted by the Commission's Waste Confidence activities will remain pending until the conclusion of those activities.

## **DECOMMISSIONING**

Since our last full hearing before this Committee, four licensees have announced their intention to cease commercial operations and permanently shut down their reactors due to a variety of factors. Kewaunee Power Station, Crystal River Nuclear Generating Plant, Unit 3, and San Onofre Nuclear Generating Station Units 2 and 3 entered decommissioning following announcements in 2013. More recently, in late August, Entergy announced its intention to close the Vermont Yankee Nuclear Power Station by the end of 2014.

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<sup>1</sup> One of these was for the Kewaunee Power Station, which has permanently ceased commercial operations.

Our licensees have three decommissioning options from which to choose under NRC regulations: DECON, or immediate dismantlement; SAFSTOR, or deferred dismantlement; and ENTOMB, in which radioactive contaminants are permanently encased on site. To date, licensees have selected either the DECON or SAFSTOR options. Our regulations require that decommissioning be completed within 60 years of cessation of operations. As these plants transition from operating to decommissioning status, the NRC will adjust its oversight accordingly and ensure the next steps are carried out safely, while keeping the public informed of the process. We likewise encourage our licensees to engage members of the public and state and local elected officials with an interest in their decommissioning sites. Some licensees may choose to form community advisory boards to support this work.

## **YUCCA MOUNTAIN<sup>2</sup>**

The NRC has acted expeditiously to comply with the August 13, 2013, U.S. Court of Appeals for the District of Columbia Circuit decision directing the NRC to promptly continue with the legally mandated licensing process for the high-level waste repository at Yucca Mountain, Nevada. On August 30, the Commission requested that all participants in the suspended Yucca Mountain adjudication provide their views on how the NRC should continue with the licensing process. At the same time, we also directed the NRC staff to gather budget information that would provide current data on the cost of completing various aspects of the licensing process.

On November 18, 2013, the Commission issued an Order setting forth a course of action to continue the Yucca Mountain licensing process. This course of action represents the next logical steps in the licensing process; the Commission directed the NRC staff to complete work on the safety evaluation report on the Department of Energy's construction authorization application for the proposed Yucca Mountain nuclear waste repository. The Commission also requested that DOE prepare a supplemental environmental impact statement needed by the NRC staff to complete its environmental review of the application. The Commission also

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<sup>2</sup> Commissioner George Apostolakis is not participating in these matters.

directed that the adjudication related to the Yucca Mountain license application continue to be held in abeyance. For this reason, the Commission did not direct the staff to reconstitute the Licensing Support Network (LSN) that supported the adjudicatory hearing on the application. The Commission did, however, direct the staff to load documents in the LSN document collection into the NRC's non-public ADAMS online database; that effort is currently ongoing. And on January 24, 2014, in conjunction with an Order declining to reconsider certain aspects of the November 18 decision, the Commission provided further direction on the use of newly de-obligated Nuclear Waste Fund appropriations to enable public access to the LSN document collection now being loaded into ADAMS. Further, the agency has commenced its licensing review.

The NRC will continue to keep our Congressional oversight committees fully informed of our progress in responding to the court's direction to the agency to continue its review of the Yucca Mountain application at least until existing funds appropriated for the review are expended.

## **WASTE CONFIDENCE**

Following the U.S. Court of Appeals for the D.C. Circuit's June 2012 remand of the Waste Confidence Rule, the Commission directed the NRC staff to address the issues identified in the court's remand by September 2014. On January 23, 2014, the NRC revised its review schedule for the final versions of its Waste Confidence Generic Environmental Impact Statement (GEIS) and the final rule on the extended storage of spent nuclear fuel at the Nation's commercial nuclear power plants from September 2014, to no later than October 3, 2014. The delay reflects time lost during the government shutdown and lapse of appropriations last October. The shutdown led the agency to reschedule several public meetings and extend the public comment period on the draft versions of the GEIS and rule by nearly a month.

The proposed Waste Confidence Rule and draft Generic Environmental Impact Statement, prepared in response to Commission direction, were available for public comment from September 13 until December 20, 2013. The NRC has provided multiple opportunities for public involvement in this process. We held 13 public meetings at various locations around the country; three<sup>3</sup> at NRC's Rockville, Maryland, Headquarters, and one at each of the following locales: Denver, Colorado; Chelmsford, (near Boston) Massachusetts; Tarrytown (north of Manhattan), New York; Charlotte, North Carolina; Orlando, Florida; Oak Brook (near Chicago), Illinois; Carlsbad, California; San Luis Obispo, California; Perrysburg (near Toledo), Ohio; and Minnetonka (near Minneapolis), Minnesota. The three meetings based out of our Headquarters were accessible to nationwide participation. We had more than 1,400 total participants in person and by phone, and received more than 33,000 comments.<sup>4</sup> At this time, the staff is reviewing the public comments received, crafting responses to the comments to be included in the final Generic Environmental Impact Statement, and making appropriate changes to the Generic Environmental Impact Statement.

As the staff continues its work on Waste Confidence, the NRC continues to review all affected license applications. However, we will not issue licensing decisions dependent upon the Waste Confidence decision until the court's remand is appropriately addressed. This determination extends just to final license issuance; all licensing reviews and related proceedings continue to move forward.

## **NEW CONSTRUCTION**

Following the issuance of the first combined licenses for new reactors at the Plant Vogtle and V.C. Summer stations approximately two years ago, safety-related construction at both

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<sup>3</sup> Two public meetings with in-person and phone participation and one teleconference-only meeting were held at NRC Headquarters.

<sup>4</sup> The NRC received more than 33,000 comment submittals containing more than 850 unique submittals, yielding approximately 3,000 comments.

facilities is well underway. There were some initial delays after NRC inspectors identified code compliance issues with the design of the basemat<sup>5</sup> and walls, which resulted in pouring concrete for the nuclear island basemats later than originally planned. The NRC issued license amendments to address these issues, and the basemats have now been placed at all four sites. The auxiliary building walls at Summer Unit 2 and Vogtle Unit 3 are being constructed, the bottom portions of both containment vessels have been set, and the reactor vessels are on-site. In addition, significant progress has been made on major structural modules, the turbine buildings, and cooling towers at both sites. Other issues identified by NRC inspectors have been in the area of civil construction and digital instrumentation and control. Both sites experienced issues with the delivery and quality of the fabrication of plant modules, but overall, construction appears to be going smoothly. Construction issues are expected to arise at large, complex construction projects such as these, and the NRC is working productively with the licensees to ensure that appropriate processes and protocols are established and followed to allow for timely issue resolution.

I had the opportunity to visit the Plant Vogtle site in June 2013 and was impressed with the significant progress being made at the site, as well as the effective communication between the NRC and the licensee to ensure that previously-identified issues are being addressed appropriately.

The reactors under construction at the Plant Vogtle and V.C. Summer sites are the first of a new generation of reactors built under 10 CFR Part 52. These regulations allow applicants to seek a combined license covering nuclear power plant construction and operation and permit the use of a pre-approved standardized design. On one hand, the streamlined approach of issuing one license is intended to minimize potential delays in bringing new plants online, but in turn, licensees must construct the plant in accordance with the approved design referenced in

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<sup>5</sup> The basemat is the reinforced concrete foundation for the “nuclear island,” which consists of the containment building, shield building, and auxiliary building.



the license application. The lessons learned at V.C. Summer and Plant Vogtle will inform our work in new reactor licensing and construction oversight going forward. We intend to continue to work with licensees and vendors to ensure that they fully understand our expectations regarding as-built design detail and the finality of the approved design.

The NRC also continues to provide construction oversight at Watts Bar Unit 2. The NRC staff review of the Tennessee Valley Authority's (TVA's) submittals related to the Operating License Application of Watts Bar Nuclear Plant Unit 2, while mostly complete, is still in progress. The NRC staff continues to document its findings in supplements to the safety evaluation report, and construction inspection reports to ensure that TVA has met the applicable regulatory requirements. Currently, the staff is working towards an operating licensing decision in December 2014.

The NRC also anticipates the submission of the first design certification applications for small modular reactors (SMR) in 2014, for the Babcock & Wilcox mPower designs. We are appropriately staffed to conduct this SMR design certification review in a timely manner.

## **SECURITY**

On October 11, 2013, the NRC concluded a two-week International Atomic Energy Agency International Physical Protection Advisory Service (IPPAS) mission. An international team of security experts reviewed the NRC's physical protection regulations as well as how they are implemented at the National Institute of Standards and Technology's Center for Neutron Research in Gaithersburg, Maryland. The IPPAS team concluded that "nuclear security within the U.S. civil nuclear sector is robust and sustainable and has been significantly enhanced in recent years." Last summer, the NRC revised its regulations related to the physical protection of spent fuel in transit. We have also recently issued a new regulation, 10 CFR Part 37, which provides expanded security measures for the physical protection of the most risk-significant radioactive materials. In January 2013, we began the first round of inspections of power reactor

licensees' cyber security plans and implementation. To date, we have completed 20 such inspections and are now developing cyber security requirements for fuel cycle facilities.

## **URANIUM RECOVERY**

The NRC continues to adjust resources within our budget, and enhance our safety and environmental review programs to address potential new license requests for uranium recovery facilities. As part of our environmental review, the staff is required by federal law to consult with affected groups, such as federally-recognized Native American Tribes and members of the local community. The NRC also continues to encourage the uranium recovery industry to improve the quality of incoming license applications, which directly impacts the timelines of our licensing reviews. Finally, we are also coordinating with our federal partners, such as the Environmental Protection Agency and the Bureau of Land Management, to update regulatory standards and improve the efficiency of the environmental review processes to address this growing workload.

## **INTERNATIONAL**

International cooperation remains a priority for the NRC. We remain engaged on a bilateral and multilateral basis with our international counterparts on safety, security, and safeguards issues. We are currently preparing for the Sixth Review Meeting of Parties to the Convention on Nuclear Safety, which will take place in March 2014. This will be the first such meeting since countries began undertaking post-Fukushima safety enhancement activities, and a valuable opportunity to collaborate with our regulatory counterparts to assess our collective progress and share insights and lessons learned.

## **BUDGET**

The NRC faces a different future than the one we anticipated just a few years ago when significant new reactor construction was anticipated. We responded appropriately then with an

aggressive effort to build staff capability and the infrastructure to support this growth. While our focus in certain areas has shifted, our workload has not diminished – in fact, it has increased as our budget levels have largely remained stable – but we have additional considerations. Recent industry announcements have prompted us to place greater focus on decommissioning, even as we continue to provide oversight for new reactor construction and prepare for possible small modular reactor design certification. We are also continuing to address emerging work related to Yucca Mountain, Waste Confidence, and Fukushima-related lessons learned.

Another consideration is the consistent loss of senior technical experts to retirement. Workforce attrition demands that we continue a robust effort to ensure that our staff is appropriately and strategically replenished and revitalized. Finally, uncertainties in the federal fiscal environment have prompted the NRC, like other agencies, to carefully plan and consider how to effectively address emergent situations like a federal shutdown.

In short, the NRC recognizes that our agency must be flexible in order to effectively, efficiently, and quickly respond to changing circumstances in industry, budgetary, or other factors in a way that preserves our ability to uphold our critical nuclear safety and security mission.

## **INTERNAL COMMISSION PROCEDURES**

The NRC's Internal Commission Procedures govern how business is conducted at the Commission level, including the Chairman's and Commissioners' responsibilities, Commission decision-making procedures, and how sensitive documents are transmitted to Congress. The procedures, which are available on the NRC's website, address the Commission's actions as a collegial body. I believe the Commission is functioning well in this regard.

The Commission reviews its internal procedures every two years and makes changes as appropriate. We recognize and acknowledge that the Commission's recent revision of Chapter 6 of the procedures resulted in the enactment of legislation directing the NRC to revert to the

2011 version of that chapter when responding to Congressional requests for information. We, of course, will comply with the legislation.

I would like to make it clear that the NRC remains committed to keeping Congress fully and currently informed of its activities and providing individual members with needed information.

There are important separation of powers principles and longstanding Executive Branch confidentiality interests that also govern Federal agency responses to Congressional requests for information. Our Internal Commission Procedures, including the 2011 version, are consistent with those foundational principles, and we will continue to respect those principles in responding to requests for information from Congress. These principles are particularly important in addressing requests for sensitive documents pertaining to ongoing agency adjudications or potential or ongoing investigations or enforcement actions. We recognize that this is a complex issue and welcome the opportunity for further discussions on how to best accommodate the Committee's important responsibilities.

## **A LOOK AHEAD**

While we have accomplished a great deal, many challenges lie ahead for the NRC. In the next several months, the Commission's primary activities will include the following issues:

- Continuing work on the Yucca Mountain licensing process in an efficient and effective manner;
- Working towards completion of the agency's Waste Confidence activities;
- Further implementing safety-significant lessons learned from the Fukushima accident in accordance with established agency processes and procedures;
- Overseeing decommissioning activities at SONGS, Kewaunee and Crystal River 3;

- Continuing to conduct oversight of construction activities at the new Plant Vogtle, V.C. Summer, and Watts Bar 2 reactors;
- Reviewing the first SMR design certification application;
- Continuing implementation of radioactive source security enhancements, including ensuring that Agreement States have implemented compatible regulations and updating our own procedures and guidance documents;
- Moving forward with cyber security efforts for nuclear power plants, fuel cycle facilities, research and test reactors, and materials licensees; and
- Strengthening our close cooperation with international partners.

Chairman Boxer, Ranking Member Vitter, Chairman Carper, Ranking Member Sessions, thank you for the opportunity to appear before you today; I would be pleased to answer your questions.