

**WRITTEN STATEMENT**  
**BY ALLISON M. MACFARLANE, CHAIRMAN**  
**UNITED STATES NUCLEAR REGULATORY COMMISSION**  
**TO THE**  
**HOUSE COMMITTEE ON ENERGY AND COMMERCE**  
**SUBCOMMITTEES ON ENERGY AND POWER, ENVIRONMENT AND THE ECONOMY**  
**JULY 24, 2012**

Chairman Whitfield, Ranking Member Rush, Chairman Shimkus, Ranking Member Green, and Members of the Subcommittees, my colleagues and I are honored to appear before you today on behalf of the United States Nuclear Regulatory Commission (NRC). Thank you for providing the first hearing opportunity with me as Chairman. Commissioner Apostolakis has asked me to convey his regrets that he was not able to attend today. I believe I speak for all of us on the Commission when I say that I hope that this is the start of a positive working relationship. As we do on the Commission, those of you on this Committee take your oversight role seriously. We respect and welcome that.

Since this is my first time appearing before you, I would like to briefly describe my management style to give you a sense of how I am approaching my new role. My approach to management and to accomplishing work is to operate in a collaborative and collegial manner, always reaching out to others for input and ideas. In the past, I have worked with people with diverse backgrounds and views, most recently as a Commissioner on the Blue Ribbon Commission on America's Nuclear Future. I worked there to forge consensus on the issues we tackled. Toward that end, at the NRC, I have already begun to meet regularly with my Commissioner colleagues, to seek their thoughts on major issues facing the agency, and to benefit from their expertise.

I am honored to be working with Commissioners Svinicki, Apostolakis, Magwood and Ostendorff. I appreciate the warm welcome they have offered me, and I look forward to continuing to forge a collegial relationship with them. Since my nomination, confirmation and subsequent swearing in, I have also had the opportunity to meet a number of the dedicated staff at the NRC, who have begun to provide me with briefings on some of the important issues before the Agency. While I was aware of the staff's stellar reputation, these briefings have reinforced my observations about both the quality of the NRC staff and their strong commitment to the Agency's mission.

I make this commitment to you today: I will devote all my energies to serving on the NRC with the attributes that I consider important to good governance – openness, efficiency and transparency. I will make a strong commitment to collegiality at all levels. An agency endowed with the public trust such as the NRC requires a respectful working environment to assure its integrity.

Today I would like to start with an update on the NRC's implementation of safety enhancements based on our review of the Fukushima Dai-ichi nuclear accident, and then move into an overview of the NRC – some recent accomplishments, and the challenges that lie ahead of us.

With everything that we have assessed to date, the Commission continues to believe that there is no imminent risk from continued operation of existing U.S. nuclear power plants. At the same time, the NRC's assessment of insights from the events at Fukushima Dai-ichi leads us to conclude that additional requirements should be imposed on licensees to increase the capability of nuclear power plants to mitigate beyond-design-basis extreme natural phenomena.

The Commission has approved the staff's prioritization of the recommendations of the Near-Term Task Force ("Task Force") into three categories, or tiers. Tier 1 consists of actions to be taken without delay, and these actions are underway. Tier 2 is the next set of actions that can be initiated as soon as critical skill sets become available and pertinent information is

gathered and analyzed. Tier 3 recommendations require that the staff conduct further study or undertake shorter-term actions first.

On March 9, the Commission authorized the NRC staff to issue three immediately effective Orders to U.S. commercial nuclear reactors. These Orders address what the NRC determined to be the recommendations from the agency's Japan Near-Term Task Force Report issued in July 2011 that could be implemented without delay. The orders, issued by the staff on March 12, require several things:

- 1) Licensees must develop, implement, and maintain guidance and strategies to maintain or restore core cooling, containment, and spent fuel pool cooling capabilities following a beyond-design-basis extreme natural event.
- 2) Licensees with BWR Mark I and Mark II containments must have a reliable hardened vent to remove decay heat and maintain control of containment pressure within acceptable limits following events that result in the loss of active containment heat removal capability or prolonged station blackout.
- 3) All operating reactors must have a reliable indication of the water level in spent fuel storage pools.

For all three of these Orders, licensees are required to submit their plans for implementing these requirements to the NRC by February 28, 2013, and complete full implementation no later than two refueling cycles after submittal of a licensee's plan or December 31, 2016, whichever comes first. Additionally, licensees are required to provide periodic status reports so that the staff can monitor their progress in implementing the orders and take prompt and appropriate regulatory action, if necessary.

In addition to the three Orders issued on March 12, licensees were also issued a "request for information" that includes the following:

- 1) Licensees were asked to perform and provide the results of a reevaluation of the seismic and flooding hazards at their sites using current NRC requirements and

guidance, and identify actions that are planned to address vulnerabilities. The results will determine whether additional regulatory actions are necessary (e.g., ordering plant modifications).

- 2) Licensees were requested to develop a methodology and acceptance criteria and perform seismic and flooding walkdowns. We expect any performance deficiencies that are identified would be addressed by the site's corrective action program. Licensees were asked to confirm that they will be using the walkdown procedures jointly developed by the NRC and industry or provide alternative, plant-specific procedures.
- 3) Licensees were requested to assess the ability of their current communications to perform under conditions of onsite and offsite damage and prolonged loss of alternating current (AC) electrical power. Licensees also were requested to assess the plant staffing levels needed to respond to a large-scale natural event and to implement strategies contained in the emergency plan.

The remaining near-term recommendations comprise two rulemakings addressing station blackout and integration of emergency procedures. The Commission directed the use of an Advance Notice of Proposed Rulemaking for the station blackout rulemaking to allow for early stakeholder involvement and formal comments. The Commission also designated the station blackout rulemaking as a high-priority activity with a goal of completion within 24-30 months from October 2011. The emergency procedures integration rulemaking also used an Advance Notice of Proposed Rulemaking to solicit early stakeholder input. These notices were issued in March and April respectively.

Going forward, we will continue stakeholder interaction to support any necessary guidance development activity. Beyond that, we will continue our ongoing efforts on the highest priority, near-term rulemakings.

Regarding Tier 2 recommendations, we anticipate beginning that work once we collect information from Tier 1 activities that is required in order to address Tier 2 recommendations, and we are able to reallocate critical staff resources previously devoted to Tier 1 activities. For example, the review of other external hazards will begin when resources currently being applied to the flood hazards assessments become available.

We are making good progress. My colleagues on the Commission and I look forward to continuing to hear from the NRC staff as we all tackle the remaining work related to lessons-learned from Japan.

The NRC staff has done an outstanding job of not only making good progress on work related to lessons-learned from Japan but also on continuing to ensure the safe and secure operation of all our existing licensed facilities. The Commission never loses sight of the fact that our effectiveness as a safety and security regulator depends first and foremost on the staff's hard work and dedication.

The NRC once again scored among the top tier of Federal agencies in the 2011 Best Places to Work in the Federal Government rankings, in a survey conducted by the Partnership for Public Service. While ranking number two overall, the NRC scored number one in all four major indices, including leadership and knowledge management, results-oriented performance culture, talent management, and job satisfaction. These rankings were determined through an analysis of the 2011 Federal Employment Viewpoint Survey conducted by the Office of Personnel Management. As Chairman, one of my priorities will be to assure that NRC remains a top-ranked Federal agency.

At the agency, we knew that the Fukushima Dai-ichi nuclear emergency in Japan would raise substantial new challenges. During the past year, however -- in addition to the emergency in Japan -- a number of natural disasters in the United States, including flooding in the Midwest in June, the August 23<sup>rd</sup> earthquake in Virginia, as well as hurricanes and tornadoes, created additional pressures. These natural disasters required close coordination with states, federal

agencies and licensees, as well as significant public outreach and involved the efforts and expertise of numerous staff at the NRC's headquarters and regional offices.

During the past year, the NRC staff has performed thousands of hours of inspections at nuclear power plants and materials sites. The agency has taken hundreds of enforcement actions, reviewed more than a thousand licensing actions and tasks, and issued a number of proposed and final rules. A final Safety Culture Policy Statement was issued, establishing for the first time the Commission's expectations for individuals and organizations involved in NRC-regulated activities to establish and maintain a positive safety culture proportionate to the safety and security significance of their activities.

While many plants performed very well during the past year, there is currently one plant in a shutdown condition due to significant performance concerns, and one plant in Column Four, on a five-column scale, of the Reactor Oversight Process Action Matrix after experiencing issues that the NRC views as safety significant. There are three plants in Column Three, which indicates declining performance, 12 plants in Column Two, and the remaining 87 plants are in Column One. The NRC conducted 21 special inspections during 2011—a greater number than at any point in recent memory.

There are currently two units in extended shutdowns -- Fort Calhoun and Crystal River. Two units at the North Anna plant were in extended shutdown last year due to the August 23<sup>rd</sup> earthquake in Virginia. They are now successfully in operation again. In addition, the two units at the San Onofre Nuclear Generating Station have been shut down since the beginning of the year due to problems with tube wear in their new steam generators. On March 27<sup>th</sup>, the NRC issued a Confirmatory Action Letter documenting actions that Southern California Edison officials have agreed to take related to unusual wear on steam generator tubes prior to restarting both units. While, in its current assessment of industry trends, the NRC staff has not identified any statistically significant adverse trends, we continue to closely monitor these trends.

On the licensing front, the NRC staff completed the safety and environmental reviews of the first two new reactor combined license applications for the Vogtle site in Georgia and the Summer site in South Carolina. The Commission held mandatory hearings on both applications. Subsequently, the NRC staff issued the first new Combined Licenses for two units at the Vogtle site on February 10, and issued Combined Licenses for two units at the Summer site on March 30, 2012. The staff also issued the Design Certification for the AP1000. Among the existing reactor fleet, the NRC staff issued seven reactor license renewals. They also successfully completed the review and approval of two pilot applications for voluntarily transitioning to National Fire Protection Association 805 -- a risk-informed, performance-based standard for fire protection at nuclear power plants -- and worked with stakeholders to establish a submittal and review schedule for 29 anticipated transition applications.

The NRC staff issued three new uranium recovery licenses and authorized the restart of one such facility. The NRC staff is currently reviewing two applications for expansions of current facilities and two applications for new facilities, while continuing to receive and review license renewal applications for existing uranium recovery facilities. We are expecting a total of 27 applications for new uranium recovery facilities, expansions, and restarts through 2013.

The NRC staff issued a license for the AREVA Eagle Rock centrifuge enrichment facility to be built in Idaho, the first such license approval issued in almost 5 years. In late February 2012, we issued the Safety Evaluation Report and Final Environmental Impact Statement for the GE-Hitachi Global Laser Enrichment license application to construct a laser-based enrichment facility in Wilmington, NC, and our Atomic Safety and Licensing Board held a hearing on the application earlier this month.

In line with our responsibilities to ensure the safety and security of nuclear materials, we continued implementation of the License Tracking System and the National Source Tracking System. We also issued a final policy on the protection of sealed radiation sources containing

radioactive cesium chloride, which are used in blood irradiation, bio-medical and industrial research, and calibration of instrumentation and radiation measuring instruments.

We continued to focus on resolving long-standing safety issues such as Generic Safety Issue -191, concerning the potential for the blockage of pressurized water reactors' containment sump screens, due to debris accumulation. In addition, we recently issued (with our partners at the Electric Power Research Institute and the Department of Energy) a new seismic model that will be used by nuclear power plants in the central and eastern United States for seismic re-evaluations.

Cybersecurity is a serious concern for all agencies across the Federal government. In 2011, we approved cybersecurity plans for all nuclear power plants and established an implementation plan to have all plants at a high level of cyber protection by the end of 2012. A cybersecurity inspection effort at reactor facilities will commence in 2013.

Approximately 30 NUREGs - reports or brochures on regulatory decisions, research, investigations and other technical and administrative information - were published on a wide variety of topics, such as groundwater contamination and the effect of neutron irradiation on the internal parts of reactor cores.

In October 2010, the NRC hosted the first Integrated Regulatory Review Service mission to the United States to assess our regulatory infrastructure against international safety standards and good practices. The mission was coordinated by the International Atomic Energy Agency and concluded that the NRC has a well-established national policy and strategy for nuclear safety. Earlier this month, the NRC requested that the International Atomic Energy Agency conduct a follow-up mission in the United States in 2014 that would focus on the NRC's actions in response to the recommendations and suggestions contained in the October 2010 mission report and on the NRC's actions in response to the accident at the Fukushima Dai-ichi nuclear power plant site.



Transparency and openness are part of our formal NRC organizational values, and they are integral guiding principles in everything we do, both internally and externally. After the challenges we have faced over the past year, and the bright spotlight that has been shined on nuclear regulation, nuclear safety, and nuclear power plants by the Congress, the media, and the public, the NRC continues to be accessible and open, to make sure that all of our stakeholders understand what we are doing and why we are doing it.

The NRC has held more than one thousand public meetings across the country throughout the past year, addressing a full range of NRC issues. The agency's public website has been redesigned to improve navigation, content, and accessibility. We have also substantially improved our web-based document management system to enable the public to more easily and quickly access all public documents. In addition, the agency has successfully begun to utilize social media tools - including a public blog, Twitter, and YouTube accounts - to enhance our outreach efforts.

As we have worked to fulfill our responsibilities for our safety and security mission, we have also been working to increase our effectiveness and efficiency as an agency. Construction of our new third headquarters building, Three White Flint North, is on schedule and we expect to begin occupying the building in late 2012. One of the valuable lessons learned after Three Mile Island was the importance of being co-located. The new building will allow headquarters staff to once again work in one central location to better support the agency's critical health and safety mission. None of the agency's many achievements during the past year could have happened without support from the entire NRC team - those working on budget, finance and legal issues, personnel and administrative support, and technical issues.

By no means does my testimony cover the full breadth of the agency's wide-ranging activities. I am still learning from my colleagues and the NRC staff of the many accomplishments this year. But these accomplishments are indicative of an agency with a

strong focus on our mission, and the staff's strong commitment, day-in and day-out, to maintain nuclear safety and security.

As we look forward, the agency expects to meet new and unanticipated challenges. We are confident that the NRC will continue to ensure the safe and secure operation of the existing licensed facilities and materials, while also ensuring the safe and secure construction and operation of new nuclear power plants, possibly including small modular reactors and other nuclear facilities.

We have many important issues on our plate right now - both internally to strengthen our organization and externally to continue ensuring the safety and security of our nation's nuclear facilities and materials. We are committed to prudently managing the resources entrusted to us by the American people, taking full advantage of all the talents and expertise that our diverse team brings to the table, and keeping our focus - first and foremost - on public health, safety, and security.

Chairman Whitfield, Ranking Member Rush, Chairman Shimkus, Ranking Member Green, and Members of the Subcommittees, this concludes my formal testimony today. Thank you for the opportunity to appear before you. My colleagues and I would be pleased to respond to any questions you may have.