

November 9, 2011

The Honorable Thomas R. Carper  
Chairman, Subcommittee on Clean Air  
and Nuclear Safety  
Committee on Environment and Public Works  
United States Senate  
Washington, D.C. 20510

Dear Mr. Chairman:

On behalf of the Commission, I am pleased to submit the U.S. Nuclear Regulatory Commission's (NRC) semiannual report on the status of our licensing and other regulatory activities. Before reviewing our actions, I want to update you on the NRC's response to events in Japan.

At the time we submitted the last semi-annual report to you, the agency's Near Term Task Force had begun its work to identify immediate or short-term operational or regulatory issues potentially affecting operating reactors in the U.S. Contemporaneous with that activity, the agency conducted inspections at the nation's 104 operating nuclear power plants to assess the plants' abilities to deal with power losses or damage to large areas of a reactor site following extreme events. The agency determined as a result of those inspections that all reactors would continue to operate safely or could be safely shutdown if their safety systems were challenged by an event that exceeded its design basis, although a few plants needed to do a better job maintaining the necessary resources and procedures. The NRC is using its Reactor Oversight Process to further evaluate the inspection results and ensure any issues are resolved.

In early May, the staff issued a Bulletin to reactor licensees requesting information on how the plants are complying with requirements to deal with the potential loss of large areas of the plant after extreme events, and ensuring those mitigating strategies remain effective over time. In addition to providing insights into compliance with existing requirements, the Bulletin was intended to obtain information that the NRC would use to determine whether additional actions are needed to ensure continuing protection of public health and safety.

On July 12, the task force submitted its final report to the Commission. The task force report included a comprehensive analysis and a set of 12 overarching recommendations – many with both short- and long-term elements for Commission consideration. The Commission subsequently directed the staff to prepare a series of papers covering various aspects of the

recommendations a 21-day paper on actions to be taken without delay from Report recommendations 2 – 12; a 45-day paper prioritizing recommendations 2 – 12; and an 18-month paper providing options on recommendation 1 (revising NRC's regulatory approach). The Commission provided direction to the staff in the enclosed staff requirements memorandum concerning the 21-day and is still reviewing the 45-day paper. Additionally, the Commission held public meetings to obtain stakeholder input. The Commission approved the staff's proposed action to implement without delay the Near-Term Task Force's recommendations and to strive to complete and implement the lessons learned from the Fukushima accident within five years – by 2016.

On August 23, a 5.8 magnitude earthquake originating near Mineral, Virginia was felt at many operating plants in the central and eastern United States. The nearest plant, North Anna experienced an automatic reactor trip. The plant will remain shut down until the licensee has demonstrated to the NRC that no functional damage has occurred to those features necessary for continued operation with undue risk to the health and safety of the public.

During the reporting period, the NRC submitted seven events to the International Atomic Energy Agency for inclusion into the International and Radiological Event Scale (INES). The INES is a worldwide tool for communicating to the public the safety and significance of radiological events. Five events were related to overexposure of radiation workers and a stolen radiography camera containing radioactive material. Two events that were not safety significant resulted from the loss of offsite power due to the seismic event at the North Anna Nuclear Power Plant.

The enclosed report covers activities conducted by the NRC during the period April through September 2011. During this time, the NRC issued four reactor license renewals, completed both the safety and environmental portions of the first two new reactor combined license applications and the Commission conducted the mandatory hearing for the Plant Vogtle Combined Operating License Application. Nine license renewal applications covering 13 units and 12 combined license applications for 20 new reactor units are under active review.

On April 18, the NRC unveiled a redesign of the agency's public website. The redesign improves navigation, content, and accessibility, and includes upgrades and changes suggested by the public through online surveys, interviews, and focus groups held around the country. This is the first significant Web update since 2007.

In early June, the NRC's Office of Nuclear Material Safety and Safeguards held its sixth annual Fuel Cycle Information Exchange in Rockville, MD. The conference brought together NRC staff, industry representatives, licensees, certificate holders, and the public to discuss regulatory issues related to the nuclear fuel cycle. The issues addressed included licensing, certification and inspection of facilities for uranium conversion and deconversion, uranium enrichment, nuclear fuel fabrication, extended spent fuel storage, and reprocessing.

On June 8, the NRC issued its final Safety Culture Policy Statement that sets forth expectations that individuals and organizations involved in NRC-regulated activities establish and maintain a positive safety culture proportionate to the safety and security significance of their activities. The statement reinforces the NRC's emphasis on a "safety-first" focus, but is not a regulation and, as such, does not impose requirements. It outlines a series of nine traits

that emphasize nuclear safety, which the Commission expects the regulated community to foster, as appropriate, in their specific activities.

On June 29, the NRC released its annual report on abnormal occurrences for FY 2010, citing 15 events that occurred at licensed medical facilities. An accident or event is considered an abnormal occurrence if it involves a major reduction in the degree of protection of public health and safety. For FY 2010, there were no abnormal occurrences at the 104 NRC-licensed nuclear power reactors. Eight of the 15 occurrences at medical facilities involved NRC licensees, while the remainder involved Agreement State licensees. The report details investigations of each incident by the NRC, Agreement States, and licensees, as well as measures taken to ensure such incidents do not recur.

Also in late June, the agency's annual security inspection report to Congress was made available to the public in an unclassified version that outlines the previous calendar year's activities. The report is required under the Energy Policy Act of 2005, and covers the NRC's security inspection program, including force-on-force exercises, for commercial nuclear power reactors and Category I fuel cycle facilities. As discussed in the report, the agency conducted 172 baseline security inspections at 104 nuclear power plants and 25 force-on-force inspections, which use a well-trained mock adversary force to test a facility's ability to defend key safety systems and components.

On June 23, the Commission directed the agency staff to evaluate whether there are gaps in available data regarding doses being received by members of the public due to the release of patients being treated with medical isotopes, as well as how the agency could go about collecting additional data, if needed. The staff's study will weigh the utility of any additional data-gathering against the potential for intruding upon patient privacy protections and will fully utilize previous studies on patient release.

I was pleased to welcome back to the Commission William C. Ostendorff, on July 7, when he was sworn in for a five-year term ending June 30, 2016. Commissioner Ostendorff's previous 15 months of service on the Commission had ended June 30. His reappointment maintains the Commission at full strength, and enables us to continue to have the benefit of his wealth of experience and expertise.

On July 19, the NRC issued a materials license to Uranerz Energy Corp. to construct and operate the Nichols Ranch in-situ recovery project in Johnson and Campbell counties in Wyoming. The project will cover nearly 3,400 acres, of which about 300 acres will be directly affected by operations. The project will recover uranium for use in commercial nuclear power plants. On August 17, the agency issued a materials license to Lost Creek ISR, LLC, allowing it to recover uranium at its in-situ recovery facility in Sweetwater County, Wyoming. These are the second and third new uranium recovery licenses recently issued by the NRC.

Between July and September, the agency published three technical evaluation reports (TERs) detailing the agency staff's review of the Department of Energy's (DOE) license application for a high-level waste repository at Yucca Mountain in Nevada. These TERs were developed using the draft volumes of the staff's pre-closure safety evaluation reports and addressed the post-closure, programmatic and administrative information. Volume 1 of the SER, which addresses general information, was published in August 2010. These TERs are

intended as a public record of the staff's scientific and technical work in preparing for and reviewing the DOE application. The NRC completed orderly closure of the licensing review of Yucca Mountain by September 30, 2011, as directed by the Congress.

On July 25, the agency issued its final policy statement on the protection of sealed radiation sources containing cesium-137 chloride. Cesium chloride sources are used in blood irradiation, bio-medical and industrial research, and calibration of instrumentation and dosimetry. They have received special attention because cesium chloride powder is highly soluble and dispersible, which could present serious concerns if not properly secured. The policy statement describes the Commission's expectations on the secure use of cesium chloride sources and the agency's potential actions should the threat environment change.

Throughout this reporting period, the agency maintained an active program of regulatory enhancements. These included seeking public comment on a proposed rule requiring detailed safety analyses for uranium conversion and deconversion facilities; approving an amendment to the fitness-for-duty rule that will allow nuclear power plant licensees to use a different method to determine when employees must be given time off from work; finalizing changes to the emergency preparedness regulations that would enhance those requirements for existing and yet-to-be-built nuclear power plants, and for research and test reactors; and issuing final rule changes to the definition of "construction" for materials applicants that would allow them to conduct certain site-preparation activities before a license is issued, consistent with current regulations for nuclear power plant applicants and licensees.

In early September, the agency announced that it had issued mid-cycle assessment letters to the licensees for the nation's 104 operating commercial nuclear power plants. The mid-cycle assessment period concluded on June 30, 2011, and those assessments show that all plants continue to operate safely. At that time, 99 of the 104 nuclear plants were in the two highest performance categories. Three plants were assessed to be in the third performance category, and two plants were in the fourth category. No plants were in the unacceptable or fifth performance category.

The Commission held the mandatory hearing for the Plant Vogtle Units 3 and 4 combined licenses (COL). The purpose of this hearing was to receive testimony and exhibits regarding the COL application and the limited work authorizations (LWA) of Southern Nuclear Operating Company to construct and operate new nuclear power generation facilities at the existing Plant Vogtle site. The Commission will determine whether the staff's review has been adequate for the Commission to make its final decision.

To continue to enhance our ongoing communication with the public and to support Open Government, the NRC recently expanded its presence on social media by establishing Twitter and YouTube accounts to send news and provide a wide variety of other information to interested individuals. These tools join our existing NRC blog as well as its current methods of information distribution.

On September 6, the agency issued \$2.8 million in grants to Minority Serving Institutions (MSI), which completed the awarding of approximately \$12.4 million in grants to 91 higher education institutions for the 2011 fiscal year. The MSI grants were awarded for projects and activities that include nuclear, science, technology and mathematic disciplines; research and

development projects; human capital development; leadership and mentoring activities; education training programs; and various types of assistance to 26 programs at 53 institutions. MSIs include the Historically Black Colleges and Universities, Hispanic Serving Institutions, and the Tribal Colleges and Universities located in 24 states, Puerto Rico, and the District of Columbia.

From April through September 2011, the agency's Public Meeting Schedule noticed 519 public meetings addressing a full range of NRC issues that were held in the Washington, D.C. area and around the country. The meetings included Commission, Advisory Committee, Licensing Board, Advisory Committee on Medical Uses of Isotopes, and staff-sponsored events. Also during this time, the NRC received 215 Freedom of Information Act (FOIA) requests and closed 207 FOIA requests.

Finally, I am pleased to report that, for the second year in a row, the NRC ranked first in all four categories of the Office of Personnel Management's Federal Employee Viewpoint Survey released September 22. The four categories are leadership and knowledge management, results-oriented performance culture, talent management, and job satisfaction. This survey measures employees' perception of whether, and to what extent, their organizations have the types of characteristics typically associated with high-performing, successful organizations.

I believe these results are a testament to the NRC staff's professionalism and dedication to our safety and security missions.

Please contact me for any additional information you may need.

Sincerely,

*/RA/*

Gregory B. Jaczko

Enclosures:  
As stated

cc: Senator John Barrasso

Identical letter sent to:

The Honorable Thomas R. Carper  
Chairman, Subcommittee on Clean Air  
and Nuclear Safety  
Committee on Environment and Public Works  
United States Senate  
Washington, D.C. 20510  
cc: Senator John Barrasso

The Honorable Barbara Boxer  
Chairman, Committee on Environment  
and Public Works  
United States Senate  
Washington, D.C. 20510  
cc: Senator James M. Inhofe

The Honorable Fred Upton  
Chairman, Committee on Energy and Commerce  
United States House of Representatives  
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cc: Representative Henry Waxman

The Honorable Ed Whitfield  
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cc: Representative Bobby L. Rush

The Honorable John Shimkus  
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cc: Representative Gene Green

The Honorable Rodney Frelinghuysen  
Chairman, Subcommittee on Energy  
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United States House of Representatives  
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cc: Representative Peter J. Visclosky

The Honorable Dianne Feinstein  
Chairman, Subcommittee on Energy  
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cc: Senator Lamar Alexander