WRITTEN STATEMENT

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UNITED STATES NUCLEAR REGULATORY COMMISSION

TO THE

HOUSE COMMITTEE ON ENERGY AND COMMERCE

SUBCOMMITTEES ON ENERGY AND POWER, ENVIRONMENT AND THE ECONOMY

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Good morning, Chairman Whitfield, Ranking Member Rush, Chairman Shimkus, Ranking Member Tonko, and distinguished members of the Subcommittees. On behalf of the Commission, I appreciate the opportunity to appear before you to discuss policy and governance at the U.S. Nuclear Regulatory Commission (NRC).

When the Commission appeared before you last on July 24, 2012, I had joined the NRC only 15 days earlier. At the time, I pledged to work closely with my fellow Commissioners and to approach my job as Chairman in a collaborative and collegial manner. Over the past seven months, we have developed a very productive, respectful, and collegial working relationship, and we have sustained an environment of open communication.

I also have an even greater appreciation of the skills and expertise of NRC management and staff who carry out the mission of ensuring the safe and secure use of radioactive materials and protecting public health and safety and the environment. I have been particularly impressed by the NRC resident inspectors, who are assessing licensees' activities at the nation's nuclear power plants and selected nuclear fuel cycle facilities every day. In general, I believe the NRC is operating very well, and we are addressing challenges and identifying areas for improvement to make us a more effective and efficient regulator.

In the 38 years since the NRC was established, its mission and focus has remained steadfast: protecting public health and safety and promoting common defense and security. Through our oversight of regulated facilities and materials, we use operating experience and insights to ensure we continue to learn lessons and remain a strong and effective regulator.

NRC has approved license renewals for 73 reactors. Most facilities with renewed licenses have replaced or planned to replace major pieces of equipment, such as the steam generators or reactor vessel heads. Additionally, each licensed facility has an aging management program which the agency reviews. Seeking approval for license extension, however, is not a guarantee that a reactor will choose to operate for 60 years. In addition, business factors may influence the life of nuclear power plants. Recently, the owners of the Kewaunee Nuclear Plant and Crystal River Unit 3 announced plans to permanently close these reactors due to economic factors. In the months and years ahead, NRC will adjust our oversight from ensuring these reactors operate safely to ensuring they will be safely decommissioned. In addition, a few plants are shut down for extended periods as they address some unique challenges. I will address those specifically later in my testimony.

Before turning to the challenges ahead, I want to briefly recap a few accomplishments since we were last before you in a hearing. The Commissioners and the staff have been busy. Specifically we have been:

- Steadily working through the Fukushima lessons-learned recommendations;
- Monitoring all operating reactors, including those requiring heightened oversight;
- Conducting construction oversight of the new Vogtle and Summer reactors;
- Addressing the court decision related to waste confidence;

- Continuing to engage our international partners; and
- Overseeing of construction of new fuel cycle facilities.

FUKUSHIMA

We are approaching the second anniversary of the Great Tōhoku Earthquake and subsequent tsunami in Japan. The accident at the Fukushima Dai-ichi nuclear power plant continues to serve as a reminder that the NRC and industry must be prepared to address reasonably foreseeable events that could lead to severe accidents. We continue to work applying lessons from the accident to our regulation of NRC-licensed nuclear facilities. The NRC will take every reasonable precaution to prevent such an accident from happening here in the United States.

I would like to take this opportunity to share my personal impressions of my recent visit to the Fukushima Daiichi site. I was struck on the drive to the facility by the deserted villages, abandoned roads and rail lines, covered not with cars and trains, but overgrown weeds. More than 160,000 people who lived within 20 kilometers of the plant no longer occupy their homes and do not know when they will be allowed to permanently return. The site itself is scattered with twisted metal from the hydrogen explosions in the reactor buildings and debris spread by the force of the tsunami. I have seen the progress made by the Japanese in the reinforcement of the protective sea wall, the management and cleanup of contaminated water, the stabilization of damaged buildings, and the preparation for removal of nuclear fuel, starting with the spent fuel in the Unit 4 spent fuel pool. The Japanese are diligently and methodically working to clean up and decommission the site, but it will take decades to complete.

In July 2011, we received a series of recommendations from an agency task force that was charged with reviewing NRC's regulations to determine if additional measures were needed

to address lessons learned from the Fukushima accident. After further review from experts both inside and outside the NRC, the NRC prioritized these recommendations into three tiers. Tier 1 encompasses those actions to be addressed in the near term, Tier 2 to follow as soon as the necessary information and critical skill sets become available, and Tier 3 as longer-term activities. The Commission established a goal to implement the lessons learned within five years.

To address the Tier 1 activities, in March 2012, the NRC issued orders requiring power reactor licensees to have reliable indicators of water levels in the spent fuel pool and to develop strategies to maintain or restore core cooling, containment, and spent fuel pool cooling following a "beyond-design-basis" extreme natural event. A third order required licensees with BWR Mark I and Mark II containments to have a reliable hardened vent to prevent over-pressurizing the containment during a severe accident. In addition, the agency issued a "request for information" for licensees to reevaluate the seismic and flood hazards at their sites, to conduct seismic and flooding hazard "walkdowns" to identify any degraded or nonconforming conditions, and to assess the adequacy of power supplies for their communication systems if there was a prolonged loss of offsite power. Finally, NRC initiated two rulemakings to augment existing requirements regarding station blackout and the integration of emergency procedures.

The NRC is moving forward to implement these safety enhancements at the same time as we are actively exchanging lessons learned with the international community. The agency will evaluate additional lessons learned for applicability to U.S. reactors and will take action, as necessary. Throughout the process, NRC staff has maintained a high level of open collaboration with the industry and public, holding 82 public meetings in fiscal year 2012. While it is important that we proceed to deal with the lessons of Fukushima, the agency remains

determined to assure that the regulatory actions stemming from this review not become a distraction from the day-to-day actions necessary for oversight of all operating nuclear facilities.

Let me assure you that the Commission will continue to appropriately prioritize work on measures to mitigate the impact of extreme events with the work necessary to maintain safety of the reactor fleet and other nuclear facilities. As part of that effort, the NRC is considering the cumulative effects of regulation, rulemaking initiatives stemming from Fukushima lessons-learned activities, and the agency's methodology for prioritizing rulemaking activities.

ENHANCED OVERSIGHT

There are five performance categories under the NRC's Reactor Oversight Process. Operating reactors in Column 1 of this "action matrix" have the highest level of safety and security performance and receive a baseline-level of NRC inspection, while those in Columns 2, 3 and 4 receive an increasing level of NRC oversight and inspection. Reactors in Column 5 are required to shut down until problems are addressed. For reactors in extended shutdown, NRC has special oversight programs. Currently, there are 84 reactors in Column 1, 15 in Column 2, and three in Column 3.

As you may be aware, there are reactors that have more significant performance problems. Browns Ferry Unit 1 has been in Column 4 since the fourth quarter of 2010 as a result of problems with a residual heat removal flow control valve. Plants in this column receive the most NRC attention short of a mandated shutdown.

Fort Calhoun remains under Inspection Manual Chapter 0350 oversight as a result of problems stemming from an inadequate flood strategy and a fire that started in a safety-related electric breaker. The plant has been shut down since May 2011 following flooding along the

Missouri River. The “0350” oversight process is for reactors in an extended shutdown condition resulting from significant performance or operational concerns. Fort Calhoun has been pursuing activities to prepare the plant for restart under heightened NRC oversight.

The San Onofre Nuclear Generating Station (SONGS) was placed under Inspection Manual Chapter 0351 oversight in September. This is oversight intended for reactors that are in an extended shutdown for reasons other than systemic significant performance problems. The problem at SONGS, which has been shut down since January 2012, largely centers on a single technical issue -- degradation of the plant’s replacement steam generators. In this case and that of Fort Calhoun, the NRC will not authorize restart until we are satisfied that the facilities can be operated safely.

In November 2012, the NRC moved the Palisades nuclear plant from Column 3, which is for plants with a degraded level of performance, back to Column 1. Although plants in Column 1 meet all safety and security performance objectives and are inspected by NRC under the normal baseline program, in this case, the NRC is adding 1,000 hours of inspections at the plant in 2013 to ensure plant issues are adequately resolved.

NEW CONSTRUCTION

Since the NRC issued the first Combined Operating Licenses last February and March for new reactors at the Vogtle and Summer stations in Georgia and South Carolina, construction has begun. Although there has been significant progress at both sites, there also have been some delays while the NRC, the licensees, and their vendors addressed design implementation and fabrication issues. NRC inspectors have identified code compliance issues with the rebar design of the basemat and walls, which delayed pouring concrete for the “nuclear islands,” or bases, of the reactors. Both licensees are in the process of resolving these problems and are

planning the first nuclear concrete pour next month. 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 fabrication of plant modules. The agency and the licensees remain focused on ensuring the issues are identified and resolved.

These are the first generation of reactors built under the new construction regulations. In 1989, the NRC developed an alternative licensing process under 10 CFR Part 52 to that allows applicants to seek a "combined license" for both construction and operation of a nuclear power plant. This differs from the current fleet of reactors that were licensed under a two-step process that allowed construction to begin under a construction permit based on preliminary safety and design information, followed later by an operating license after completion of construction. The Part 52 regulation authorizes construction based on a standardized design and provides conditional authority to operate the reactor subject to verification that it has been constructed in accordance with the license. The intent of the new licensing process was to eliminate the "design-as-you-go" approach. In order to minimize the potential for long delays in bringing new reactors online, applicants must adhere to specifications in their approved standardized design. The Commission and staff intend to continue to work with licensees and vendors to ensure that we establish a common understanding of the expectations regarding as-built design detail and finality of the approved design.

MATERIALS

Among other activities in the licensing and regulation of radioactive materials, the staff is preparing to implement construction and operating inspection programs for two newly-licensed facilities. In September 2012, NRC issued a license to GE-Hitachi to construct and operate a uranium enrichment plant using laser technology in Wilmington, North Carolina. In October 2012, NRC issued a license for construction and operation of a depleted uranium deconversion

facility in New Mexico. This facility will convert depleted uranium hexafluoride into fluorine products for commercial sale and depleted uranium oxide for disposal.

In ongoing work, the staff regularly inspects dry cask storage facilities and currently is reviewing applications to renew such facilities at two different reactor sites and numerous spent fuel storage casks. In fiscal year 2012, the agency revised its regulations for the physical protection of spent fuel transportation and the regulations for advanced notification to Native American tribes regarding transportation of certain types of nuclear waste.

We are also preparing to publish a new regulation, 10 CFR Part 37, which provides expanded security measures for the physical protection of category 1 and 2 byproduct material.

Other activities include continuing reviews of nine applications for new, renewed or expanded in-situ uranium recovery facilities.

WASTE CONFIDENCE

The Commission has directed the NRC staff to address the issues cited in the U.S. Court of Appeals decision on waste confidence by September 2014. The Commission also directed that all affected license application review activities will continue, but the agency will not issue final licenses dependent upon the Waste Confidence Decision or the Temporary Storage Rule until these issues are addressed. The agency has engaged the public in the process, holding six public meetings so far, and additional meetings are planned on a regular basis in the months ahead.

INTERNATIONAL

The agency continues to make international cooperation a priority. In December 2012, the NRC held the first-of-its-kind International Regulators Conference on Nuclear Security. The conference brought together regulators and security experts from around the world and served as a valuable opportunity to foster enhanced cooperation in this important area. Also in December, I led the U.S. delegation to the Ministerial Conference on Nuclear Safety in Fukushima Prefecture, Japan. It was during this trip that I had the opportunity to visit the Fukushima site. The visit also served as a significant opportunity to reaffirm the strong bilateral relationship between the NRC and our Japanese counterpart, the new Japan Nuclear Regulation Authority (JNRA). The NRC remains committed to supporting its Japanese colleagues as we all continue to move forward from the Fukushima accident. In addition, the NRC remains actively involved in U.S. Government activities with respect to the Convention on Nuclear Safety.

The NRC has also continued its international interactions in the area of new reactor development. In January, I assumed the chairmanship of the Multinational Design Evaluation Program (MDEP), an organization that strives to leverage the knowledge and resources of national regulatory authorities to improve the regulatory design reviews of new commercial power reactors. Coming up in mid-March, the MDEP Policy Group will meet in the U.S. to continue its work with a recently expanded membership that now includes India and the United Arab Emirates. In addition, the NRC remains actively involved in multilateral initiatives, such as those at the International Atomic Energy Agency, and bilateral assistance initiatives to promote a strong, independent regulatory structure for all countries that use nuclear and radioactive materials.

Finally, NRC's 25th annual Regulatory Information Conference, which will be held March 12-14, has drawn representatives from 34 countries who will participate in the conference and in bilateral meetings with me and my fellow Commissioners.

A LOOK AHEAD

While we have accomplished much, many challenges are ahead for the NRC. In the next several months, the Commission's focus will include the following issues:

- Continue enhancing our regulations where necessary in the aftermath of the Fukushima accident;
- Continue preparing the agency's waste confidence environmental impact statement and temporary storage rule;
- Strengthen our close cooperation with international partners;
- Conduct construction oversight of the new Vogtle and Summer reactors
- Complete the licensing review and prepare for the third mandatory hearing on the application in to construct a new reactor in Levy County, Florida.

Chairman Whitfield, Ranking Member Rush, Chairman Shimkus, Ranking Member Tonko, and distinguished members of the Subcommittees, thank you for the opportunity to appear before you today. My colleagues and I would be pleased to respond to your questions.