Group B

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555

COMMISSIONER

September 6, 2012

The Honorable Ed Whitfield
Chairman, Subcommittee on Energy
and Power
Committee on Energy and Commerce
United States House of Representatives
Washington, D.C. 20515

The Honorable John Shimkus
Chairman, Subcommittee on Environment
and the Economy
Committee on Energy and Commerce
United States House of Representatives
Washington, D.C. 20515

Dear Chairman Whitfield and Chairman Shimkus:

Thank you for the opportunity to appear before the Subcommittee on Energy and Power and the Subcommittee on Environment and the Economy at the July 24, 2012 hearing entitled "NRC Policy and Governance Oversight." By letter dated August 23, 2012, you provided additional questions for the record related to this hearing; my responses to these questions are enclosed.

Please do not hesitate to contact me should you or the members of your subcommittees have any additional questions.

Sincerely,

William D. Magwood, IV

Enclosures: As stated

cc: The Honorable Bobby L. Rush,
Ranking Member
Subcommittee on Energy and Power

The Honorable Gene Green,
Ranking Member
Subcommittee on Environment
and the Economy

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Questions from the Honorable John Shimkus

1. **The NRC has repeatedly indicated that U.S. nuclear power plants are safe and do not pose an imminent risk to public health and safety and has issued orders on the matters with the highest safety benefit. With that assurance and those actions in mind, please respond to the following:**

   a. **Do you anticipate supporting any additional orders for post-Fukushima regulatory changes without requiring cost-benefit analysis?**

We intend to follow our established processes with regard to any potential additional orders related to post-Fukushima lessons learned. As a general matter, these processes would require that cost-benefit analyses be conducted where applicable. Nevertheless the NRC's Backfit Rule allows for exceptions in three cases: 1) if the action is necessary to bring a facility into compliance with a license or rules of the Commission; 2) if the action is necessary to ensure adequate protection of the health and safety of the public; or 3) if the action defines or redefines what level of protection should be regarded as adequate. Should one of these exceptions be invoked, then a documented evaluation must be completed. Furthermore, the Atomic Energy Act provides the Commission authority to issue requirements that it determines represent a significant enhancement to public health and safety without a cost-benefit analysis. Based on the NRC's longstanding regulatory processes, it is my expectation that we will generally require cost-benefit analyses when considering new actions, but cannot preclude the exemption of critical actions if they are necessary for adequate protection of the public.

   b. **Please list any reasons you believe might warrant sidestepping the NRC's usual processes for developing a technical basis and cost benefit analysis when considering additional post-Fukushima regulatory changes.**

As discussed in the response to your first question, the NRC's established processes for promulgating regulatory changes include the development of an analysis that weighs the costs and benefits of a proposed regulatory action that constitutes a backfit under the NRC's Backfit Rule, unless one of three exceptions apply. These three exceptions are included within the NRC's established processes, and require a documented evaluation when invoked. The Commission also has authority with regard to implementing requirements that significantly enhance public health and safety. My colleagues and I remain focused on the health and safety of the American people and are committed to ensuring that our regulatory decisions are based on full consideration of all of the analyses and evaluations available.

2. **In March of 2011, the NRC staff developed a proposal to address the cumulative impacts of regulatory changes. Such regulatory changes should be prioritized based on safety significance, and recognize timing, staffing, financial and other constraints. This would certainly be in line with the NRC's Efficiency Principle which states: "Regulatory activities should be consistent with the degree of risk reduction they achieve." In the hearing, I quoted you as saying, "it does not, as a general matter, advance the cause of safety to inundate licensee staff with multiple actions when a more thoughtful process might achieve the agency's safety goals without straining licensee resources."**

   a. **Will you work with your colleagues and staff to ensure this matter receives serious Commission attention?**

   As you noted during the hearing, I have advocated for the agency to focus on a more strategic and risk-informed approach for the implementation of regulatory actions. This effort is important from both the perspective of safety—as it helps the agency assure that licensees are focusing their resources on higher priority regulatory actions—and the perspective of regulatory fairness. I remain committed to working with my colleagues and the NRC staff to ensure that this issue remains a high priority.

   b. ***Given the scope of Tier 2 and Tier 3 post-Fukushima actions and other* regulatory changes under development, what actions are being taken to resolve this concern concurrently?**

   As described in SECY-11-0032, "Consideration of the Cumulative Effects of Regulation in the Rulemaking Process," dated March 2, 2011 (ADAMS Accession No. ML110190027), the NRC staff is considering the cumulative effects of regulation (CER) in the rulemaking process. If the Tier 2 and Tier 3 activities result in rulemaking, the CER process enhancements described in SECY-11-0032 will be directly applied. For those Tier 2 and Tier 3 activities that are implemented using regulatory actions other than rulemakings, the CER will be considered indirectly. In other words, those regulatory actions will be considered to the extent they impact the implementation of ongoing rulemakings. For example, proposed rules will contain specific requests for comment on items related to CER. One such request will seek feedback from external stakeholders on whether any other regulatory actions (*e.g.*, generic letters or orders) influence the implementation of the proposed rule's requirements. The NRC staff will use that feedback to inform the implementation dates of the proposed rule. In addition, in many cases the staff will conduct a public meeting on implementation during the final rulemaking stage. During this meeting, external stakeholders will have another opportunity to inform the NRC of ongoing regulatory actions and challenges those actions may create for the implementation of the subject final rule. Again, the NRC notes that safety and security concerns remain the most important decision factors.

Although CER does not directly apply to non-rulemaking activities, the NRC notes that many of the good regulatory principles emphasized in the CER process enhancements, especially extensive stakeholder interaction, are currently being applied in post-Fukushima activities.

3. **Please share your opinion regarding the benefits and transparency of the notation voting process.**

In my experience, there are a number of benefits derived from the notation voting process. The issues on which the Commission votes are complex and highly technical. As I develop my personal vote on a matter before the Commission, I examine the full public record on the matter, including any staff papers before the Commission, information gleaned from public Commission meetings, and, at times, the written notation votes of previous members of the Commission. I am also greatly informed by conversations with the NRC's technical staff, where appropriate; my personal staff; and my individual colleagues. All of this information is considered in my written vote, which is intended to offer an explanation of the reasoning behind my vote, as well as offer any additional comments or questions I believe should be addressed now or in the future, to my colleagues, the NRC staff, and the public. As I explained during the hearing, while I do try to discuss voting matters as much as possible with my colleagues before voting, often, a Commissioner's written vote will raise an issue that has been previously overlooked or offer a detail or nuance that changes my thinking on a matter, and, as a result, my staff and I will explore whether a change in position is warranted. I believe that if the notation voting process were abandoned in favor of an oral voting process, the Commission would lose the benefits of this give-and-take dynamic and deprive itself, the staff, the public, and future Commissions of a full exploration of every aspect of the issues before the agency.

4. **There have been an extraordinary number of delays in the time it has taken to bring certain matters before the Commission to a vote and to closure, and Commissioners have not always abided by voting procedures. Going forward, will you adhere to voting procedures in the Internal Commission Procedure or work collegially to address needed changes?**

I agree that the Commission should strive to make timely decisions in a manner that supports regulatory efficiency, clarity, and fairness. For this reason, I strive, along with my colleagues, to abide by the Commission's established voting procedures and commit to continue to do so. However, I believe it is important to note that some of the issues the Commission faces are complex, highly technical, and oftentimes controversial. It is vital that we give each issue before us full consideration to ensure that we make decisions that will ensure the health and safety of the public, and sometimes this will mean that we will have to take extra time to arrive at the best decision possible.

5. **Please describe any changes to Internal Commission Procedures that you believe would be helpful:**

   a. **In preserving Commission collegiality;**

   Approximately one year ago, we completed a significant revision of the Internal Commission Procedures (ICPs). I believe that these revised procedures, if applied appropriately, provide for Commission collegiality. Nevertheless, I commit to working with my colleagues to institute further revisions if they become necessary in the future.

   b. **In ensuring the timely and unfiltered flow of information to the Commission;**

   As I discussed previously, the 2011 ICP revisions were designed to ensure that the Commission functions efficiently and collegially. The revisions included improvements to the flow of information to the Commission, including ensuring that the staff can submit information to the Commission for its review and ensuring that the Chairman keeps the Commission fully informed of agency activities. While I believe these revised procedures are serving their intended purpose, I remain open to future revisions if warranted.

   c. **To provide clarity regarding leadership and management during an emergency particularly with regard to the Chairman's use of emergency powers under Section 3 of the Reorganization Plan of 1980.**

   One change not included in the 2011 revisions that I believe may be warranted is to require the Chairman to notify his or her colleagues as soon as practicable that the agency has entered an emergency and that the Chairman is exercising his or her emergency powers. Similarly, I believe it is important to clarify the timing, scope, and formality of the reports currently required under Section 3(c) and (d) of Reorganization Plan No. 1 of 1980.

6. **For the last three years, the Commission and the agency have struggled with turmoil resulting from failed leadership. Please provide your personal suggestions for legislation to reform its governance structure and strengthen the *Commission's function as a collegial body.***

   First, I would like to emphasize that, overall, I believe that the current legislative framework for the NRC allows it to function very well. However, there are some areas that I think could be improved, primarily by clarifying and reinforcing already-established interpretations of the current legislation. It would be best if my colleagues on the Commission and I work jointly to consider a unified proposal for Congressional

consideration. I hope to pursue this idea in the coming weeks and months. In the interim, I will respond to your question by providing a few initial thoughts of my own.

Because a free exchange of information is vital to the Commission's ability to function as a collegial body and establish well-considered policy positions, it would be helpful to reinforce the principle that the Commission has the authority to receive all information related to the operation of the agency. Specifically, Congress could consider a revision to Sec. 2(c) of the Reorganization Plan of 1980 to allow the agency's Executive Director for Operations (EDO) to directly provide information to the Commission, rather than through the Chairman. This could ensure that the Commission is fully aware of all staff positions, concerns, and recommendations when exercising its authority under the Atomic Energy Act and the Reorganization Plan.

In addition to specifying that the EDO may, and in many cases should, provide information directly to the Commission, Congress could consider revisions to the Reorganization Plan that would clarify the reporting relationship of the various Commission-level offices (including the General Counsel and Secretary of the Commission as well as newer offices such as the Office of International Programs and the Office of Commission Appellate Adjudication that are not specifically mentioned in the Reorganization Plan) to reinforce that these offices should in all cases provide information that is intended for the entire Commission to the Commission directly.

I also believe there would be value in clarifying the reporting relationship and duties of the Office of Public Affairs and the Office of Congressional Affairs. By statute, both offices presently report directly to the Chairman of the agency. This reporting relationship is in most instances appropriate, particularly because both offices serve chiefly as liaisons — OPA between the NRC and the public, and OCA between the NRC and the Congress. By virtue of his or her role as official agency spokesman and as supervisor of OPA and OCA, the Chairman in most circumstances is the "NRC" in the OPA and OCA liaison equations.

However, even though the Chairman has primary call on OPA's and OCA's services, the agency as a whole benefits when OPA and OCA also provide assistance to the other Commissioners and to the agency as a whole. First, OCA and OPA often provide services to the agency's Commission-level and program offices—for instance, coordinating press outreach for a public meeting or coordinating briefings for members of Congress or their staffs. In addition, OCA already performs the function of assisting individual Commissioners when, pursuant to 10 C.F.R. § 1.27(a), it advises the Chairman, the Commission, and the staff, on the agency's relations with Congress and on the Congress's views on the NRC's policies, plans, and activities. This support is important and appreciated. Additionally, even though Commissioners speak for themselves and not as official spokesmen for the agency, there is value to the agency in conveying a consistent message whenever possible. OCA and OPA should be available to provide the same advice on matters to Commissioners that they provide to the

Chairman — for example, papers and documents provided by OCA or OPA to the Chairman for briefing purposes might be shared with other Commissioners for the overall benefit of the agency.

However, all of these additional functions currently performed by OPA and OCA are performed on an *ad hoc* basis, and therefore, the appropriate boundary of the activities to be performed by these offices is murky at best. One approach to address this might be to consider a reorganization which would place both of these offices under the oversight of the EDO—supporting the Chairman's role as chief spokesperson of the agency, but clarifying that both offices serve the agency as a whole—including, where appropriate, individual Commissioners.

Related to the scope of actions for OCA and OPA, there have recently been concerns regarding the appropriate scope of the Chairman's role as chief spokesperson for the agency. The revisions to the Plan discussed above could also clarify that the Chairman's role as chief spokesperson for the agency is intended to reflect policy positions that are consistent with those adopted by the Commission as a whole.

Finally, legislative changes to clarify the responsibility of the Executive Director of Operations, the Chief Financial Officer, and the General Counsel independent of the Commission could assist with some of the issues noted in the answers above. Congress might also consider an enhanced model for the NRC Office of the General Counsel to further enhance the independence of that organization in assuring the continued legal quality of the agency's work and in providing independent expert advice to the Commission and staff.

Question from the Honorable John D. Dingell

In the audience during the hearing were constituents of mine who are studying nuclear science at the University of Michigan which I have the honor of representing. In its FY 2013 budget request, the NRC stated that it is not requesting funding for the Integrated University Programs, which historically has been the sole provider of critical funding for both student and faculty development in the field of nuclear science. The NRC states that "this reflects the confidence that the nuclear industry...will create incentives for students to enter nuclear-related programs."

1. **Do you believe there is a need to train nuclear engineers in this country and do you support the NRC's role in the IUP?**

Dating back to my service at the Department of Energy, one of my areas of particular focus has been reviving nuclear engineering programs at colleges and universities in the United States. When I took over as the head of DOE's Office of Nuclear Energy, many people thought nuclear energy to be a dying field. At that time, only about 500 students

were enrolled in undergraduate nuclear engineering programs at U.S. schools. Now, the situation has improved considerably. Today, with a lot of effort by many, targeted funding from the government, and revived interest in commercial nuclear energy, there are nearly 5000 nuclear engineering students at U.S. schools, with many more students receiving some course work in nuclear technology. The NRC's IUP has been a major factor in this revival, and I believe it is vital that support for nuclear engineering programs and other efforts to increase educational opportunities in science, technology, engineering, and mathematics continue.

According to industry estimates, 39 percent of the U.S. commercial nuclear sector's workforce will be eligible for retirement by 2016, resulting in roughly 25,000 jobs that will need to be filled within the next four years to maintain the current workforce. In addition, the Federal government (including national laboratories), academia, and the medical radiological healthcare field will place additional demands on this limited workforce. Educating the next generation of engineers and scientists is essential to meet the Nation's present and future national security needs and for assuring the safe construction and operation of nuclear power plants. Addressing these workforce shortages will require partnerships between the Federal government, the nuclear industry, and colleges and universities to sustain educational programs in nuclear science and engineering, and to continue to attract students to the nuclear energy field.

The IUP represents NRC's role in this partnership by providing scholarships and fellowships to enter nuclear-related fields that will support the educational demands of the nuclear sector including engineering, health physics, radiochemistry, and other related fields where demand for skilled individuals outpaces supply. The IUP also provides faculty development grants to attract and retain highly-qualified individuals in academic teaching careers. In addition, NRC funding is often leveraged with non-Federal funding, thus providing a multiplier effect of the NRC's contributions. Without programs such as the IUP, past history has shown that the non-Federal funding will diminish substantially along with student enrollments in nuclear educational programs.

You have my commitment that I will continue to vigorously advocate for the continuance of the NRC's role in the IUP.

Question from the Honorable G.K. Butterfield

After 9/11, the Commission was quick to identify ways to strengthen security at nuclear plants, but it took many years for those plants to implement the new standards. Other safety issues, such as fire safety and debris accumulation inside cooling systems, lingered in some state of NRC review or implementation for decades.

1. **Can you assure this Committee that NRC won't delay implementation of orders and rules designed to address lessons learned from the Fukushima disaster?**

Following the events of 9/11, the Commission quickly instituted necessary safety and security changes via orders to affected licensees. These orders, with some modifications developed through the agency's normal regulatory process, were later formalized through rulemaking. Similarly, the Commission is committed to implementing regulatory actions to address lessons learned from the Fukushima accident in an expeditious manner that will include both immediate short-term actions and longer-term development of regulations and has already made significant progress along both lines. The Commission and the NRC staff must, however, continue to balance the use of available resources to address lessons learned from the Fukushima event with day-to-day activities necessary to ensure continued safe operation of U.S. nuclear power plants and the completion of other important safety enhancements not related to lessons learned from Fukushima. While balancing these competing needs may be a challenge, I believe that the NRC staff is more than up to the task. I believe that the schedule set by the Commission for implementation of post-Fukushima actions is ambitious yet appropriate given the importance of the actions and is ultimately achievable. I will continue to support the staff's efforts to meet this schedule.

On December 15, 2011, the Commission approved the staff's recommended three-tiered prioritization of the actions identified to address lessons learned from Fukushima. The Tier 1 recommendations are those actions that should be implemented without unnecessary delay. The Tier 2 recommendations are those actions that need further technical assessment or critical skill sets to implement. The Tier 3 recommendations are longer-term actions that depend on the completion of a shorter-term action or need additional study to support a regulatory action.

On March 9, 2012, the Commission approved the staff's recommended actions for addressing the Tier 1 items, and staff has taken action to begin implementation of all of these items. As a result, the agency issued three orders on March 12, 2012, that contained requirements for reliable hardened containment vents, installation of enhanced spent fuel pool (SFP) instrumentation, and the development of strategies to maintain or restore core cooling, containment and SFP cooling capabilities following a natural event beyond what plants were designed to endure. Each licensee is required to achieve full compliance with these orders within two refueling cycles following submittal

of their site-specific implementation plans (which are due February 2013), or by December 31, 2016, whichever comes first.

Also related to Tier 1 recommendations, the NRC issued letters on March 12, 2012, directing each nuclear power plant licensee to reevaluate the seismic and flooding hazards at their site using present-day methods and information, conduct walkdowns of their facilities to ensure protection against the hazards in their current design basis, and reevaluate their emergency communications systems and staffing levels. The NRC anticipates that most nuclear power plant licensees will complete the walkdowns and emergency communications and staffing assessments within the next year, except for the portions of the emergency staffing assessment that are tied to implementation of the order to develop mitigating strategies (*i.e.*, the strategy must be developed before the staff needed to implement it can be assessed). The majority of nuclear power plant licensees, including those plants with the greatest potential seismic and flooding risks, are expected to complete the seismic and flooding hazard reevaluations within five years. The NRC will assess the licensees' responses.

The remaining Tier 1 recommendations consist of rulemakings addressing station blackout (SBO) and the integration of emergency procedures at nuclear power plants. On March 20, 2012, the NRC issued an advanced notice of proposed rulemaking (ANPR) to solicit public input on the SBO rulemaking. This step moves the NRC closer to issuing a final rule within the 24-to-30-month schedule directed by the Commission. The public comment period for the ANPR closed May 4, 2012, and the NRC is currently reviewing the public input it received. Another ANPR on the integration of emergency procedures at nuclear power plants was issued April 18, 2012, and the public comment period closed June 18, 2012. The NRC is currently reviewing these comments as well.

We anticipate beginning work on the Tier 2 recommendations after collecting information from the Tier 1 activities, and as soon as resources currently devoted to those activities become available. On July 13, 2012, the NRC staff provided the Commission with its plans for addressing the remaining, longer-term Tier 3 activities. The plan and schedule for each Tier 3 item is unique, but many of the Tier 3 plans will use information gathered from the Tier 1 activities to inform further action.

The NRC is moving quickly and systematically to implement measures to address the lessons-learned from the Fukushima disaster. I remain committed to working with my colleagues to ensure that these measures are implemented fully, quickly, and effectively.

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555

COMMISSIONER

September 6, 2012

The Honorable Ed Whitfield
Chairman, Subcommittee on Energy and Power
Committee on Energy and Commerce
United States House of Representatives
2125 Rayburn House Office Building
Washington, DC 20515-6115

Dear Chairman Whitfield:

I appeared before the Subcommittee on Energy and Power on July 24, 2012, along with my colleagues on the Commission. On August 23, 2012 you forwarded questions for the hearing record. The responses to those questions are enclosed. If I can be of further assistance, please do not hesitate to contact me.

Sincerely,

William C. Ostendorff

Enclosures:
As stated

cc: The Honorable Bobby L. Rush

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Committee on Energy and Commerce
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Follow-Up Questions for Written Submission

Questions for Commissioner Ostendorff
The Honorable John Shimkus

1. The NRC has repeatedly indicated that U.S. nuclear plants are safe and do not pose an imminent risk to public health and safety and has issued orders on the matters with the highest safety benefit. With that assurance and those actions in mind, please respond to the following:

a. Do you anticipate supporting any additional orders for post-Fukushima regulatory changes without requiring cost-benefit analysis?

b. Please list any reasons you believe might warrant sidestepping the NRC's usual processes for developing a technical basis and cost benefit analysis when considering additional post-Fukushima regulatory changes.

Answer

a. The Commission intends to follow its established processes with regard to any potential additional orders related to post-Fukushima lessons learned. In accordance with these processes, cost-benefit analyses would be conducted where applicable and required. The agency's "backfitting" rule requires that an analysis be performed to weigh the costs and benefits of proposed regulatory actions that constitute backfits under the NRC's backfitting rule except in three cases: 1) if the action is necessary to bring a facility into compliance with a license or rules of the Commission; 2) if the action is necessary to ensure adequate protection of the health and safety of the public; or 3) if the action defines or redefines what level of protection should be regarded as adequate. Should one of these exceptions be invoked, then a documented evaluation must be completed. Furthermore, the Atomic Energy Act provides the Commission authority to issue requirements that it determines represent a significant enhancement to public health and safety. It is within this existing context of the NRC's established rules, processes, and statutory authority that the Commission would justify any future decisions regarding additional post-Fukushima regulatory requirements.

b. As discussed in the response to Question 1a above, the NRC's established processes for promulgating regulatory changes include the development of an analysis that weighs the costs and benefits of a proposed regulatory action that constitutes a backfit under the NRC's backfitting rule, unless one of three exceptions apply. These three exceptions are included within the NRC's established processes, and require a documented evaluation when invoked. The Commission also has authority with regard to implementing requirements that significantly enhance public health and safety. The Commission is committed to considering all required and appropriate analyses, evaluations, and authorities available to it when deciding on any proposed regulatory action.

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The Honorable John Shimkus

2. In March of 2011, the NRC staff developed a proposal to address the cumulative impacts of regulatory changes. Such regulatory changes should be prioritized based on safety significance, and recognize timing, staffing, financial, and other constraints. This would certainly be in line with the NRC's Efficiency Principle which states: "Regulatory activities should be consistent with the degree of risk reduction they achieve." In the hearing, I quoted you as saying: "it does not, as a general matter, advance the cause of safety to inundate licensee staff with multiple actions when a more thoughtful process might achieve the agency's safety goals without straining licensee resources."

a. Will you work with your colleagues and staff to ensure this matter receives serious Commission attention?

b. Given the scope of Tier 2 and Tier 3 post-Fukushima actions and other regulatory changes under development, what actions are being taken to resolve this concern concurrently?

Answer

a. I share your concern with the cumulative effects of regulation (CER) and commit to work with my colleagues and staff to ensure this matter receives serious Commission attention. CER can potentially distract those we regulate from executing other primary duties that ensure safety or security. In my vote on the Japan Task Force report in SECY-11-0093, I supported an integrated, prioritized assessment of the Task Force recommendations. In that same vein, I also supported the effort for a "Revised Common Prioritization of Rulemaking Process, that seeks to prioritize rulemaking activities on a common basis agency wide, rather than just within a given office, in my approval of the staff's proposed rulemaking process enhancements to reduce CER in SECY-11-0032, "Consideration of the Cumulative Effects of Regulation in the Rulemaking Process," dated March 2, 2011 (ADAMS Accession No. ML110190027). These enhancements included increased interaction with external stakeholders through the rulemaking process (including a public meeting during the final rule stage to discuss implementation issues), issuing guidance with rules, and requesting stakeholder feedback as part of the rulemaking process so that CER can be addressed. The Commission approved these enhancements and gave additional direction in its associated staff requirements memorandum.

b. As described in SECY-11-0032, "Consideration of the Cumulative Effects of Regulation in the Rulemaking Process," dated March 2, 2011 (ADAMS Accession No. ML110190027), the NRC staff is primarily considering the cumulative effects of regulation (CER) in the rulemaking process. If the Tier 2 and Tier 3 activities result in rulemaking, the CER process enhancements described in SECY-11-0032 will be directly applied. For those Tier 2 and Tier 3 activities that are other regulatory actions (i.e., other than rulemakings), the CER will be considered indirectly. In other words, those regulatory actions will be considered to the extent they impact the implementation of

ongoing rulemakings. For example, proposed rules will contain specific requests for comment on items related to CER. One such request will seek feedback from external stakeholders on whether any other regulatory actions (e.g., generic letters, orders, etc.) influence the implementation of the proposed rule's requirements. The NRC staff will use that feedback to inform the implementation dates of the proposed rule. In addition, in many cases the staff will conduct a public meeting on implementation during the final rulemaking stage. During this meeting, external stakeholders will have another opportunity to inform the NRC of ongoing regulatory actions, and challenges those actions may create for the implementation of the subject final rule. Again, the NRC notes that safety and security concerns remain the most important decision factors.

Although CER does not directly apply to non-rulemaking activities, the NRC notes that many of the good regulatory principles emphasized in the CER process enhancements, especially extensive stakeholder interaction, are currently being applied in post-Fukushima activities. Finally, I would note that the Commission chartered a steering committee which is responsible for assessing and prioritizing post-Fukushima actions

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3. Please share your opinion regarding the benefits and transparency of the notation voting process.

Answer

The Commission's current procedures allow for the Commission's decision-making process to be thoroughly documented through a written voting record called the notation voting process. The written voting record is typically made publicly available. This process has served the Commission well over the years, and provides two major advantages. First, it gives each Commissioner an opportunity to document their careful and thorough analysis of the highly-technical issues that are typically before the Commission, as well as the opportunity to explain his or her rationale behind each vote. Second, the notation voting process records the decision-making for historical reference, which is an invaluable tool in maintaining regulatory stability.

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4. There have been an extraordinary number of delays in the time it has taken to bring certain matters before the Commission to a vote and to closure, and Commissioners have not always abided by voting procedures. Going forward, will you adhere to voting procedures in the Internal Commission Procedures or work collegially to address needed changes.

Answer

I work hard to adhere to the Internal Commission Procedures (ICPs) in the way I conduct my business as a Commissioner. My goal as a Commission has always been, and will always be, to address all voting matters, both for policy and adjudicatory items, within the time frames in the ICPs. In my over two years as a Commissioner, I found that the ICPs provide a comprehensive and systematic structure that, when followed, allows the Commission to function effectively. At this time, I do not believe that any changes need to be made to the Internal Commission Procedures to address voting processes, but I commit to work collegially with my colleagues should such changes be needed.

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5. Please describe any changes to Internal Commission Procedures that you believe would be helpful:

a. In preserving Commission collegiality;

b. In ensuring the timely and unfiltered flow of information to the Commission;

c. To provide clarity regarding leadership and management during an emergency particularly with regard to the Chairman's use of emergency powers under Section 3 of the Reorganization Plan of 1980.

Answer

a. I believe that most of the concerns regarding the preservation of Commission collegiality were not a fault of the Internal Commission Procedures (ICPs). While I do not believe that any changes are needed to specifically address this area, I believe that the clarifications proposed below and in response to Question 6 will, in combination, help to ensure collegiality.

b. To ensure the timely and unfiltered flow of information to the Commission, two small changes could be made to the ICPs that would clarify that interference with the flow and content of information from the Executive Director for Operations is not acceptable. Those changes would add the qualifier "including the considered judgments of the staff, as represented by the Executive Director for Operations" to two provisions outlining the types of information to which the Commissioners all have access.

c. Greater clarity may be beneficial regarding leadership and management during an emergency. Along with changes to the Reorganization Plan No. 1 of 1980, the ICPs could be changed to require (1) a formal declaration of the use of emergency powers and (2) a formal declaration of the conclusion of the emergency and use of emergency power.

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6. For the last three years, the Commission and the agency have struggled with turmoil resulting from failed leadership. Please provide your personal suggestions for legislation to reform its governance structure and strengthen the Commission's function as a collegial body.

Answer

If no changes are made, the current legislative framework provides a viable structure. However, there are changes that could be made to legislation that would strengthen the Commission's function as a collegial body. Changes could be made to amend the Chairman's responsibility for "developing policy planning and guidance" to "developing plans and guidance on established Commission policy." A broad interpretation of the current "policy planning and guidance" language can create instances where a Chairman is able to develop or shape policy prior to the Commission's determining that policy, as opposed to using the planning and guidance authority as it relates to already existing policy.

Other changes could be made with respect to clarifying the Chairman's use of emergency powers. Specifically, requiring a formal declaration when invoking the use of emergency powers and also requiring a formal declaration upon the conclusion of the emergency and use of emergency powers. This could be clarified in modifications to the Reorganization Plan.

Finally, the reporting structure of the Offices of Congressional Affairs and Public Affairs has in the past created concern regarding the Commission's interactions with Congress and the public. Incorporating those offices into the general Chairman appointment with Commission approval and Commission reporting structure as other offices like the General Counsel, Secretary of the Commission, etc. may help to rectify those problems.

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Questions for Commissioner Ostendorff
The Honorable John D. Dingell

In the audience during the hearing were constituents of mine who are studying nuclear science at the University of Michigan which I have the honor of representing. In its FY 2013 budget request, the NRC stated that it is not requesting funding for the Integrated University Program, which historically has been the sole provider of critical funding for both student and faculty development in the field of nuclear science. The NRC states that "this reflects the confidence that the nuclear industry . . . will create incentives for students to enter nuclear-related programs."

1. Do you believe there is a need to train nuclear engineers in this country and do you support the NRC's role in the IUP?

Answer

Yes, I believe there is a need to train nuclear engineers, scientists, and technicians in this country, and I support NRC's involvement in the Integrated University Program (IUP). According to the Nuclear Energy Institute, 39 percent of the U.S. commercial nuclear sector's workforce will be eligible for retirement by 2016, resulting in roughly 25,000 jobs that will need to be filled within the next four years to maintain the current workforce. In addition, the Federal government (including national laboratories), academia, and the medical radiological healthcare field will place additional demands on this limited workforce. Educating the next generation of engineers and scientists is essential to meet the Nation's present and future national security needs and for building, operating, and maintaining nuclear power plants. Partnerships between the Federal government, the nuclear industry, and colleges and universities to sustain educational programs in nuclear science and engineering and to continue to attract students to the nuclear energy field are useful in addressing these workforce shortages.

The IUP represents NRC's role in this partnership by providing scholarships and fellowships to enter nuclear-related fields that will support the educational demands of the nuclear sector including engineering, health physics, radiochemistry and other related fields where demand for skilled individuals outpaces supply. The IUP also provides faculty development grants to attract and retain highly-qualified individuals in academic teaching careers.

Committee on Energy and Commerce
Subcommittees on Energy and Power & Environment and Economy Hearing
July 24, 2012
Follow-Up Questions for Written Submission

Questions for Commissioner Ostendorff
The Honorable G.K. Butterfield

After 9/11, the Commission was quick to identify ways to strengthen security at nuclear plants but it took many years for those plants to implement the new standards. Other safety issues, such as fire safety and debris accumulation inside cooling systems, lingered in some state of NRC review or implementation for decades.

1. Can you assure this Committee that NRC won't delay implementation of orders and rules designed to address lessons learned from the Fukushima disaster?

Answer

In SRM-SECY-11-0124, dated October 18, 2011, the Commission directed the NRC staff to "strive to complete and implement the lessons learned from the Fukushima accident within five years – by 2016." The Commission remains committed to implementing regulatory actions to address lessons learned from the Fukushima accident in an expeditious manner and has already made significant progress. The Commission and the NRC staff must, however, continue to balance the use of available resources to address lessons learned from the Fukushima event with day-to-day activities necessary to ensure continued safe operation of U.S. nuclear power plants and the completion of other important safety enhancements not related to lessons learned from Fukushima.

On December 15, 2011, the Commission approved the staff's recommended three-tiered prioritization of the Near-Term Task Force recommendations, which address lessons learned from Fukushima. The Tier 1 recommendations are those actions that should be implemented without unnecessary delay. The Tier 2 recommendations are those actions that need further technical assessment or critical skill sets to implement. The Tier 3 recommendations are longer-term actions that depend on the completion of a shorter-term action or need additional study to support a regulatory action.

On March 9, 2012, the Commission approved the staff's recommended actions for addressing the Tier 1 items and staff has taken action to begin implementation of all of these items. As a result, the agency issued three orders on March 12, 2012, that contained requirements for reliable hardened containment vents, installation of enhanced spent fuel pool (SFP) instrumentation, and the development of strategies to maintain or restore core cooling, containment and SFP cooling capabilities following a natural event beyond what plants were designed to endure. Each licensee is required to achieve full compliance with these orders within two refueling cycles following submittal of their site-specific implementation plans (which are due February 2013), or by December 31, 2016, whichever comes first.

Also related to Tier 1 recommendations, the NRC issued Request for Information letters on March 12, 2012, directing each nuclear power plant licensee to reevaluate the seismic and flooding hazards at their site using present-day methods and information, conduct inspections of their facilities to ensure protection against the hazards in their current design basis, and reevaluate their emergency communications systems and staffing levels. The NRC anticipates that most nuclear power plant licensees will complete the inspections and emergency

communications and staffing assessments within the next year, except for the portions of the emergency staffing assessment that are tied to implementation of the order to develop mitigating strategies (i.e., the strategy must be developed before the staff needed to implement it can be assessed). The majority of nuclear power plant licensees, including those plants with the greatest potential seismic and flooding risks, are expected to complete the seismic and flooding hazard reevaluations within five years. The NRC will assess the licensees' responses.

The remaining Tier 1 recommendations consist of rulemakings addressing station blackout (SBO) and the integration of emergency procedures at nuclear power plants. On March 20, 2012, the NRC issued an advanced notice of proposed rulemaking (ANPR) to solicit public input on the SBO rulemaking. This step moves the NRC closer to issuing a final rule within the 24-to-30-month schedule directed by the Commission. The public comment period for the ANPR closed May 4, 2012, and the NRC is currently reviewing the public input it received. Another ANPR on the integration of emergency procedures at nuclear power plants was issued April 18, 2012, and the public comment period closed June 18, 2012. The NRC is currently reviewing these comments as well.

We anticipate beginning work on the Tier 2 recommendations after collecting information from the Tier 1 activities, and as soon as resources currently devoted to those activities become available. On July 13, 2012, the NRC staff provided the Commission with its plans for addressing the remaining, longer-term Tier 3 activities. The plan and schedule for each Tier 3 item is unique, but many of the Tier 3 plans will use information gathered from the Tier 1 activities to inform further action.

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555

COMMISSIONER

September 6, 2012

The Honorable John Shimkus
Chairman, Subcommittee on Environment and the Economy
Committee on Energy and Commerce
United States House of Representatives
2125 Rayburn House Office Building
Washington, DC 20515-6115

Dear Chairman Shimkus:

I appeared before the Subcommittee on Environment and the Economy on July 24, 2012, along with my colleagues on the Commission. On August 23, 2012 you forwarded questions for the hearing record. The responses to those questions are enclosed. If I can be of further assistance, please do not hesitate to contact me.

Sincerely,

William C. Ostendorff

Enclosures:
As stated

cc: The Honorable Gene Green

B-3

Committee on Energy and Commerce
Subcommittees on Energy and Power & Environment and Economy Hearing
July 24, 2012
Follow-Up Questions for Written Submission

Questions for Commissioner Ostendorff
The Honorable John Shimkus

1. The NRC has repeatedly indicated that U.S. nuclear plants are safe and do not pose an imminent risk to public health and safety and has issued orders on the matters with the highest safety benefit. With that assurance and those actions in mind, please respond to the following:

a. Do you anticipate supporting any additional orders for post-Fukushima regulatory changes without requiring cost-benefit analysis?

b. Please list any reasons you believe might warrant sidestepping the NRC's usual processes for developing a technical basis and cost benefit analysis when considering additional post-Fukushima regulatory changes.

Answer

a. The Commission intends to follow its established processes with regard to any potential additional orders related to post-Fukushima lessons learned. In accordance with these processes, cost-benefit analyses would be conducted where applicable and required. The agency's "backfitting" rule requires that an analysis be performed to weigh the costs and benefits of proposed regulatory actions that constitute backfits under the NRC's backfitting rule except in three cases: 1) if the action is necessary to bring a facility into compliance with a license or rules of the Commission; 2) if the action is necessary to ensure adequate protection of the health and safety of the public; or 3) if the action defines or redefines what level of protection should be regarded as adequate. Should one of these exceptions be invoked, then a documented evaluation must be completed. Furthermore, the Atomic Energy Act provides the Commission authority to issue requirements that it determines represent a significant enhancement to public health and safety. It is within this existing context of the NRC's established rules, processes, and statutory authority that the Commission would justify any future decisions regarding additional post-Fukushima regulatory requirements.

b. As discussed in the response to Question 1a above, the NRC's established processes for promulgating regulatory changes include the development of an analysis that weighs the costs and benefits of a proposed regulatory action that constitutes a backfit under the NRC's backfitting rule, unless one of three exceptions apply. These three exceptions are included within the NRC's established processes, and require a documented evaluation when invoked. The Commission also has authority with regard to implementing requirements that significantly enhance public health and safety. The Commission is committed to considering all required and appropriate analyses, evaluations, and authorities available to it when deciding on any proposed regulatory action.

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Questions for Commissioner Ostendorff
The Honorable John Shimkus

2. In March of 2011, the NRC staff developed a proposal to address the cumulative impacts of regulatory changes. Such regulatory changes should be prioritized based on safety significance, and recognize timing, staffing, financial, and other constraints. This would certainly be in line with the NRC's Efficiency Principle which states: "Regulatory activities should be consistent with the degree of risk reduction they achieve." In the hearing, I quoted you as saying: "it does not, as a general matter, advance the cause of safety to inundate licensee staff with multiple actions when a more thoughtful process might achieve the agency's safety goals without straining licensee resources."

a. Will you work with your colleagues and staff to ensure this matter receives serious Commission attention?

b. Given the scope of Tier 2 and Tier 3 post-Fukushima actions and other regulatory changes under development, what actions are being taken to resolve this concern concurrently?

Answer

a. I share your concern with the cumulative effects of regulation (CER) and commit to work with my colleagues and staff to ensure this matter receives serious Commission attention. CER can potentially distract those we regulate from executing other primary duties that ensure safety or security. In my vote on the Japan Task Force report in SECY-11-0093, I supported an integrated, prioritized assessment of the Task Force recommendations. In that same vein, I also supported the effort for a "Revised Common Prioritization of Rulemaking Process, that seeks to prioritize rulemaking activities on a common basis agency wide, rather than just within a given office, in my approval of the staff's proposed rulemaking process enhancements to reduce CER in SECY-11-0032, "Consideration of the Cumulative Effects of Regulation in the Rulemaking Process," dated March 2, 2011 (ADAMS Accession No. ML110190027). These enhancements included increased interaction with external stakeholders through the rulemaking process (including a public meeting during the final rule stage to discuss implementation issues), issuing guidance with rules, and requesting stakeholder feedback as part of the rulemaking process so that CER can be addressed. The Commission approved these enhancements and gave additional direction in its associated staff requirements memorandum.

b. As described in SECY-11-0032, "Consideration of the Cumulative Effects of Regulation in the Rulemaking Process," dated March 2, 2011 (ADAMS Accession No. ML110190027), the NRC staff is primarily considering the cumulative effects of regulation (CER) in the rulemaking process. If the Tier 2 and Tier 3 activities result in rulemaking, the CER process enhancements described in SECY-11-0032 will be directly applied. For those Tier 2 and Tier 3 activities that are other regulatory actions (i.e., other than rulemakings), the CER will be considered indirectly. In other words, those regulatory actions will be considered to the extent they impact the implementation of

ongoing rulemakings. For example, proposed rules will contain specific requests for comment on items related to CER. One such request will seek feedback from external stakeholders on whether any other regulatory actions (e.g., generic letters, orders, etc.) influence the implementation of the proposed rule's requirements. The NRC staff will use that feedback to inform the implementation dates of the proposed rule. In addition, in many cases the staff will conduct a public meeting on implementation during the final rulemaking stage. During this meeting, external stakeholders will have another opportunity to inform the NRC of ongoing regulatory actions, and challenges those actions may create for the implementation of the subject final rule. Again, the NRC notes that safety and security concerns remain the most important decision factors.

Although CER does not directly apply to non-rulemaking activities, the NRC notes that many of the good regulatory principles emphasized in the CER process enhancements, especially extensive stakeholder interaction, are currently being applied in post-Fukushima activities. Finally, I would note that the Commission chartered a steering committee which is responsible for assessing and prioritizing post-Fukushima actions

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Questions for Commissioner Ostendorff
The Honorable John Shimkus

3. Please share your opinion regarding the benefits and transparency of the notation voting process.

Answer

The Commission's current procedures allow for the Commission's decision-making process to be thoroughly documented through a written voting record called the notation voting process. The written voting record is typically made publicly available. This process has served the Commission well over the years, and provides two major advantages. First, it gives each Commissioner an opportunity to document their careful and thorough analysis of the highly-technical issues that are typically before the Commission, as well as the opportunity to explain his or her rationale behind each vote. Second, the notation voting process records the decision-making for historical reference, which is an invaluable tool in maintaining regulatory stability.

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Questions for Commissioner Ostendorff
The Honorable John Shimkus

4. There have been an extraordinary number of delays in the time it has taken to bring certain matters before the Commission to a vote and to closure, and Commissioners have not always abided by voting procedures. Going forward, will you adhere to voting procedures in the Internal Commission Procedures or work collegially to address needed changes.

Answer

I work hard to adhere to the Internal Commission Procedures (ICPs) in the way I conduct my business as a Commissioner. My goal as a Commission has always been, and will always be, to address all voting matters, both for policy and adjudicatory items, within the time frames in the ICPs. In my over two years as a Commissioner, I found that the ICPs provide a comprehensive and systematic structure that, when followed, allows the Commission to function effectively. At this time, I do not believe that any changes need to be made to the Internal Commission Procedures to address voting processes, but I commit to work collegially with my colleagues should such changes be needed.

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Questions for Commissioner Ostendorff
The Honorable John Shimkus

5. Please describe any changes to Internal Commission Procedures that you believe would be helpful:

a. In preserving Commission collegiality;

b. In ensuring the timely and unfiltered flow of information to the Commission;

c. To provide clarity regarding leadership and management during an emergency particularly with regard to the Chairman's use of emergency powers under Section 3 of the Reorganization Plan of 1980.

Answer

a. I believe that most of the concerns regarding the preservation of Commission collegiality were not a fault of the Internal Commission Procedures (ICPs). While I do not believe that any changes are needed to specifically address this area, I believe that the clarifications proposed below and in response to Question 6 will, in combination, help to ensure collegiality.

b. To ensure the timely and unfiltered flow of information to the Commission, two small changes could be made to the ICPs that would clarify that interference with the flow and content of information from the Executive Director for Operations is not acceptable. Those changes would add the qualifier "including the considered judgments of the staff, as represented by the Executive Director for Operations" to two provisions outlining the types of information to which the Commissioners all have access.

c. Greater clarity may be beneficial regarding leadership and management during an emergency. Along with changes to the Reorganization Plan No. 1 of 1980, the ICPs could be changed to require (1) a formal declaration of the use of emergency powers and (2) a formal declaration of the conclusion of the emergency and use of emergency power.

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Questions for Commissioner Ostendorff
The Honorable John Shimkus

6. For the last three years, the Commission and the agency have struggled with turmoil resulting from failed leadership. Please provide your personal suggestions for legislation to reform its governance structure and strengthen the Commission's function as a collegial body.

Answer

If no changes are made, the current legislative framework provides a viable structure. However, there are changes that could be made to legislation that would strengthen the Commission's function as a collegial body. Changes could be made to amend the Chairman's responsibility for "developing policy planning and guidance" to "developing plans and guidance on established Commission policy." A broad interpretation of the current "policy planning and guidance" language can create instances where a Chairman is able to develop or shape policy prior to the Commission's determining that policy, as opposed to using the planning and guidance authority as it relates to already existing policy.

Other changes could be made with respect to clarifying the Chairman's use of emergency powers. Specifically, requiring a formal declaration when invoking the use of emergency powers and also requiring a formal declaration upon the conclusion of the emergency and use of emergency powers. This could be clarified in modifications to the Reorganization Plan.

Finally, the reporting structure of the Offices of Congressional Affairs and Public Affairs has in the past created concern regarding the Commission's interactions with Congress and the public. Incorporating those offices into the general Chairman appointment with Commission approval and Commission reporting structure as other offices like the General Counsel, Secretary of the Commission, etc. may help to rectify those problems.

Committee on Energy and Commerce
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Follow-Up Questions for Written Submission

Questions for Commissioner Ostendorff
The Honorable John D. Dingell

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1. Do you believe there is a need to train nuclear engineers in this country and do you support the NRC's role in the IUP?

Answer

Yes, I believe there is a need to train nuclear engineers, scientists, and technicians in this country, and I support NRC's involvement in the Integrated University Program (IUP). According to the Nuclear Energy Institute, 39 percent of the U.S. commercial nuclear sector's workforce will be eligible for retirement by 2016, resulting in roughly 25,000 jobs that will need to be filled within the next four years to maintain the current workforce. In addition, the Federal government (including national laboratories), academia, and the medical radiological healthcare field will place additional demands on this limited workforce. Educating the next generation of engineers and scientists is essential to meet the Nation's present and future national security needs and for building, operating, and maintaining nuclear power plants. Partnerships between the Federal government, the nuclear industry, and colleges and universities to sustain educational programs in nuclear science and engineering and to continue to attract students to the nuclear energy field are useful in addressing these workforce shortages.

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Committee on Energy and Commerce
Subcommittees on Energy and Power & Environment and Economy Hearing
July 24, 2012
Follow-Up Questions for Written Submission

Questions for Commissioner Ostendorff
The Honorable G.K. Butterfield

After 9/11, the Commission was quick to identify ways to strengthen security at nuclear plants but it took many years for those plants to implement the new standards. Other safety issues, such as fire safety and debris accumulation inside cooling systems, lingered in some state of NRC review or implementation for decades.

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Answer

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communications and staffing assessments within the next year, except for the portions of the emergency staffing assessment that are tied to implementation of the order to develop mitigating strategies (i.e., the strategy must be developed before the staff needed to implement it can be assessed). The majority of nuclear power plant licensees, including those plants with the greatest potential seismic and flooding risks, are expected to complete the seismic and flooding hazard reevaluations within five years. The NRC will assess the licensees' responses.

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555

COMMISSIONER

April 19, 2013

The Honorable Ed Whitfield
Chairman, Subcommittee on Energy and Power
Committee on Energy and Commerce
United States House of Representatives
2125 Rayburn House Office Building
Washington, DC 20515-6115

Dear Chairman Whitfield:

I appeared before the Subcommittee on Energy and Power on February 28, 2013, along with my colleagues on the Commission. On March 22, 2013, you forwarded questions for the hearing record. The responses to those questions are enclosed. My fellow colleagues on the Commission and I worked closely together to respond to the Subcommittees' questions. I expect that my responses will be generally consistent with those provided by Chairman Macfarlane and my other Commission colleagues.

If I can be of further assistance, please do not hesitate to contact me.

Sincerely,

William C. Ostendorff

Enclosures:
As stated

cc: The Honorable Bobby L. Rush

B-4

Committee on Energy and Commerce
Subcommittees on Energy and Power & Environment and Economy Hearing
February 28, 2013
Follow-Up Questions for Written Submission

Questions for Commissioner Ostendorff
The Honorable Ed Whitfield

1. In our hearing last July, Commissioner Magwood referred to the post-Fukushima actions the Commission approved on March 9, 2012, and stated: "We still have much work to do but the steps taken thus far represent a very significant increase in safety based on the Fukushima experience."

a. Has any effort been made to account for the increase in safety inherent in those actions?

b. Shouldn't this new, higher level of safety provide the threshold against which the benefits of any future actions should be analyzed?

Answer

a. Yes, the NRC accounts for actions already taken, such as the three March 2012 actions as well as those planned, in evaluating regulatory decisions regarding post-Fukushima actions.

b. Several processes are in place for the rigorous review of possible changes to NRC regulatory requirements. Following the Fukushima accident, the Commission established a senior management steering committee to consider possible post-Fukushima regulatory actions the agency may undertake. In addition, the NRC operates in accordance with its own "backfit rule," which applies whenever the NRC considers adopting possible regulatory changes. These backfit rule assessments consider the safety benefits of existing plant features and those required by previous regulatory actions (e.g., the Orders issued in March 2012).

   As the agency continues to evaluate Tier 2 and Tier 3 recommendations, actions planned or already taken will be considered. For example, the Commission is currently considering a March 27, 2013, staff proposal to change the implementation plans for Tier 2 emergency preparedness recommendations because their intent is adequately addressed through the implementation of the March 2012 Orders on mitigating strategies. In addition, the Commission recently directed the staff to begin rulemaking efforts for the inclusion of filtering strategies for boiling water reactors with Mark I and Mark II containments. In that decision, the Commission approved issuing orders that require licensees to install severe accident capable hardened vents. Therefore, as part of the rulemaking effort, the staff will assume the installation and safety benefit of those severe accidents capable hardened venting systems.

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February 28, 2013
Follow-Up Questions for Written Submission

Questions for Commissioner Ostendorff
The Honorable Ed Whitfield

2. I understand that there are several domestic companies developing small modular reactors (SMRs) that have engaged NRC staff about design certification activities. Which designs have been endorsed by potential license applicants who have written to the NRC indicating their intent to build such a design?

a. **Does the NRC currently have adequate staff resources to address its small reactor licensing work?**

b. **If the NRC is faced with limited resources for licensing activities, how will the NRC prioritize its licensing efforts with regard to small reactors?**

c. **Please provide the status of the NRC's progress on aligning the existing regulatory framework developed primarily for large light water reactors with that needed for SMR technologies including any issues that might require rulemaking.**

Answer

The NRC annually publishes a Regulatory Information Summary to request information from industry about plans to submit design certification applications and license applications. Industry responses to NRC's December 2012 request indicate that four domestic companies plan to submit design certification applications to the NRC for small modular light water reactor designs. Those companies are B&W mPower™, NuScale, Westinghouse, and Holtec. Two utilities responded expressing their intent to submit license applications. They are the Tennessee Valley Authority referencing the mPower™ design to be constructed at the Clinch River site in Tennessee and Ameren referencing the Westinghouse design to be constructed at the Callaway site in Missouri. There are also some companies, both foreign and domestic, that have informed the NRC of plans to submit design certification applications and various license applications for non-light water designs. These include Toshiba for their liquid sodium-cooled reactor, the 4S, and STL, a South African company, for their pebble bed high-temperature gas-cooled reactor. Finally, the Next Generation Nuclear Plant Alliance, a consortium of domestic and foreign companies, has informed us of its plans to submit a construction permit application for a high-temperature gas-cooled reactor based on an AREVA design.

a. The NRC's FY2013 budget and FY2014 budget requests were predicated on conducting reviews of two small modular reactor designs that use light water reactor technology. However, neither the current budget nor the FY2014 budget request would support all of the work that has been identified. In addition to NRC staff resources, the agency had planned to rely on contractor support for parts of the reviews. However, impacts from budget sequestration, with reductions to contractor support, will challenge the ability of the NRC to move forward on these projects.

b. The NRC's budget for new reactor licensing activities accommodates licensing and design certification for both large reactor and the small modular reactor designs. The NRC prioritizes the full range of new reactor work (large and small designs) to the extent

budgeted resources are available. Within this larger context, the NRC will prioritize the small modular reactor review work to first support the projects selected by the Department of Energy (DOE) through its SMR Licensing Technical Support Program.

c. NRC's existing regulatory framework is appropriate for reviewing the small modular light water reactor designs and license applications. Through pre-application activities principally with mPower™ and NuScale, design-specific review guidance is being developed by the NRC to facilitate review of these designs and their unique features. These design-specific review standards are supplemented by the NRC's continuing effort to maintain and update its Standard Review Plan.

   Based on responses received to the December 2012 Regulatory Information Summary that indicate that some entities plan to submit design certification applications for non-light water reactor technologies, the NRC has identified approaches that could be implemented to support the review of these "advanced non-light water reactor" designs. Last year, in response to a request from Congress, the NRC staff prepared a document entitled "Report to Congress: Advanced Reactor Licensing," which details the NRC's efforts and plans regarding advanced reactors. The Commission transmitted this report to Congress on August 22, 2012.

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Follow-Up Questions for Written Submission

Questions for Commissioner Ostendorff
The Honorable John Shimkus

1. I understand the NRC is analyzing the safety of using dry cask storage for extended periods of time. What is the time frame currently being analyzed?

a. Is the NRC considering a requirement that Independent Spent Fuel Storage Installations maintain or reinstate the capability to repackage dry cask storage canisters?

Answer

The NRC is examining the technical needs and potential changes to the regulatory framework that may be needed to continue licensing of spent nuclear fuel storage beyond the initial and first renewal licensing periods. In May 2012, the NRC issued for public comment a report on identifying and prioritizing the technical information needs affecting potential regulation of extended storage and transportation of spent nuclear fuel. This report noted that for this evaluation, the NRC has considered performance of the storage systems over an initial 300 year period following removal of the spent nuclear fuel from the reactor. The NRC staff selected the long analytical period in order to capture potential effects of relatively slow-acting degradation processes.

a. The NRC is not currently considering a requirement that Independent Spent Fuel Storage Installations maintain or reinstate the capability to repackage dry cask storage canisters.

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Follow-Up Questions for Written Submission

Questions for Commissioner Ostendorff
The Honorable John Shimkus

2. In Finding #2 of the Commission's 2010 waste confidence determination, the NRC found that a repository would be available "when necessary". The court vacated the NRC's determination, and now the Commission is forced to initiate a new waste confidence proceeding.

a. **Since the scope of the NRC waste confidence proceeding seems focused on environmental impact issues, how will you gather evidence to support Finding 2, which addresses repository availability, not environmental impact?**

b. **Will DOE provide evidence for the record on its plans for a repository?**

c. **Without evidence from DOE, what sort of evidence do you think would support a repository availability finding?**

d. **In vacating the NRC's Waste Confidence rule, the court directed the NRC to examine the environmental impact if a repository is never available and the period of storage on site is indefinite. Isn't the Finding #2 determination of repository availability a necessary element of determining the time period to be examined by the environmental impact statement?**

e. **To what extent will the Commission consider the "No Action" alternative documented in the Yucca Mountain Environmental Impact Statement?**

Answer

a. Consistent with the National Environmental Policy Act, the NRC will make reasonable assumptions regarding the availability of a repository. The NRC's reasonable assumptions will include an assessment of repository availability within 60 years beyond the licensed life for operation of the reactor, within 160 years beyond the licensed life for operation of the reactor, and indefinite storage (i.e., a repository is never available). The information that the NRC is considering in the generic environmental impact statement includes international and domestic experience in siting a geologic repository, the January 2013 DOE report, "Strategy for the Management and Disposal of Used Nuclear Fuel and High-Level Radioactive Waste," and the 2012 report of the Blue Ribbon Commission on America's Nuclear Future.

b. In January 2013, DOE published its "Strategy for the Management and Disposal of Used Nuclear Fuel and High-Level Radioactive Waste," which will be used as part of the analysis in the generic environmental impact statement that will support the updated Waste Confidence Rule. The DOE Strategy Report states that it is the Administration's goal to have a repository sited by 2026, licensed by 2042, and constructed and open by 2048. The NRC also plans to consider other publicly available information.

c. The generic environmental impact statement will make a number of reasonable assumptions regarding repository availability. In addition to the DOE's recently published "Strategy for the Management and Disposal of Used Nuclear Fuel and High-Level Radioactive Waste" (January 2013), the NRC will rely on a variety of information and analyses to support any conclusion on repository availability. This information includes international and domestic experience in siting a geologic repository and the 2012 report of the Blue Ribbon Commission on America's Nuclear Future.

d. The Finding #2 determination of repository availability is not a necessary element of determining the time period to be examined by the environmental impact statement. The NRC is planning to analyze three scenarios in the environmental impact statement. These scenarios are the short-term period of continued storage (a repository available after 60 years), a long-term period of continued storage (repository available after 160 years), and indefinite storage (a repository is never available). The environmental impact statement will determine the impacts of continued storage for each of the scenarios.

e. As directed by the Commission on September 6, 2012, the NRC staff will use available information from a number of sources, including the Yucca Mountain Environmental Impact Statement. The NRC will consider the Yucca Mountain Environmental Impact Statement "no-action" alternative in the Waste Confidence generic environmental impact statement.

Committee on Energy and Commerce
Subcommittees on Energy and Power & Environment and Economy Hearing
February 28, 2013
Follow-Up Questions for Written Submission

Questions for Commissioner Ostendorff
The Honorable Doris Matsui

As you know, there are nine commercial shut down nuclear power plant sites in the U.S., including Rancho Seco owned by my hometown utility, the Sacramento Municipal Utility District. Although the spent fuel is monitored and well-guarded, and is not an immediate safety or security concern, the presence of spent fuel at these sites is costly and prevents the use of the site for economically productive uses that would benefit the community.

Because SMUD and the utilities that own the other shut down reactors are not able to move the spent fuel to a permanent storage site, I am supportive of the federal government moving it to interim storage facilities. We need interim storage with or without a permanent facility.

1. Can you outline for me what challenges the Commission faces in moving spent fuel to interim storage?

Answer

The NRC has the regulatory infrastructure in place to license dry interim storage facilities and has licensed such a facility. But, the Department of Energy is the lead agency for implementing any changes to the national policy on nuclear waste management, which includes moving fuel to dry interim storage. This topic is addressed in the recently released "Strategy for the Management and Disposal of Used Nuclear Fuel and High-Level Radioactive Waste" (January 2013), which provides the Administration's framework for implementing a long-term solution for fuel storage and disposal. As the national policy evolves, the NRC's mission remains the same: to ensure the safe and secure use of radioactive materials while protecting people and the environment.

Committee on Energy and Commerce
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Follow-Up Questions for Written Submission

Questions for Commissioner Ostendorff
The Honorable Doris Matsui

2. Do you believe that independent progress can be made on developing interim storage facilities even though we cannot currently reach a consensus on a permanent repository?

Answer

The Department of Energy is the lead agency for implementing any changes to the national policy on nuclear waste management, which includes moving fuel to dry interim storage. This topic is addressed in the recently released "Strategy for the Management and Disposal of Used Nuclear Fuel and High-Level Radioactive Waste" (January 2013), which provides the Administration's framework for implementing a long-term solution for fuel storage and disposal. The NRC is not responsible for implementing the national policy on nuclear waste management, including development of interim storage facilities. The NRC's responsibility is independent licensing, regulation, and oversight of interim storage facilities. The NRC is not responsible for site selection, but will consider the suitability of the site as part of the licensing process. The NRC has in place the appropriate regulatory framework to license and regulate future interim dry storage facilities.

Committee on Energy and Commerce
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Follow-Up Questions for Written Submission

Questions for Commissioner Ostendorff
The Honorable Doris Matsui

I believe it makes sense to move spent nuclear fuel from decommissioned sites first and I hope we can start seeing progress made in this area. As we all know, the U.S. Court of Appeals for the D.C. Circuit is currently considering whether or not to order the NRC to resume consideration of the Yucca Mountain license application.

3. Can you tell me what challenges the NRC or DOE would face if the federal court orders work to resume on Yucca? In particular do you see impediments to reacquiring the permits, or finding the personnel and knowledge base to resume where work was left off?

Answer

If the federal court directs the NRC to resume work on the Yucca Mountain license application, the agency will comply, to the extent that funds are currently available. The NRC's principal challenge would be to reconstitute its review team with individuals from within and outside the agency who possess the critical skills and knowledge base.

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

COMMISSIONER

April 19, 2013

The Honorable Ed Whitfield
Chairman, Subcommittee on
Energy and Power
Congress of the United State
2125 Rayburn House Office Building
Washington, DC 20515-6115

The Honorable John Shimkus
Chairman, Subcommittee on
Environment and the Economy
Congress of the United State
2125 Rayburn House Office Building
Washington, DC 20515-6115

Dear Chairman Whitfield and Chairman Shimkus:

Regarding the questions addressed to me in your letter of March 22, 2013, my response is attached.

Sincerely,

George Apostolakis

cc: The Honorable Bobby L. Rush, Ranking Member, Subcommittee on Energy and Power
The Honorable Paul Tonko, Ranking Member, Subcommittee on Environment and Economy

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Questions from Representative Ed Whitfield

QUESTION 1. **In our hearing last July, Commissioner Magwood referred to the post-Fukushima actions the Commission approved on March 9, 2012, and stated: "We still have much work to do but the steps taken thus far represent a very significant increase in safety based on the Fukushima experience."**

a) Has any effort been made to account for the increase in safety inherent in those actions?

b) Shouldn't this new, higher level of safety provide the threshold against which the benefits of any future actions should be analyzed?

ANSWER

a) The Commission approved two actions taken in March of 2012 on the basis of ensuring adequate protection of the health and safety of the public, and one action as a significant enhancement to the protection of public health and safety. Site-specific studies would be needed to quantify the increase in safety for each individual reactor, but the Commission qualitatively considered the significant safety benefit that would be gained from these actions if an extreme external event were to cause challenges at a reactor in the United States similar to that at Fukushima.

b) The Commission will continue to consider the safety benefit for any future post-Fukushima actions. Included in these considerations would be any cost/benefit analyses required by NRC regulations or Commission direction. I intend to consider previously required safety enhancements, as appropriate.

QUESTION 2. **I understand that there are several domestic companies developing small modular reactors (SMRs) that have engaged NRC staff about design certification activities. Which designs have been endorsed by potential license applicants who have written to the NRC indicating their intent to build such a design?**

a) Does the NRC currently have adequate staff resources to address its small reactor licensing work?

b) If the NRC is faced with limited resources for licensing activities, how will the NRC prioritize its licensing efforts with regard to small reactors?

c) Please provide the status of the NRC's progress on aligning the exiting regulatory framework developed primarily for large light water reactors with that needed for SMR technologies including any issues that might require rulemaking.

ANSWER.

The NRC annually publishes a Regulatory Information Summary to request information from industry about plans to submit design certification applications and license applications. Industry responses to NRC's December 2012 request indicate that four domestic companies plan to submit design certification applications to the NRC for small modular light water reactor designs. Those companies are B&W mPower™, NuScale, Westinghouse, and Holtec. Two utilities responded expressing their intent to submit license applications. They are the Tennessee Valley Authority referencing the mPower™ design to be constructed at the Clinch River site in Tennessee, and Ameren referencing the Westinghouse design to be constructed at the Callaway site in Missouri. There are also some companies, both foreign and domestic, that have informed NRC of plans to submit design certification applications and various license applications for non-light water designs. These include Toshiba for its liquid sodium cooled reactor, the 4S, and STL, a South African company, for its pebble bed high temperature gas cooled reactor. Finally, the Next Generation Nuclear Plant Alliance, a consortium of domestic and foreign companies, has informed us of its plans to submit a construction permit application for a high temperature gas cooled reactor based on the AREVA design.

a) The NRC's FY 2013 budget and FY2014 budget requests were predicated on conducting reviews of two small modular reactor designs that use light water reactor technology. However, neither the current budget nor the FY2014 budget request would support all of the work that has been identified. In addition to NRC staff resources, the agency had planned to rely on contractor support for parts of the reviews. Budget sequestration could challenge the ability of the NRC to move forward on these projects.

b) The NRC's budget for new reactor licensing activities accommodates licensing and design certification for both large reactor and the small modular reactor designs. NRC prioritizes the full range of new reactor work (large and small designs) to the extent budgeted resources are available. Within this larger context, NRC will prioritize the small modular reactor review work to first support the projects selected by the Department of Energy (DOE) through its SMR Licensing Technical Support Program.

c) NRC's existing regulatory framework is appropriate for reviewing the small modular light water reactor designs and license applications. Through pre-application activities principally with mPower™ and NuScale, design-specific review guidance is being developed by the NRC to facilitate review of these designs and their unique features. These design-specific review standards are supplemented by NRC's continuing effort to maintain and update its Standard Review Plan.

Last year, in response to a request from Congress, the NRC staff prepared a document entitled "Report to Congress: Advanced Reactor Licensing", which details the NRC's efforts and plans regarding advanced reactors. The Commission transmitted this report to Congress on August 22, 2012. Responses received to the December 2012 Regulatory Information Summary indicate that some organizations plan to submit design certification applications for non-light water reactor technologies. The NRC has identified approaches that could be implemented to support the review of these advanced non-light water reactor designs.

Questions from Representative John Shimkus

QUESTION 1. **I understand the NRC is analyzing the safety of using dry cask storage for extended periods of time. What is the time frame currently being analyzed?**

a) Is the NRC considering a requirement that Independent Spent Fuel Storage Installations maintain or reinstate the capability to repackage dry cask storage canisters?

ANSWER.

The NRC is examining the technical needs and potential changes to the regulatory framework that may be needed to continue licensing of spent nuclear fuel storage beyond the initial and first renewal licensing periods. In May 2012, the NRC issued for public comment a report on identifying and prioritizing the technical information needs affecting potential regulation of extended storage and transportation of spent nuclear fuel. This report noted that, for this evaluation, the NRC has considered performance of the storage systems over an initial 300 year period following discharge of the spent nuclear fuel from the reactor. The NRC staff selected the long analytical period in order to capture potential effects of relatively slow-acting degradation processes.

The NRC is not currently considering a requirement that Independent Spent Fuel Storage Installations maintain or reinstate the capability to repackage dry cask storage canisters.

QUESTION 2. **In Finding #2 of the Commission's 2010 waste confidence determination, the NRC found that a repository would be available "when necessary". The court vacated the NRC's determination, and now the Commission is forced to initiate a new waste confidence proceeding.**

a) Since the scope of the NRC waste confidence proceeding seems focused on environmental impact issues, how will you gather evidence to support Finding 2, which addresses repository availability, not environmental impact?

b) Will DOE provide evidence for the record on its plans for a repository?

c) Without evidence from DOE, what sort of evidence do you think would support a repository availability finding?

d) In vacating the NRC's Waste Confidence rule, the court directed the NRC to examine the environmental impact if a repository is never available and the period of storage on site is indefinite. Isn't the Finding #2 determination of repository availability a necessary element of determining the time period to be examined by the environmental impact statement?

e) To what extent will the Commission consider the "No Action" alternative documented in the Yucca Mountain Environmental Impact Statement?

ANSWER.

a) Consistent with the National Environmental Policy Act, the NRC will make reasonable assumptions regarding the availability of a repository. The NRC's reasonable assumptions will include an assessment of repository availability within 60 years beyond the licensed life for operation of the reactor, and within 160 years beyond the licensed life for operation of the reactor, and indefinite storage (i.e., a repository is never available). The information that the NRC is considering in the generic environmental impact statement includes international and domestic experience in siting a geologic repository, the January 2013 DOE report, "Strategy for the Management and Disposal of Used Nuclear Fuel and High-Level Radioactive Waste," and the 2012 report of the Blue Ribbon Commission on America's Nuclear Future.

b) In January 2013, DOE published its "Strategy for the Management and Disposal of Used Nuclear Fuel and High-Level Radioactive Waste," which will be used as part of the analysis in the generic environmental impact statement that will support the updated Waste Confidence Rule. The DOE Strategy Report states that it is the Administration's goal to have a repository sited by 2026, licensed by 2042, and constructed and open by 2048. The NRC also plans to consider other publicly available information.

c) The generic environmental impact statement will make a number of reasonable assumptions regarding repository availability. In addition to the DOE's recently published "Strategy for the Management and Disposal of Used Nuclear Fuel and High-Level Radioactive Waste" (January 2013), the NRC will rely on a variety of information and analyses to support any conclusion on repository availability. This information includes international and domestic experience in siting a geologic repository and the 2012 report of the Blue Ribbon Commission on America's Nuclear Future.

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e) As directed by the Commission on September 6, 2012, the NRC staff will use available information from a number of sources, including the Yucca Mountain Environmental Impact Statement. The NRC will consider the Yucca Mountain Environmental Impact Statement "no-action" alternative in the Waste Confidence generic environmental impact statement.

Questions from Representative Doris O. Matsui

QUESTION 1. **Can you outline for me what challenges the Commission faces in moving spent fuel to interim storage?**

ANSWER.

The Department of Energy is the lead agency for implementing any changes to the national policy on nuclear waste management, which includes moving fuel to dry interim storage. This topic is addressed in the recently released *Strategy for the Management and Disposal of Used Nuclear Fuel and High-Level Radioactive Waste,* which provides the Administration's framework for implementing a long-term solution for fuel storage and disposal. The NRC has the regulatory infrastructure in place to license dry interim storage facilities and has already licensed such a facility. As the national policy evolves, the NRC's mission remains the same – to ensure the safe and secure use of radioactive materials while protecting people and the environment.

QUESTION 2. **Do you believe that independent progress can be made on developing interim storage facilities even though we cannot currently reach a consensus on a permanent repository?**

ANSWER.

The Department of Energy is the lead agency for implementing any changes to the national policy on nuclear waste management, which includes moving fuel to dry interim storage. This topic is addressed in the recently released *Strategy for the Management and Disposal of Used Nuclear Fuel and High-Level Radioactive Waste,* which provides the Administration's framework for implementing a long-term solution for fuel storage and disposal. The NRC is not responsible for implementing the national policy on nuclear waste management including development of interim storage facilities. NRC's responsibility is licensing, regulation, and oversight of interim storage facilities. NRC is not responsible for site selection, but will consider the suitability of the site as part of the licensing process. The NRC has in place the appropriate regulatory framework to license and regulate future interim dry storage facilities.

QUESTION 3. **Can you tell me what challenges the NRC or DOE would face if the federal court orders work to resume on Yucca? In particular do you see impediments to reacquiring the permits, or finding the personnel and knowledge base to resume where work was left off?**

ANSWER.

If the federal court directs NRC to resume work on the Yucca Mountain license application, the agency will comply, to the extent that funds are currently available. The NRC's principal challenge would be to reconstitute its review team with individuals from within and outside the Agency who possess the critical skills and knowledge base.

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555

COMMISSIONER

April 19, 2013

The Honorable John Shimkus
Chairman, Subcommittee on Environment and the Economy
Committee on Energy and Commerce
United States House of Representatives
2125 Rayburn House Office Building
Washington, DC 20515-6115

Dear Chairman Shimkus:

I appeared before the Subcommittee on Environment and the Economy on February 28, 2013, along with my colleagues on the Commission. On March 22, 2013, you forwarded questions for the hearing record. The responses to those questions are enclosed. My fellow colleagues on the Commission and I worked closely together to respond to the Subcommittees' questions. I expect that my responses will be generally consistent with those provided by Chairman Macfarlane and my other Commission colleagues.

If I can be of further assistance, please do not hesitate to contact me.

Sincerely,

William C. Ostendorff

Enclosures:
As stated

cc: The Honorable Paul Tonko

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Committee on Energy and Commerce
Subcommittees on Energy and Power & Environment and Economy Hearing
February 28, 2013
Follow-Up Questions for Written Submission

Questions for Commissioner Ostendorff
The Honorable Ed Whitfield

1. In our hearing last July, Commissioner Magwood referred to the post-Fukushima actions the Commission approved on March 9, 2012, and stated: "We still have much work to do but the steps taken thus far represent a very significant increase in safety based on the Fukushima experience."

a. Has any effort been made to account for the increase in safety inherent in those actions?

b. Shouldn't this new, higher level of safety provide the threshold against which the benefits of any future actions should be analyzed?

Answer

a. Yes, the NRC accounts for actions already taken, such as the three March 2012 actions as well as those planned, in evaluating regulatory decisions regarding post-Fukushima actions.

b. Several processes are in place for the rigorous review of possible changes to NRC regulatory requirements. Following the Fukushima accident, the Commission established a senior management steering committee to consider possible post-Fukushima regulatory actions the agency may undertake. In addition, the NRC operates in accordance with its own "backfit rule," which applies whenever the NRC considers adopting possible regulatory changes. These backfit rule assessments consider the safety benefits of existing plant features and those required by previous regulatory actions (e.g., the Orders issued in March 2012).

   As the agency continues to evaluate Tier 2 and Tier 3 recommendations, actions planned or already taken will be considered. For example, the Commission is currently considering a March 27, 2013, staff proposal to change the implementation plans for Tier 2 emergency preparedness recommendations because their intent is adequately addressed through the implementation of the March 2012 Orders on mitigating strategies. In addition, the Commission recently directed the staff to begin rulemaking efforts for the inclusion of filtering strategies for boiling water reactors with Mark I and Mark II containments. In that decision, the Commission approved issuing orders that require licensees to install severe accident capable hardened vents. Therefore, as part of the rulemaking effort, the staff will assume the installation and safety benefit of those severe accidents capable hardened venting systems.

Committee on Energy and Commerce
Subcommittees on Energy and Power & Environment and Economy Hearing
February 28, 2013
Follow-Up Questions for Written Submission

Questions for Commissioner Ostendorff
The Honorable Ed Whitfield

2. I understand that there are several domestic companies developing small modular reactors (SMRs) that have engaged NRC staff about design certification activities. Which designs have been endorsed by potential license applicants who have written to the NRC indicating their intent to build such a design?

a. **Does the NRC currently have adequate staff resources to address its small reactor licensing work?**

b. **If the NRC is faced with limited resources for licensing activities, how will the NRC prioritize its licensing efforts with regard to small reactors?**

c. **Please provide the status of the NRC's progress on aligning the existing regulatory framework developed primarily for large light water reactors with that needed for SMR technologies including any issues that might require rulemaking.**

Answer

The NRC annually publishes a Regulatory Information Summary to request information from industry about plans to submit design certification applications and license applications. Industry responses to NRC's December 2012 request indicate that four domestic companies plan to submit design certification applications to the NRC for small modular light water reactor designs. Those companies are B&W mPower™, NuScale, Westinghouse, and Holtec. Two utilities responded expressing their intent to submit license applications. They are the Tennessee Valley Authority referencing the mPower™ design to be constructed at the Clinch River site in Tennessee and Ameren referencing the Westinghouse design to be constructed at the Callaway site in Missouri. There are also some companies, both foreign and domestic, that have informed the NRC of plans to submit design certification applications and various license applications for non-light water designs. These include Toshiba for their liquid sodium-cooled reactor, the 4S, and STL, a South African company, for their pebble bed high-temperature gas-cooled reactor. Finally, the Next Generation Nuclear Plant Alliance, a consortium of domestic and foreign companies, has informed us of its plans to submit a construction permit application for a high-temperature gas-cooled reactor based on an AREVA design.

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b. The NRC's budget for new reactor licensing activities accommodates licensing and design certification for both large reactor and the small modular reactor designs. The NRC prioritizes the full range of new reactor work (large and small designs) to the extent

budgeted resources are available. Within this larger context, the NRC will prioritize the small modular reactor review work to first support the projects selected by the Department of Energy (DOE) through its SMR Licensing Technical Support Program.

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   Based on responses received to the December 2012 Regulatory Information Summary that indicate that some entities plan to submit design certification applications for non-light water reactor technologies, the NRC has identified approaches that could be implemented to support the review of these "advanced non-light water reactor" designs. Last year, in response to a request from Congress, the NRC staff prepared a document entitled "Report to Congress: Advanced Reactor Licensing," which details the NRC's efforts and plans regarding advanced reactors. The Commission transmitted this report to Congress on August 22, 2012.

Committee on Energy and Commerce
Subcommittees on Energy and Power & Environment and Economy Hearing
February 28, 2013
Follow-Up Questions for Written Submission

Questions for Commissioner Ostendorff
The Honorable John Shimkus

1. I understand the NRC is analyzing the safety of using dry cask storage for extended periods of time. What is the time frame currently being analyzed?

a. Is the NRC considering a requirement that Independent Spent Fuel Storage Installations maintain or reinstate the capability to repackage dry cask storage canisters?

Answer

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Committee on Energy and Commerce
Subcommittees on Energy and Power & Environment and Economy Hearing
February 28, 2013
Follow-Up Questions for Written Submission

Questions for Commissioner Ostendorff
The Honorable John Shimkus

2. In Finding #2 of the Commission's 2010 waste confidence determination, the NRC found that a repository would be available "when necessary". The court vacated the NRC's determination, and now the Commission is forced to initiate a new waste confidence proceeding.

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Committee on Energy and Commerce
Subcommittees on Energy and Power & Environment and Economy Hearing
February 28, 2013
Follow-Up Questions for Written Submission

Questions for Commissioner Ostendorff
The Honorable Doris Matsui

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1. Can you outline for me what challenges the Commission faces in moving spent fuel to interim storage?

Answer

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Committee on Energy and Commerce
Subcommittees on Energy and Power & Environment and Economy Hearing
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Questions for Commissioner Ostendorff
The Honorable Doris Matsui

2. Do you believe that independent progress can be made on developing interim storage facilities even though we cannot currently reach a consensus on a permanent repository?

Answer

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Committee on Energy and Commerce
Subcommittees on Energy and Power & Environment and Economy Hearing
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Follow-Up Questions for Written Submission

Questions for Commissioner Ostendorff
The Honorable Doris Matsui

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3. Can you tell me what challenges the NRC or DOE would face if the federal court orders work to resume on Yucca? In particular do you see impediments to reacquiring the permits, or finding the personnel and knowledge base to resume where work was left off?

Answer

If the federal court directs the NRC to resume work on the Yucca Mountain license application, the agency will comply, to the extent that funds are currently available. The NRC's principal challenge would be to reconstitute its review team with individuals from within and outside the agency who possess the critical skills and knowledge base.

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

COMMISSIONER

February 12, 2014

The Honorable Ed Whitfield
Chairman, Subcommittee on Energy and Power
Committee on Energy and Commerce
United States House of Representatives
2125 Rayburn House Office Building
Washington, DC 20515-6115

Dear Chairman Whitfield:

I appeared before the Subcommittee on Environment and the Economy on December 12, 2013, along with my colleagues on the Commission. On January 15, 2014, you forwarded questions for the hearing record. The responses to those questions are enclosed. If I can be of further assistance, please do not hesitate to contact me.

Sincerely,

William C. Ostendorff

Enclosures:
As stated

cc: The Honorable Bobby L. Rush

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

COMMISSIONER

February 12, 2014

The Honorable John Shimkus
Chairman, Subcommittee on Environment and the Economy
Committee on Energy and Commerce
United States House of Representatives
2125 Rayburn House Office Building
Washington, DC 20515-6115

Dear Chairman Shimkus:

I appeared before the Subcommittee on Environment and the Economy on December 12, 2013, along with my colleagues on the Commission. On January 15, 2014, you forwarded questions for the hearing record. The responses to those questions are enclosed. If I can be of further assistance, please do not hesitate to contact me.

Sincerely,

William C. Ostendorff

Enclosures:
As stated

cc: The Honorable Paul Tonko

Committee on Energy and Commerce
Subcommittees on Energy and Power & Environment and Economy Hearing
December 12, 2013
Follow-Up Questions for Written Submission

Questions for Commissioner Ostendorff
The Honorable Ed Whitfield

1. According to the NRC staff's FY 2012 report on adverse trends in the industry's safety performance: "*...the staff identified no statistically significant adverse trends in industry safety performance.*" In fact, a closer inspection of the long-term trend graphs in that report show that the industry is improving safety in 10 out of the 14 graphs. The staff indicated the remaining four: "*...did not have a statistically significant trend.*" However, the nuclear reactor safety budget has grown 48% over the last ten years even though the number of licensing actions and tasks has decreased 40%. Four reactors permanently shut down last year, another one will this year, and reports persist that others may also.

a. **Please describe what actions you believe the Commission should take to ensure the budget is commensurate with a decreased workload, a shrinking fleet, and improving industry safety performance?**

b. **Please describe any recommendations you believe would improve the prioritization and application of resources to matters that are safety significant.**

Answer

a. The Commission will continue to oversee the agency budget formulation and execution processes to ensure resource requests are commensurate with workload. This includes overseeing the annual budget formulation process of developing a two year projected workload in the Nuclear Reactor Safety and Nuclear Materials and Waste Safety Programs, including the anticipated number of licensees and the number and complexity of anticipated license applications. On an annual basis, the Commission oversees the review of the baseline budget and adjusts resource allocations based on several factors, including letters of intent from current and prospective licensees, changes in regulatory requirements, and prior year expenditures. The year prior to executing the budget, the Commission oversees the review of requested resources and associated workload that was previously requested and adjusts them based on the most current information. Lastly, in the year of budget execution, the agency adjusts resources commensurate with the level of work actually received. The most recent budget that was formulated (FY2015) is based on current assumptions regarding the projected workload for FY2014. The agency will begin to develop the FY2016 budget in the coming months using updated assumptions about operating plants, combined license applications, and other indicators of the projected workload.

   As of November 16, 2013, the NRC has 3871 staff, including the Office of the Inspector General, which is down 368 employees from FY2010. The NRC has actively engaged in efforts to streamline the organization. For example, the NRC initiated efforts to reduce its overhead by centralizing and consolidating corporate support functions through its Transforming Assets into Business Solutions (TABS) initiative. This effort has resulted in a reduction of Office Support FTE of 273 (25%) from FY2011 to FY2015.

b. Over the last few years, the agency has made improvements to our budgeting processes. Most recently, the NRC adopted a baseline budgeting approach for the development of the FY2015 budget. The approach uses information on the execution of resources from the prior year as a starting point for developing the resource request, then takes into account known "fact-of-life" changes in workload as well as the Commission's planning objectives for budget development and prioritization of planned activities to ensure prioritization and application of resources to matters that are safety significant. Further, during the budget process, the Commission ensures that adequate resources are requested to achieve the safety and security goals and objectives as described in the agency Strategic Plan. As stated in response to part (a) of this question, with the oversight of the Commission, the agency should continue its annual budget formulation and execution processes to ensure the most effective and efficient application of resources.

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Follow-Up Questions for Written Submission

Questions for Commissioner Ostendorff
The Honorable John Shimkus

1. Given the DC Circuit Court of Appeals reaffirming the NRC's obligation under the Nuclear Waste Policy Act to review the Yucca Mountain license application, do you as an individual commissioner believe it is incumbent upon the NRC to request the funding necessary to complete the license review?

Answer

The Commission has already acted to comply with the Court's decision ordering the NRC to "promptly continue with the legally mandated licensing process" for the Department of Energy's Yucca Mountain license application, "unless and until Congress authoritatively says otherwise or there are no appropriate funds remaining." I do not believe that any further action by the Commission is compelled by the D.C. Circuit decision. The Court did not require the NRC to request further appropriations; in fact, the Court went so far as to state that "Congress, of course, is under no obligation to appropriate additional money for the Yucca Mountain project." But, it is more than clear from the decision that the NRC has a duty to comply with the Nuclear Waste Policy Act. I personally believe it is incumbent upon the NRC to request that Congress appropriate funds to the NRC from the Nuclear Waste Fund in furtherance of the licensing process unless and until the Nuclear Waste Policy Act is amended to provide a different statutory direction for repository licensing.

Questions for Commissioner Ostendorff
The Honorable John Shimkus

2. Do you as an individual commissioner believe the NRC should propose a supplemental budget request to the Office of Management and Budget to support full resumption of the license review? If not, why not?

Answer

As previously stated, it is clear from the D.C. Circuit Court decision that the NRC has a duty to comply with the Nuclear Waste Policy Act. I personally believe it is incumbent upon the NRC to request that Congress appropriate funds to the NRC from the Nuclear Waste Fund in furtherance of the licensing process unless and until the Nuclear Waste Policy Act is amended to provide a different statutory direction for repository licensing. The first logical steps are being implemented as directed in the Commission's November 18, 2013, adjudicatory order and we appear to have sufficient carryover funds to complete these activities without an FY14 supplemental appropriation.

Questions for Commissioner Ostendorff
The Honorable John Shimkus

3. If the Commission fails to request funding for completing the Yucca Mountain licensing process, do you as an individual commissioner believe that would weaken the basis for Waste Confidence findings?

Answer

No. At a high level, the fundamental question in the area of Waste Confidence is not when a repository will be available, but whether spent fuel can be safely stored and without significant environmental impacts until a repository becomes available. More importantly, the staff has completed a draft Generic Environmental Impact Statement (GEIS) documenting the impacts if a repository is delayed or does not become available. Although the Commission is currently considering comments it has received on the GEIS that it has prepared, it is confident not only that it is technologically feasible to license and construct a repository, but also that the final GEIS will adequately address the impacts of continued storage under each of these scenarios.

Questions for Commissioner Ostendorff
The Honorable John Shimkus

4. Given the fact that the NRC routinely issues draft SERs during other license reviews and later revises them, do you as an individual commissioner believe the Commission should utilize the same approach on the Yucca Mountain license review for the sake of transparency? If not, why not?

Answer

It is not the NRC's practice to issue "draft" safety evaluation reports (SERs). For some licensing actions, the NRC issues SERs with open items. An SER with open items is final on all matters except those designated as "open items," and receives the same level of management and legal review as an SER with no open items. Once open items are closed, a complete SER is issued. For other licensing actions, the NRC issues chapters of the SER as they are completed.

With respect to the SER for the Yucca Mountain license review, in our November 18, 2013, Order (CLI-13-08), we directed the staff to work on the remaining four volumes of the SER (Volumes 2-5), using the approach that was underway when work on the SER was suspended—that is, the staff should work on the completion of all remaining volumes concurrently but issue each SER volume upon completion. As stated in the November 18, 2013, Order, we believe that the serial release of completed SER volumes will ensure transparency as to the staff's activities.

The current estimate calls for completion of the SER by January 2015. I believe the agency can work most effectively and efficiently to achieve that milestone by maintaining its current approach.

Questions for Commissioner Ostendorff
The Honorable John Shimkus

5. Recently, the NRC staff provided a 400-page report to the Commission: "*Consequence Study of a Beyond-Design-Basis Earthquake Affecting the Spent Fuel Pool for a U.S. Mark I Boiling Water Reactor.*" The cover memo for that report states:

> ***"This study shows the likelihood of a radiological release from the spent fuel after the analyzed severe earthquake at the reference plant to be very low (about 1 time in 10 million years or lower)."***

The staff has provided the Commission with a 200-page report entitled "*Staff Evaluation and Recommendation for Japan Lessons-Learned Tier 3 Issue on Expedited Transfer of Spent Fuel.*" In this report, the staff concluded that:

- ***"The costs of expedited transfer of spent fuel to dry cask storage outweigh the benefits";***
- ***"Additional studies are not needed";* and**
- ***"No further regulatory action is recommended for the resolution of this issue and this Tier 3 item should be closed".***

a. As an individual commissioner, do you have any reason to doubt the NRC staff's competence in this regard?

Answer

No. The staff exercised due diligence in conducting a thorough and systematic Spent Fuel Pool Study and regulatory analysis of expedited transfer of spent fuel to dry cask storage. Further, the results of the staff's 2013 Spent Fuel Study are consistent with past studies' conclusions that spent fuel pools are likely to withstand severe earthquakes without leaking, and that the risk of a large release due to spent fuel pool accidents is very low.

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Follow-Up Questions for Written Submission

Questions for Commissioner Ostendorff
The Honorable Joe Barton

1. In November 2013, NRC released a report entitled "A comparison of U.S. and Japanese regulatory requirements in effect at the time of the Fukushima accident."

a. Do you support all the findings of the staff report?

b. The authors of the report acknowledge that the staff's comparison was not an exhaustive review. Do you think it is appropriate for the Commission to consider revising the NRC's regulatory framework without having an exhaustive review as a solid basis for such a revision?

c. What differences between U.S. and Japanese regulatory framework were left out of the final report? Why were they not deemed to merit further analysis?

Answer

a. The Commission directed the staff to document its comparison of U.S. and Japanese regulatory requirements that were in effect at the time of the accident, focused on those areas most relevant to the sequence of events and accident mitigation capabilities at Fukushima. The staff was also directed to describe how those differences were factored into post-Fukushima actions taken by the NRC.

   I am satisfied that the report prepared by the NRC staff fulfilled the stated objectives. The staff appropriately focused their attention on the requirements in the most relevant areas including protection from design basis natural phenomena, loss of ultimate heat sink, loss of electrical power, containment venting, and severe accident management. Further, I support the staff's statement that "there should be no implication that the Fukushima accident and associated consequences could or would have been completely avoided assuming Japan had the same U.S. regulatory framework prior to the accident." Therefore, as reflected in my approval of the post-Fukushima requirements, the experience gained from the Fukushima Dai-ichi accident warranted actions to enhance safety in the United States.

b. Following the accident at Fukushima, the NRC focused on the course of events leading up to, during, and after the Fukushima accident to determine if our regulatory programs were sufficient for U.S. plants to prevent or mitigate the types of conditions that contributed to core damage and the release of radioactive materials following the earthquake and tsunami in Japan. As an example, the mitigating strategies implemented at US plants following the terrorist attacks of September 11, 2001, to cope with large fires and explosions may have helped in responding to an extended loss of electrical power and core cooling capability that occurred at Fukushima. However, this equipment was not designed or required to handle multi-unit events or survive extreme natural phenomena, such as a beyond design basis flood.

   Upon identifying these limitations, the NRC's response was to issue orders to U.S.

plants to install additional portable power supplies and pumps that would be protected from extreme natural phenomena to ensure that equipment would be available to cool the reactors if all electrical power is lost, no matter what causes the loss of power. This new requirement is one of the most safety significant lessons to be learned from the Fukushima accident, and it was identified by reviewing the event itself, rather than studying the differences in the U.S. and Japanese regulations.

The staff's efforts to identify and implement the remaining Fukushima lessons learned follow a similar methodology. The NRC staff has had extensive discussions with other foreign national regulators, including the Japanese Nuclear Regulation Authority, to compare lessons learned and implementation strategies for improvements to plant designs and operations. These discussions have informed the staff's effort and confirmed that we have identified the appropriate lessons learned and possible improvements for U.S. plants.

c. A detailed comparison of the regulatory systems in Japan and the U.S. would involve reviewing the governing legislation and regulations, as well as plant specific licenses, technical specifications, and guidance documents prepared by standards developing organizations, regulators, and industry groups. Such a review, in combination with other factors such as cultural and societal influences, would be necessary to fully understand how the differences between the regulatory systems are actually reflected in differences in plant design and operation. Given the resource implications of such a major study and the availability of insights from a variety of Japanese and international reviews, the NRC's comparison focused on those areas most relevant to the sequence of events and accident mitigation capabilities at Fukushima. The comparison did not assess differences in administrative requirements, plant licensing or license amendment processes, reporting and inspection programs, or technical areas unrelated to the sequence of events at Fukushima. Examples of technical areas that were not directly related to the sequence of events and therefore not included in the comparison are fire protection, security, and design basis accidents (e.g., losses of heat removal or inventory with AC power available).

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Follow-Up Questions for Written Submission

Questions for Commissioner Ostendorff
The Honorable Lee Terry

1. Prior to this hearing did Chairman Macfarlane inform you of her intention to declare her opposition to H.R. 3132?

Answer

Through my periodic interactions with Chairman Macfarlane, I was aware that she had some reservations about certain provisions of H.R. 3132.

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Questions for Commissioner Ostendorff
The Honorable Lee Terry

2. Did you Do you support or oppose the policy goals of HR 3132? Would you be willing to work with staff to perfect it?

Answer

I have previously responded to questions for the record (July 24, 2012, House Energy and Commerce joint hearing entitled "NRC Policy and Governance Oversight") related to legislative reform of the Commission's governance structure and the Commission's function as a collegial body, stating that if no changes are made, the current legislative framework provides a viable structure. But, I continue to believe that three changes could be made to the legislation that would strengthen the Commission's function as a collegial body. Those changes dealt with the Chairman's responsibility for "developing policy planning and guidance," clarifying the Chairman's use of emergency powers, and the reporting structure of the Offices of Congressional Affairs and Public Affairs. I believe H.R. 3132 would address those concerns.

My staff and I are available to provide insights and comments on your work with H.R. 3132.

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Questions for Commissioner Ostendorff
The Honorable Lee Terry

3. The June 26, 2012 NRC IG Report "*Possible Violations of the Reorganization Plan No. 1 of 1980 and NRC's Internal Commission Procedures by NRC Chairman*" (2012 IG Report) states:

> ***"President Carter said that the Chairman has a functional duty under the Reorganization Plan to declare emergency authority, and if he enacted emergency authority without a declaration, he would have been in violation of the Reorganization Plan. President Carter envisioned a Chairman exercising emergency authority for a specific transient emergency lasting a matter of days, not emergency authority for a matter of months."***

a. Do you agree with President Carter that a chairman has a functional duty to declare emergency authority? If not, why not?

b. How long do you believe a chairman should be allowed to exercise emergency authority?

Answer

a. I have long believed that a formal declaration upon the invocation of emergency authority would add clarity to the Commission's response and be beneficial to the leadership and management during an emergency.

   The recently enacted Public Law 113-76, which makes appropriations for fiscal year 2014, and other purposes, also addresses this issue. Section 402 directs the Chairman of the Nuclear Regulatory Commission to notify the other members of the Commission as well as certain named Congressional Committees not later than 1 day after the Chairman begins performing functions under his or her Section 3 authority. I believe this is a reasonable approach.

b. If the Chairman believes that it is necessary, the Chairman should be allowed to exercise emergency authority for the duration of the emergency. At the same time, I believe that the language in H.R. 3132 regarding limitations and extensions of emergency authority is very reasonable.

Questions for Commissioner Ostendorff
The Honorable Lee Terry

4. The 2012 IG Report states:

> ***"President Carter stated it would have been inappropriate for the Chairman to exercise emergency authority for a nuclear incident in Japan. Absent a domestic emergency, the authority lies with the full Commission and any review of the nuclear incident in Japan should have been in the hands of the Commission."***

Do you believe the use of emergency authority for foreign events is warranted? Why or why not?

Answer

The Reorganization Plan No. 1 of 1980 states that emergency authority pertains "to an emergency concerning a particular facility or materials licensed or regulated by the Commission." I believe the statute is clear: if there is no emergency that specifically affects an NRC-licensed facility, the Chairman may not exercise his or her emergency authority.

Questions for Commissioner Ostendorff
The Honorable Lee Terry

5. During an emergency, the chairman or a designee acts as the Executive Team Director. NRC briefing material list the Executive Team Director's key responsibilities for an activated operations center as the following:

- ***"Receive initial and periodic briefings on the nature and progression of the incident***
- ***Ensure other Commissioners are kept informed***
- ***Manage external interface (Federal agencies, White House, States, Congressional officials, State Department, IAEA, tribal organizations)***
- ***Call to Governor's designee and DHS Secretary***
- ***Review and approve Situation Report (SITREP) and Press Releases***
- ***Determine if Site Team (expanded activation mode) is necessary***
- ***Prepare/Act as agency spokesperson for news center and interagency events (e.g. WH briefings)***

Please explain whether you think the inclusion of an emergency declaration would be burdensome considering these key responsibilities already exist and procedures have been established for managing necessary communications.

Answer

I do not believe that a formal declaration of an emergency would be burdensome.

Questions for Commissioner Ostendorff
The Honorable Lee Terry

6. The 2012 IG Report states:

> ***"Several officials commented that NRC has no procedures to follow for the Chairman to assert his emergency authority."***

Do you believe the NRC should have a procedure that clearly articulates the circumstances or actions that would require a chairman to exercise emergency authority and describes the process for doing so?

a. If so, please describe what you believe should be included in such a procedure.

b. If not, why not?

Answer

At a high level, Reorganization Plan No. 1 of 1980 sets forth the general circumstances that would enable a Chairman to exercise emergency authority (i.e., there must be "an emergency pertaining to a particular facility or materials licensed or regulated by the Commission"). The Internal Commission Procedures and various historical memoranda also provide additional guidance regarding the circumstances or actions that would allow a Chairman to exercise emergency authority. There could be value in creating a procedure that accounts for these; however, it would be important to retain flexibility to respond to an extraordinary circumstance that may not be envisioned.

Questions for Commissioner Ostendorff
The Honorable Lee Terry

7. According to NRC briefing materials, licensees are required to notify the NRC of an event within 15 minutes. The NRC then expects to notify – within one hour – EPA, DOE, DHS, HHS, USDA, and FEMA. For what length of time do you believe a chairman should be allowed to unilaterally exercise the power of the full commission before notifying the public, the Congress, and fellow commissioners?

Answer

I believe that the language in H.R. 3132 regarding notification of the public, the Congress, and fellow Commissioners is reasonable.

Questions for Commissioner Ostendorff
The Honorable Lee Terry

8. The Office of Public Affairs leads one of the teams staffing the operations center during an emergency. Wouldn't this be an appropriate and efficient manner to notify the public in the event a chairman decides to exercise emergency authority? If not, why not?

Answer

This approach seems reasonable.

Questions for Commissioner Ostendorff
The Honorable Lee Terry

9. One of the chairman's responsibilities as the Executive Team Director is to keep the commissioners informed. Do you believe the procedures in place to meet that responsibility would be adequate to notify fellow commissioners in the event a chairman decides to exercise emergency authority? If not, why not?

Answer

The current Internal Commission Procedures state that "it is recommended that the Chairman provide notice to the other Commissioners and the NRC staff that an emergency status under Section 3(a) has been entered." In my opinion, these Procedures can be strengthened and clarified. The recently enacted Public Law 113-76, which makes appropriations for fiscal year 2014, and other purposes, addresses this issue. Section 402 directs the Chairman of the Nuclear Regulatory Commission to notify the other members of the Commission as well as certain named Congressional Committees not later than 1 day after the Chairman begins performing functions under his or her Section 3 authority. I believe this is a reasonable approach and our Internal Commission Procedures should be changed to reflect this language.

Questions for Commissioner Ostendorff
The Honorable Lee Terry

10. The Office of Congressional Affairs participates on one of the teams staffing the operations center during an emergency. Do you believe this to be an appropriate and efficient manner to notify Congressional officials in the event a chairman decides to exercise emergency authority? If not, why not?

Answer

This approach seems reasonable.

Questions for Commissioner Ostendorff
The Honorable Lee Terry

11. NRC's procedures reference communications that are pre-planned. Do you believe developing preplanned notifications of a chairman's decision to exercise emergency authority might be an effective way to ensure the timeliness and efficiency of such notifications? If not, why not?

Answer

Yes, emergency planning and communications planning are effective forms of preparation for potential future emergency situations.

Questions for Commissioner Ostendorff
The Honorable Lee Terry

12. In the hearing, Chairman Macfarlane testified that the agency's budget is developed by NRC staff. Section 201 of the Energy Reorganization Act of 1974 states:

> ***"Each Member of the Commission, including the Chairman, shall have equal responsibility and authority in all decisions and actions of the Commission, shall have full access to all information relating to the performance of his duties or responsibilities, and shall have one vote."***

The prior NRC chairman asserted budget authority to unilaterally close down the legally-mandated review of the Yucca Mountain repository license application. Since the budget is a major instrument of policymaking, which is the purview of the Commission, please describe whether you believe the Chairman should be allowed to influence budget development prior to consideration by the full commission.

Answer

Reorganization Plan No. 1 of 1980 states that the Chairman "shall determine the use and expenditure of funds of the Commission, in accordance with the distribution of appropriated funds according to major programs and purposes approved by the Commission." The NRC's current Internal Commission Procedures (ICPs) describe in more detail the budget process followed by the Commission. As approved by the Commission, the ICPs state that as part of the Commission's collegial functions, the Commission revises budget estimates and determines the distribution of appropriated funds according to major programs and purposes. As a best practice, the initial step in this process at the Commission level is for the Chairman to provide high-level planning objectives for budget development and prioritization of planned activities to the Commission for review and approval. This is done prior to the start of the annual budget formulation process.

The Chairman is also responsible for proposing to the Commission the distribution of appropriated funds according to the agency's major programs and purposes. The Commission is responsible for review and approval of the Chairman's budget proposal.

Our ICPs provide a suitable process for collegial budget formulation, review, and approval and I do not believe any changes are needed.

Questions for Commissioner Ostendorff
The Honorable Lee Terry

13. Section 201 of the Energy Reorganization Act of 1974 states:

> ***"In carrying out any of his functions under the provisions of this section the Chairman shall be governed by general policies of the Commission and by such regulatory decisions, findings, and determinations as the Commission may by law be authorized to make."***

Section 2 of the Reorganization Plan of 1980 states:

> ***"The Chairman as principal executive officer and the Executive Director for Operations shall be governed by the general policies of the Commission and by such regulatory decisions, findings, and determinations, including those for reorganization proposals, budget revisions and distribution of appropriated funds, as the Commission may by law, including this Plan, be authorized to make."***

If a majority of the Commission believes that the Chairman is failing to operate in accordance with the internal commission procedures, what action do you think commissioners should take? Do you believe legislation authorizing such action would provide clarity to such a situation?

Answer

The Internal Commission Procedures (ICPs) is an internal document that is the product of collegial decision-making by the Commission. The ICPs set forth the procedures governing the conduct of our business at the NRC. Therefore, the Commission is the proper body to oversee the implementation of the ICPs.

I do not believe legislation is needed to authorize any specific action by the Commission with respect to a Chairman's operations under the ICPs. As a Senate-confirmed official, I took an oath of office to well and faithfully discharge the duties of my office. I take this oath seriously and believe that I have an obligation, regardless of legislation, to the NRC, its staff, and the American people to ensure the proper functioning of this agency.

Questions for Commissioner Ostendorff
The Honorable Lee Terry

14. The NRC Inspector General issued a report "*NRC Chairman's Unilateral Decision to Terminate NRC's Review of DOE Yucca Mountain Repository License Application*" on June 6, 2011 (2011 OIG Report):

> ***"OIG reviewed the Commissioners' voting process associated with SECY-10-0102 and learned that the Internal Commission Procedures were not followed relatie [sic] to voting deadline, extension requests, or polling of other Commissioners to determine whether they agree with extension requests."***

And:

> ***"Although the notational voting process associated with SECY-10-0102 was complete as of October 29, 2010, as of the date of this report the Commission has not held an affirmation vote on the matter and the draft order continues to sit in deliberation before the Commission for affirmation."***

a. **Please indicate how long you believe a chairman or commissioner should be allowed to prevent an adjudicatory decision from being finalized.**

b. **Please describe what you believe would be the best mechanism to ensure Internal Commission Procedures are enforced.**

c. **Please provide any other resolution to such a situation that you believe would be effective at ensuring adjudicatory decisions are not unnecessarily delayed.**

Answer

a. The Internal Commission Procedures (ICPs) provide a comprehensive and systematic structure that, when followed, ensures that voting is handled in a timely manner and that the Commission functions effectively. The circumstances associated with the SECY-10-0102 were an unfortunate anomaly and are not likely to be repeated.

b. The ICPs provide a comprehensive, clear process to guide Commission action on adjudicatory matters. The ICPs provide that Commissioners' votes on Commission papers—including adjudicatory papers—are normally requested in 10 business days. The ICPs further provide that approval of extensions of time to vote on an adjudicatory paper must be given by a Commission majority. Once voting is complete on an adjudicatory paper, the NRC adjudicatory staff will submit the draft final order to establish a majority position on the decision. Commissioners at that time have an opportunity to make changes to the order and/or incorporate additional views. As soon as a majority position on the decision has been established, the Secretary of the Commission will poll the Commission on scheduling the affirmation of the decision, and an affirmation will then be scheduled to obtain a formal vote of the Commission.

c. In view of the robust internal procedures already in place, no revisions to the ICPs—or other mechanisms—are needed to ensure that the ICPs are enforced. Each adjudication is different. The Commission continues to work collegially, taking into account all Commission priorities, to ensure the issuance of reasoned, thoughtful decisions based on informed adjudicatory records, consistent with the Commission's stated goal of achieving prompt resolution of adjudicatory disputes.

Questions for Commissioner Ostendorff
The Honorable Lee Terry

15. Please describe any unintended consequences you believe H.R. 3132 presents. For each postulated consequence please provide legislative language you believe would adequately mitigate it.

Answer

As I have stated before, if no changes are made to Reorganization Plan No. 1 of 1980, the current legislative framework provides a viable structure. I believe that certain of the other provisions could have unintended consequences, prove difficult in implementation, or are unnecessary. For example, unlike Reorganization Plan No. 1 of 1980, the bill does not specify that the Chairman has responsibility "for developing policy planning and guidance for consideration by the Commission." I have previously supported changing the Reorganization Plan to amend the Chairman's responsibility from "developing policy planning and guidance" to "developing plans and guidance on established Commission policy." The bill takes my previous position a step further by eliminating the Chairman's responsibility entirely. While this provision is certainly workable, I believe the Chairman should have the lead for certain matters based on established Commission policy.

Further, in H.R. 3132, emergency functions would be limited to "responding to, issuing orders respecting, advising United States civil authorities and the United States public about, and directing and coordinating actions relating to" the emergency. The Reorganization Plan, on the other hand, lists broader activities, including "determining specific policies," and does not limit the function of advising civil authorities and the public to "United States" audiences. There could be a circumstance where in an emergency a Chairman would need to potentially act expeditiously on a new policy not-yet-approved by the Commission and there is no time to reach a Commission decision. I would not want legislation to be an impediment to that.

The bill provides that any officer or employee may communicate directly with the Commission, or any Commissioner, on any "critical problem" or "matter of public health or safety or common defense and security" that "is not being properly addressed." Personally, I have an open door policy and support any employee that wants to meet with me about any issue having the ability to do so. I believe employees already feel the ability to do so and thus do not believe legislation is necessary to address this concern.

Regarding voting matters, H.R. 3132 would require each Commissioner to vote on a decision appealed from the Board within 90 days of receiving final briefs and once a majority position has been established, any Commissioner that has not yet voted would have 3 days to vote or be excluded from voting. I appreciate the reasoning for this; however, many times this is simply not feasible for some of the more complex matters. I work hard to adhere to the ICPs in the way I conduct my business as a Commissioner and my goal has always been, and will always be, to address all voting matters, both for policy and adjudicatory items, within the timeframes of the ICPs. I have found that the ICPs provide a comprehensive and systematic structure that when followed allows the Commission to function effectively.

Finally, on one additional voting matter, the bill states that if no majority position is established because of a tie vote, publication of any decision (including any adjudicatory orders and direction to the staff) would be required within 30 days after voting is completed. In practice, I do not know how a decision could be published if there is no majority position and the Commissioners have not yet determined that the vote resolutions process is complete.

Questions for Commissioner Ostendorff
The Honorable Lee Terry

16. Please provide any other opinions you believe may further inform the Committee's consideration of H.R. 3132.

Answer

I believe that my previous answers provide my opinions on H.R. 3132.

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Follow-Up Questions for Written Submission

Questions for Commissioner Ostendorff
The Honorable Cathy Castor

1. During the hearing, I raised the issue of official international travel by the Commissioners. As I requested during the hearing, please provide an explanation of why your international travel is worth the taxpayer expense and time away from your responsibilities at the Commission.

Answer

As the world's preeminent nuclear regulator, international activities are an integral part of the Nuclear Regulatory Commission's work, and are managed in a manner consistent with the NRC's domestic, organizational, and programmatic priorities. The Commission's foreign travel is guided by the importance of engagement with a nuclear community that grows more global every day. Our travel covers many issues ranging from the sharing of nuclear power plant operating experience, collaborating with regulatory counterparts on the import and export of nuclear materials and equipment, fulfilling nonproliferation objectives, and supporting international conventions and treaties. As Commissioners, we also help represent the NRC in our close working relationships with nuclear agencies in more than 35 countries. In my personal opinion, my overseas travel has been consistent with U.S. government objectives and is appropriately undertaken.

The NRC's international activities and the Commission's foreign travel focus on engagement with countries to exchange experience related to both radiological materials and nuclear power plant operating, construction, and licensing activities that are directly applicable to nuclear safety and security in the United States. By traveling overseas to engage with senior international regulatory counterparts, Commissioners share regulatory insights concerning both radioactive materials and operating experience information from other countries that can be applied to the domestic program. These meetings also serve as vehicles for the health and safety assistance the NRC supplies to less-developed countries in their attempts to prevent accidents and to develop and improve their regulatory capabilities and their nuclear safety infrastructure. As the senior-most officials of the NRC, members of the Commission act as a force-multiplier in the promotion of nuclear safety and have an unparalleled ability to influence key international activities. Thus, by building these relationships with senior nuclear regulatory officials around the world, we help facilitate the NRC's strategic goal to support U.S. interests in the safe and secure use of nuclear materials and in nuclear nonproliferation both at home and abroad.

While on travel, be it international or domestic, my work as a Commissioner does not stop. I continue to conduct my domestic responsibilities, such as reviewing policy papers, voting on issues of importance before the Commission, and maintaining continuous involvement in Commission matters, even if this requires working at non-traditional hours.

CHRM-0

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

COMMISSIONER

February 12, 2014

The Honorable Ed Whitfield
Chairman, Subcommittee on Energy and Power
Committee on Energy and Commerce
U.S. House of Representatives
Washington, DC 20515-6115

The Honorable John Shimkus
Chairman, Subcommittee on Environment
and the Economy
Committee on Energy and Commerce
U.S. House of Representatives
Washington, DC 20515-6115

Attn: Mr. Nick Abraham

Dear Chairmen Whitfield and Shimkus:

In response to your letter of January 15, 2014, please find enclosed my answers to the questions for the December 12, 2013 hearing record. These answers include sensitive non-public information. Therefore, it is requested that they be held in confidence with access limited to the Committee and its staff.

Please contact me with any questions you may have.

Sincerely,

George Apostolakis

Enclosures: as stated

cc: The Honorable Bobby L. Rush
The Honorable Paul Tonko

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Attachment 1 – Commissioner Apostolakis'
Responses to Additional Questions for the Record

The Honorable Ed Whitfield

1. **According to the NRC staff's FY 2012 report on adverse trends in the industry's safety performance: *"...the staff identified no statistically significant adverse trends in industry safety performance."* In fact, a closer inspection of the long-term trend graphs in that report show that the industry is improving safety in 10 out of the 14 graphs. The staff indicated the remaining four: *"...did not have a statistically significant trend."* However, the nuclear reactor safety budget has grown 48% over the last ten years even though the number of licensing actions and tasks has decreased 40%. Four reactors permanently shut down last year, another one will this year, and reports persist that others may also.**

   a. **Please describe what actions you believe the Commission should take to ensure the budget is commensurate with a decreased workload, a shrinking fleet, and improving industry safety performance.**

      ANSWER: Although the number of active new reactor applications before the NRC has decreased in recent years, there has been a significant increase in the NRC's workload in other areas, most notably, in our response to the accident at Fukushima Daiichi, in our work reviewing fire protection license amendments, and in our work related to Waste Confidence. In addition, although the number of operating power reactors is decreasing, there will still be a great deal of NRC work associated with recently closed plants as they undergo decommissioning.

      Nevertheless, I am committed to ensuring that future NRC budgets are commensurate with our workload. The Commission has a number of opportunities to ensure resource requests are commensurate with workload. On an annual basis, the Commission reviews the baseline budget and adjusts resource allocations based on several factors, including letters of intent from current and prospective licensees, changes in regulatory requirements, and prior year expenditures. In the year of budget execution, the agency works to adjust resources commensurate with the level of work actually received. The agency will begin to develop the FY2016 budget in the coming months using updated assumptions about operating plants, new reactor applications, and other indicators of the projected workload.

      It is worth noting that, as of November 16, 2013, the NRC has 3871 staff (including the Office of the Inspector General) which is down 368 employees from FY2010. The NRC has been engaged in efforts to streamline the organization and should continue to do so.

   b. **Please describe any recommendations you believe would improve the prioritization and application of resources to matters that are safety significant.**

ANSWER: The agency continues to consider ways to further risk-inform our regulatory activities which would support enhanced prioritization based on safety and security significance. For example, in early 2013, the Commission directed the NRC staff to develop approaches for allowing licensees to propose prioritization of the implementation of regulatory actions as an integrated set and in a way that reflects their risk significance on a plant-specific basis. The staff has been interacting with stakeholders and is developing options for Commission action.

The Honorable John Shimkus

1. **Given the DC Circuit Court of Appeals reaffirmed the NRC's obligation under the Nuclear Waste Policy Act to review the Yucca Mountain license application, do you as an individual commissioner believe it is incumbent upon the NRC to request the funding necessary to complete the license review?**

   ANSWER: I am recused from the Yucca Mountain adjudicatory proceeding and have not been participating in the agency's decisions on how to respond to the court's remand and direction. Thus, I have not formed a position on this question.

2. **Do you as an individual commissioner believe the NRC should propose a supplemental budget request to the Office of Management and Budget to support full resumption of the license review? If not, why not?**

   ANSWER: I am recused from the Yucca Mountain adjudicatory proceeding and have not been participating in the agency's decisions on how to respond to the court's remand and direction. Thus, I have not formed a position on this question.

3. **If the Commission fails to request funding for completing the Yucca Mountain licensing process, do you as an individual commissioner believe that would weaken the basis for Waste Confidence findings?**

   ANSWER: I am recused from the Yucca Mountain adjudicatory proceeding and have not been participating in the agency's decisions on how to respond to the court's remand and direction. Thus, I have not formed a position on this question.

4. **Given the fact that the NRC routinely issues draft SERs during other license reviews and later revises them, do you as an individual commissioner believe the Commission should utilize the same approach on the Yucca Mountain license review for the sake of transparency? If not, why not?**

   ANSWER: I am recused from the Yucca Mountain adjudicatory proceeding and have not been participating in the agency's decisions on how to respond to the court's remand and direction. Thus, I have not formed a position on this question.

5. **Recently, the NRC staff provided a 400-page report to the Commission: *"Consequence Study of a Beyond-Design-Basis Earthquake Affecting the Spent Fuel Pool for a U.S. Mark I Boiling Water Reactor."* The cover memo for that report states:**

"This study shows the likelihood of a radiological release from the spent fuel after the analyzed severe earthquake at the reference plant to be very low (about 1 time in 10 million years or lower)."

The staff has provided the Commission with a 200-page report entitled *"Staff Evaluation and Recommendation for Japan Lessons-Learned Tier 3 Issue on Expedited Transfer of Spent Fuel".* In this report, the staff concluded that:

- ***"The costs of expedited transfer of spent fuel to dry cask storage outweigh the benefits";***
- ***"Additional studies are not needed";* and**
- ***"No further regulatory action is recommended for the resolution of this issue and this Tier 3 item should be closed".***

a. As an individual commissioner, do you have any reason to doubt the NRC staff's competence in this regard?

ANSWER: No. I might add that, although there are varying views on whether the conclusions of the report are well supported, the NRC's Advisory Committee on Reactor Safeguards, a statutory committee that advises the Commission with regard to reactor safety issues, commented on the staff's work in a letter dated December 18, 2013. The Committee concluded, among other things:

1. The staff's safety goal screening analysis has adequately evaluated the safety benefits of expedited transfer from spent fuel pools (SFPs) to dry cask storage systems (DCSSs).

2. The safety goal screening evaluation has demonstrated that the NRC Safety Goal Policy and Quantitative Health Objectives (QHOs) are met with orders of magnitude margin for both current high-density SFP loadings and proposed low-density fuel loadings. Based on these results, the staff has concluded that there is insufficient safety benefit to justify the expedited transfer of spent fuel from U.S. pools to DCSSs. We agree with this conclusion.

<u>The Honorable Joe Barton</u>

1. In November 2013, NRC released a report entitled "A comparison of U.S. and Japanese regulatory requirements in effect at the time of the Fukushima accident."

a. Do you support all of the findings of the staff report?

ANSWER: I have no basis to disagree with the findings. The findings appear to be sound.

b. The authors of the report acknowledge that the staff's comparison was not an exhaustive review. Do you think it is appropriate for the Commission to consider revising the NRC's regulatory framework without having an exhaustive review as a solid basis for such a revision?

ANSWER: In my view, the Commission acted appropriately in the instances where it has considered and approved new requirements based on lessons learned from the Fukushima accident. Following the accident, the NRC focused on the course of events leading up to, during, and after the Fukushima accident and established a task force to conduct a systematic and methodical review of NRC processes and regulations to determine whether the agency should make additional improvements to its regulatory system in light of that accident. As an example, the mitigating strategies implemented at U.S. plants following the terrorist attacks of September 11, 2001, to cope with large fires and explosions might have helped in responding to an extended loss of electrical power and core cooling capability such as that which occurred at Fukushima. However, this equipment was not designed or required to handle multi-unit events or survive extreme natural phenomena, such as a beyond design basis flood.

Upon identifying these limitations, the NRC's response was to issue orders to U.S. plants to install additional portable power supplies and pumps that would be protected from extreme natural phenomena to ensure that equipment would be available to cool the reactors if all electrical power is lost, no matter what causes the loss of power. This new requirement is a result of one of the most safety significant lessons to be learned from the Fukushima accident, and it was identified by reviewing the event itself, rather than studying the differences in the U.S. and Japanese regulations. The staff's efforts to identify and implement the remaining Fukushima lessons learned follow a similar methodology.

The staff's November 2013 assessment identified the difficulties in fully comparing Japanese and U.S. regulatory requirements and did not alter the NRC's view that appropriate actions should be identified by focusing on U.S. plants and potential improvements to address beyond design basis events. The comparisons of U.S. and Japanese regulations in effect at the time of the accident has not identified new issues or resulted in the NRC revising its planned regulatory improvements to U.S. nuclear power plants. The NRC staff has had extensive discussions with other foreign national regulators, including the Japanese Nuclear Regulation Authority, to compare lessons learned and implementation strategies for improvements to plant designs and operations. These discussions have informed the NRC's effort.

c. What differences between U.S. and Japanese regulatory framework were left out of the final report? Why were they not deemed to merit further analysis?

The comparison did not assess differences in administrative requirements, plant licensing or license amendment processes, reporting and inspection programs, or technical areas unrelated to the sequence of events at Fukushima. Examples of technical areas that were not directly related to the sequence of events and therefore not included in the comparison are fire protection, security, and design basis accidents (e.g., losses of heat removal or inventory with AC power available).

Given the resource implications of a detailed comparison and the availability of insights from a variety of Japanese and international reviews, the NRC's

comparison appropriately focused on those areas most relevant to the sequence of events and accident mitigation capabilities at Fukushima.

The Honorable Lee Terry

1. **Prior to this hearing did Chairman Macfarlane inform you of her intention to declare her opposition to H.R. 3132?**

   ANSWER: The Chairman had informed me that she opposed the bill.

2. **Do you support or oppose the policy goals of HR 3132? Would you be willing to work with staff to perfect it?**

   ANSWER: I agree with the goals of some parts of the legislation. I would be willing to support efforts to address issues or areas of concern.

3. **The June 26, 2012 NRC IG Report *"Possible Violations of the Reorganization Plan No. 1 of 1980 and NRC's Internal Commission Procedures by NRC Chairman"* (2012 IG Report) states:**

   "President Carter said that the Chairman has a functional duty under the Reorganization Plan to declare emergency authority, and if he enacted emergency authority without a declaration, he would have been in violation of the Reorganization Plan. President Carter envisioned a Chairman exercising emergency authority for a specific transient emergency lasting a matter of days, not emergency authority for a matter of months."

   a. **Do you agree with President Carter that a chairman has a functional duty to declare emergency authority? If not, why not?**

      ANSWER: I agree with President Carter that a chairman should declare emergency authority if exercising the emergency authority. Section 3 of Reorganization Plan No. 1 of 1980 does not explicitly address when or how a Chairman must or should exercise the authority to make a declaration apart from the reference to the transfer of "all the functions vested in the Commission pertaining to an emergency concerning a particular facility or materials licensed or regulated by the Commission . . . ." However, a provision of the new Appropriations Act requires that an NRC Chairman provide notification to the Commission and Congress within one day after beginning to exercise emergency authority.

   b. **How long do you believe a chairman should be allowed to exercise emergency authority?**

      ANSWER: Thirty days, although somewhat arbitrary, seems like a reasonable time. However, circumstances would vary, so a mechanism for extension would be necessary.

4. **The 2012 IG Report states:**

> ***"President Carter stated it would have been inappropriate for the Chairman to exercise emergency authority for a nuclear incident in Japan. Absent a domestic emergency, the authority lies with the full Commission and any review of the nuclear incident in Japan should have been in the hands of the Commission."***

Do you believe the use of emergency authority for foreign events is warranted? Why or why not?

ANSWER: Generally not, but it is difficult to address all possible circumstances. An NRC chairman may exercise normal authority as official spokesman and principal executive officer in circumstances not involving an NRC licensee. Also, other Federal agencies may have a lead role in the event of an emergency originating in another country.

5. **During an emergency, the chairman or a designee acts as the Executive Team Director. NRC briefing materials list the Executive Team Director's key responsibilities for an activated operations center as the following:**

- ***"Receive initial and periodic briefings on the nature and progression of the incident***
- ***Ensure other Commissioners are kept informed***
- ***Manage external interface (Federal agencies, White House, States, Congressional officials, State Department, IAEA, tribal organizations)***
- ***Call to Governor's designee and DHS Secretary***
- ***Review and approve Situation Report (SITREP) and Press Releases***
- ***Determine if Site Team (expanded activation mode) is necessary***
- ***Prepare/Act as agency spokesperson for news center and interagency events (e.g. WH briefings)***

Please explain whether you think the inclusion of an emergency declaration would be burdensome considering these key responsibilities already exist and procedures have been established for managing necessary communications.

ANSWER: No, it should not be burdensome if the Chairman or designee has made a determination of such an emergency.

6. **The 2012 IG Report states:**

> ***"Several officials commented that NRC has no procedures to follow for the Chairman to assert his emergency authority."***

Do you believe the NRC should have a procedure that clearly articulates the circumstances or actions that would require a chairman to exercise emergency authority and describes the process for doing so?

   a. **If so, please describe what you believe should be included in such a procedure.**

b. If not, why not?

ANSWER: It would be difficult to articulate all circumstances under which a chairman would need to exercise emergency authority. In addition, a strict list of such circumstances could unnecessarily constrain a chairman's decision making. The new Appropriations Act includes requirements relating to the exercise of emergency powers. A more detailed process might not be optimal for all circumstances.

7. **According to NRC briefing materials, licensees are required to notify the NRC of an event within 15 minutes. The NRC then expects to notify within one hour-EPA, DOE, DHS, HHS, USDA, and FEMA. For what length of time do you believe a chairman should be allowed to unilaterally exercise the power of the full commission before notifying the public, the Congress, and fellow commissioners?**

ANSWER: Notification within 24 hours is a reasonable expectation and is now a legal requirement under the recent Appropriations Act. In practice, I expect that an NRC Chairman will provide notice in the future as soon as reasonably possible in advance of 24 hours.

8. **The Office of Public Affairs leads one of the teams staffing the operations center during an emergency. Wouldn't this be an appropriate and efficient manner to notify the public in the event a chairman decides to exercise emergency authority? If not, why not?**

ANSWER: Yes.

9. **One of the chairman's responsibilities as the Executive Team Director is to keep the commissioners informed. Do you believe the procedures in place to meet that responsibility would be adequate to notify fellow commissioners in the event a chairman decides to exercise emergency authority? If not, why not?**

ANSWER: I anticipate that the Chairman or a designee would carry out the requirements of the new Appropriations Act whatever procedures are in place. It is not clear that new procedures are necessary but the question is likely to be considered further. There are a number of ways in which a Chairman could accomplish notification of fellow Commissioners and others.

10. **The Office of Congressional Affairs participates on one of the teams staffing the operations center during an emergency. Do you believe this be an appropriate and efficient manner to notify Congressional officials in the event a chairman decides to exercise emergency authority? If not, why not?**

ANSWER: Yes.

11. **NRC's procedures reference communications that are pre-planned. Do you believe developing preplanned notifications of a chairman's decision to exercise emergency authority might be an effective way to ensure the timeliness and efficiency of such notifications? If not, why not?**

ANSWER: Yes.

12. In the hearing, Chairman Macfarlane testified that the agency's budget is developed by NRC staff. Section 201 of the Energy Reorganization Act of 1974 states:

> ***"Each Member of the Commission, including the Chairman, shall have equal responsibility and authority in all decisions and actions of the Commission, shall have full access to all information relating to the performance of his duties or responsibilities, and shall have one vote."***

The prior NRC chairman asserted budget authority to unilaterally close down the legally- mandated review of the Yucca Mountain repository license application. Since the budget is a major instrument of policymaking, which is the purview of the Commission, please describe whether you believe the Chairman should be allowed to influence budget development prior to consideration by the full commission.

ANSWER: Yes. Under the current law, the Chairman shall present the budget estimate to the Commission for its consideration. The preparation of the budget estimate shall be delegated to the Executive Director for Operations, subject to the Chairman's direction and supervision. In my view, this is appropriate. However, the Commission should also have access to staff views and information pertaining to the development of the Chairman's proposed budget when the Commission reviews the Chairman's proposed budget.

The initial step in the process at the Commission level is for the Chairman to provide high-level planning objectives for budget development and prioritization of planned activities to the Commission for review and approval. Based on the high-level planning objectives, the Executive Director for Operations and the Chief Financial Officer submit to the Chairman a budget with their workload estimates, resource requirements and narrative justifications. The Chairman reviews the senior management budget input and submits his or her decisions to the Commission for review, analysis and approval through the Commission voting process.

13. Section 201 of the Energy Reorganization Act of 1974 states:

> ***"In carrying out any of his functions under the provisions of this section the Chairman shall be governed by general policies of the Commission and by such regulatory decisions, findings, and determinations as the Commission may by law be authorized to make."***

Section 2 of the Reorganization Plan of 1980 states:

> ***"The Chairman as principal executive officer and the Executive Director for Operations shall be governed by the general policies of the Commission and by such regulatory decisions, findings, and determinations, including those for reorganization proposals, budget revisions and distribution of appropriated funds, as the Commission may by law, including this Plan, be authorized to make."***

If a majority of the Commission believes that the Chairman is failing to operate in accordance with the internal commission procedures, what action do you

think commissioners should take? Do you believe legislation authorizing such action would provide clarity to such a situation?

ANSWER: Commissioners should make every effort to address this matter directly with the Chairman. In my view, legislation on this matter is not necessary and could undermine collegiality. Matters of this sort are best resolved within the Commission.

14. The NRC Inspector General issued a report *"NRC Chairman 's Unilateral Decision to Terminate NRCs Review of DOE Yucca Mountain Repository License Application"* on June 6, 2011 (2011 OIG Report):

> ***"OIG reviewed the Commissioners' voting process associated with SECY-10-0102 and learned that the Internal Commission Procedures were not followed relative to voting deadline, extension requests, or polling of other Commissioners to determine whether they agree with extension requests."***

And:

> ***"Although the notational voting process associated with SECY-10-0102 was complete as of October 29, 2010, as of the date of this report the Commission has not held an affirmation vote on the matter and the draft order continues to sit in deliberation before the Commission for affirmation."***

a. **Please indicate how long you believe a chairman or commissioner should be allowed to prevent an adjudicatory decision from being finalized.**

ANSWER: An individual commissioner or a chairman should not prevent an adjudicatory decision from being finalized if a majority of the commission has determined that a reasonable period for deliberation has been exhausted. In such cases, an adjudicatory decision should be finalized promptly. However, cases may vary considerably in their complexity and the amount of time necessary to reach a well-supported and well-articulated resolution. The current Internal Commission Procedures provide reasonable general deadlines and a reasonable process for extensions and consideration of differing views in arriving at a final position.

b. **Please describe what you believe would be the best mechanism to ensure Internal Commission Procedures are enforced.**

ANSWER: Specific adjudicatory cases vary in the time required for completion. In general, the existing procedures provide good mechanisms for finalizing adjudicatory voting matters. For instance, requests for an extension of the voting time for an adjudicatory paper or a delay in an affirmation in the vote on a matter may be granted only by a majority of the Commission.

c. **Please provide any other resolution to such a situation that you believe would be effective at ensuring adjudicatory decisions are not unnecessarily delayed.**

ANSWER: Legislative solutions would be one possibility but an inflexible deadline could affect the quality of the Commission's decision making.

15. Please describe any unintended consequences you believe H.R. 3132 presents. For each postulated consequence, please provide legislative language you believe would adequately mitigate it.

ANSWER: An effort to describe or estimate unintended consequences is likely to involve a large element of uncertainty. As a general matter, the Commission is currently working well in accomplishing its responsibilities in a collegial manner, and more detailed legislative directives, including requirements that the Commission promptly establish more detailed procedures in several areas, may unnecessarily affect collegiality and constrain the avenues for collegial resolution of issues.

In my view, reasonable concerns about the potential for unintended consequences are associated with a number of the proposals. For example, limiting or eliminating a Chairman's responsibility to present to the Commission budget estimates and proposals for the distribution of appropriated funds may adversely affect the timeliness of the submission of proposed budgets and limit the broad agency-wide perspectives that a Chairman can provide.

Another area of concern relates to some of the proposals regarding emergency powers. These include the proposed requirement that, "To the extent practicable, the Chairman shall consult with the full Commission on any regulatory or policy actions taken under an emergency" and the proposed requirement that the Commission shall establish procedures relating to the Commission's roles "during an emergency," including "(1) complete access to records and information relating to actions taken during the emergency; (2) complete access to Commission staff involved in the management of the emergency; (3) complete access to the location or locations where decisions are made during the emergency . . . ." Such provisions have the potential to limit the Chairman's ability to exercise emergency powers in a fully effective and efficient manner, consistent with lessons learned from Three Mile Island as reflected in the current law. It may also be unduly constraining to provide that the Chairman may only exercise emergency authority in the case of an "imminent threat . . . ." Circumstances will vary in whether they allow for a certain determination that a threat is imminent.

16. Please provide any other opinions you believe may further inform the Committee's consideration of H.R. 3132.

ANSWER: I have nothing further to offer at this time.

<u>The Honorable Cathy Castor</u>

1. During the hearing, I raised the issue of official international travel by the Commissioners. As I requested during the hearing, please provide an explanation of why your international travel is worth the taxpayer expense and time away from your responsibilities at the Commission.

ANSWER: International activities are an integral part of the NRC's work. Since the beginning of my tenure on the Commission in 2010, I have strived to execute my duties with the utmost respect for the responsibilities entrusted to me by the President and

Congress. Foreign travel has become an important part of a Commissioner's activities, particularly after the Fukushima accident. I have derived many benefits from my meetings with foreign regulators and technical experts, as well as from site visits to foreign nuclear facilities. Some specific benefits include collaborating with regulatory counterparts on the sharing of nuclear power plant operating experience and considerations for improving regulatory oversight. My overseas travels give me a first-hand appreciation of the many pressing issues that are affecting or will affect nuclear safety and security in the U.S.

I have had the opportunity to visit several international nuclear plant sites. For example, I toured one of the Swiss plants in which a filtered containment venting system had been installed. In addition, I visited the Fukushima Daiichi site last year. Nothing brings home the enormous challenges and complexities facing those dealing with the aftermath of the accident like being there.

The manufacture of nuclear parts and the provision of nuclear services have been significantly reduced in the U.S. for domestic nuclear power plant construction which has created a dependence on the global marketplace among U.S. nuclear power plant owners/operators. I have visited a number of manufacturing and research facilities where work is being done that will be directly applied in the U.S. In addition, my participation in international conferences and bilateral meetings enhances the NRC's influence with nuclear regulatory officials around the world.

While on international travel, I continue to conduct my domestic responsibilities as a Commissioner. I participate in voting on issues before the Commission and regularly interact with my staff via email and conference calls, even if this requires working at non-traditional hours. The Commission's work does not stop while I am away, whether on domestic or foreign travel. I assure you that my priority is on nuclear safety and security in the U.S.