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

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:

I appeared before the Subcommittee on Energy and Power and the Subcommittee on Environment and the Economy on July 24, 2012, along with my colleagues on the Commission. In response to your letter of August 23, 2012, enclosed please find my response to questions for the record from that hearing. If I can be of further assistance, please do not hesitate to contact me.

Sincerely,

Kristine L. Svinicki

Enclosure: 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 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?**

   As noted by Chairman Mcfarlane in her response on behalf of the Commission, 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.

   More specifically to your question, however, as I stated in my vote on SECY-12-0025, "Proposed Orders and Request for Information in Response to Lessons Learned from Japan's March 11, 2011, Great Tohoku Earthquake and Tsunami," I believe NRC has "been well-served by our disciplined approach to regulatory analysis" and "the Commission's actions regarding the consideration of cumulative effects of regulation and President Obama's Executive Orders on regulatory reform remind us that we should not . . . lose sight of the relative benefits and burdens of our regulatory actions. . . . I encourage the staff in future evaluation phases of the Fukushima lessons-learned effort to maintain a rigorous regulatory analysis process."

   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.**

   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.

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 [Commissioner Magwood] 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?**

   I will.

   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?**

   In response to voting paper SECY-11-0032, "Consideration of the Cumulative Effects of Regulation in the Rulemaking Process," the Commission directed the NRC staff to prepare a strategy to implement proposed process changes related to consideration of the cumulative effects of regulation and to submit this strategy for the Commission's review and approval in the last quarter of 2012. The strategy will include the NRC's proposed approaches for soliciting and considering stakeholder feedback on the cumulative effects of proposed regulations and for structuring proposed rule requirements and compliance timeframes appropriately, based on this feedback.

   If the Tier 2 and Tier 3 activities result in rulemaking, the process enhancements related to the cumulative effects of regulation will be directly applied. For those Tier 2 and Tier 3 activities that are other regulatory actions (i.e., other than rulemakings), cumulative effects of regulation will be considered indirectly.

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

   Throughout my service on the Commission, I have benefited from the rich, written record of prior votes by individual Commissioners, which exist as a result of the historical practice of written, notation voting at the NRC. Individual Commissioner's notation vote sheets, which in part serve to influence the thinking of fellow Commissioners, often provide extensive commentary on the issues for decision and the Commissioner's rationale for supporting or opposing a proposed action, in whole or in part. The written articulation of my colleague's thinking can prove particularly invaluable where the issues

are complex, the relative weight of factors affecting policy is not clear, and the choices are numerous. Often, voting matters before the Commission are an evolution of a previous voting matter. Access to the historical record of previous Commission deliberation can also provide diverse insights, as well as enhance continuity and stability in the consideration of regulatory issues.

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?**

   I believe I have, and pledge to continue to, adhere to the voting procedures in the Internal Commission Procedures and to work collegially to address any needed changes.

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.**

   The substantial revision of the Internal Commission Procedures, undertaken by the Commission in 2010, was intended to clarify and resolve ambiguities in the procedures as they existed before that time, with the aim of improving the flow of information and the Commission's overall collegial functioning. The Commission is still gaining operational experience in the use of the revised procedures under Chairman Mcfarlane's chairmanship and, I believe, would benefit from additional time prior to proposing further adjustment or modification to the procedures. The Secretary of the Commission is scheduled to propose any changes to the procedures, as part of a routine biennial review assigned to her office, in the summer of 2013.

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.**

   Although the current statutory framework is workable and not, in my view, in need of fundamental rework or revision, clarification to the definition and Congressional intent in

certain, narrow areas may promote the collegial functioning of the Commission. Areas which come to mind for further consideration include: 1) the supervisory relationship between the Chairman and the Executive Director for Operations; 2) the Chairman's authority to temporarily reassign officials serving in appointments approved by the Commission as a whole; 3) the Chairman's authority to appoint and rate the performance of the Chief Financial Officer; 4) the Commission's right to full and unfettered access to information already in existence within the agency; 5) the respective roles of the Chairman and the Commission in formulating and overseeing the execution of the agency's budget; 6) the role of the Chairman in formulating and proposing policy matters for the Commission's consideration; 7) the authority of the Chairman and Commission in determining the form in which a voting matter is taken up by the Commission; and 8) the authority of the Chairman in reviewing and determining the content of NRC staff proposals and recommendations to the Commission.

In the spring of 2013, the Commission will formally submit its biennial package of legislative proposals to NRC's authorizing committees in the Congress. I look forward to engaging with the other members of the Commission in developing and submitting proposals, in these or other areas we might mutually identify, next year.

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 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?

I believe government agencies should support the public good derived from a robust educational infrastructure, as well as supporting the development of the next generation of government employees, which in NRC's case, includes nuclear engineers. For these reasons, and others, I support NRC's involvement in the Integrated University Program.

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?**

In response to the tragic attacks of 9/11, the NRC took rapid action to impose enhanced security measures at nuclear facilities through the issuance of immediately effective orders. Requirements imposed through these orders were subsequently codified in agency regulations, via the rulemaking process. In a similar vein, NRC has taken actions to implement lessons-learned from the Fukushima accident, in a risk-prioritized fashion, through the issuance of orders and requests for information in March of this year. NRC's actions include both near-term and longer term actions, which support the timely implementation of our regulatory response to lessons-learned from the Fukushima accident. The NRC will continue to balance the use of available resources to address lessons-learned from the Fukushima event with its 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.

April 19, 2013

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:

I appeared before the Subcommittee on Energy and Power and the Subcommittee on Environment and the Economy of the Committee on Energy and Commerce on February 28, 2013, at an oversight hearing entitled, "The Nuclear Regulatory Commission: Policy and Governance Challenges," along with my colleagues on the Commission. In response to your letter of March 22, 2013, enclosed please find my responses to questions for the record, directed to me, from that hearing.

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

Sincerely,

/RA/

Kristine L. Svinicki

Enclosure: As stated

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

The Honorable Paul Tonko
Ranking Member
Subcommittee on Environment
and the Economy

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Member Requests for the Record from Representative Jerry McNerney

QUESTION 1 **Small Modular Reactors (SMRs) – how long might it take for a competent power producer to get a license for a SMR?**

ANSWER:

For planning purposes, the NRC assumes that it would take a minimum of 30 months after an application is accepted for docketing for the agency to reach a licensing decision. The ability to meet this timeline would be dependent on many factors, including: the licensing process chosen by the applicant (10 CFR Part 50 or Part 52); whether the applicant is referencing a design previously certified by the NRC; the completeness and quality of the license application; and the applicant's responsiveness to NRC requests for additional information. Other factors that could lengthen the time it takes to complete the review of an application, which are separate from the application itself, include the NRC's ability to staff and resource its review, and the degree to which the application presents novel aspects that have not been previously considered by the NRC. This last point, in particular, could have the largest impact on the review schedule of an application incorporating a first-of-a-kind plant design.

QUESTION 2 **Are there any foundries in the United States capable of producing the containment vessels for these reactors?**

ANSWER:

Based on information provided by the NRC staff, it is my understanding that Lehigh Heavy Forge Corporation, in Bethlehem, Pennsylvania, is capable of producing the vessel for an SMR. If there are other fabricators with this capability, they have not yet been identified to the NRC staff.

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) 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) The Commission will consider the safety benefit of any future post-Fukushima actions, including any cost/benefit and backfit analyses required by NRC regulations. Additionally, actions planned or taken will be accounted for in future decisions.

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 and 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 the 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 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. However, impacts from budget sequestration, which result in 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 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, 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) The 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.

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 the Congress on August 22, 2012.

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 removal of the spent nuclear fuel from the reactor. The NRC staff selected the long period for analytical purposes 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, 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, for example, 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 report "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) The Commission, in its staff requirements memorandum of September 6, 2012, directed the NRC staff to adopt or incorporate by reference, as appropriate, all or part of other agencies' EISs. A specific example given by the Commission was the Yucca Mountain Environmental Impact Statement "no-action" alternative.

Questions from Representative Doris O. Matsui

QUESTION 1

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.

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. 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 DOE report "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.

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 DOE report "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. NRC's responsibility is independent licensing, regulation, and oversight of interim storage facilities. NRC is not responsible for site selection, but will consider the suitability of a 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.

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.

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. 20555-0001

COMMISSIONER

February 11, 2014

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:

I appeared before the Subcommittee on Energy and Power and the Subcommittee on Environment and the Economy of the Committee on Energy and Commerce on December 12, 2013, at a hearing entitled, "Oversight of NRC Management and the Need for Legislative Reform," along with my colleagues on the Commission. In response to your letter of January 15, 2014, enclosed please find my responses to questions for the record, directed to me, from that hearing.

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

Sincerely,

Kristine L. Svinicki

Enclosure: As stated

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

The Honorable Paul Tonko
Ranking Member
Subcommittee on Environment
and the Economy

C3

Questions from Representative Ed Whitfield

QUESTION 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 reports shows 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 decreased workload, a shrinking fleet, and improving industry safety performance.**

ANSWER.
As a member of the Commission, I participate in deliberations on the agency's annual budget request and subsequent oversight of its execution, with the objective of ensuring that 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 Program and the Nuclear Materials and Waste Safety Program. This includes the anticipated number of licensees, as well as the number and complexity of anticipated license applications and other licensing actions. 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 and makes adjustments based on current information. Lastly, in the year of budget execution, the agency adjusts resources commensurate with the level of work currently before it.

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

ANSWER.
Over the last few years, the agency has made improvements to its budgeting processes. Most recently, the NRC adopted a baseline budgeting approach for the development of the Fiscal Year 2015 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. The agency should continue these processes to ensure the most effective and efficient application of resources.

Questions from Representative John Shimkus

QUESTION 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 informed by the agency's legal counsel that the court's decision does not compel the NRC to request additional funding from the Nuclear Waste Fund. As an individual member of the Commission, however, I have supported the agency's development of a budget estimate of the costs to fully resume the Yucca Mountain application review, including the associated adjudicatory proceeding. I have and will continue to deliberate with my fellow Commissioners on the question of seeking supplemental or routine appropriations for this purpose in the course of our ongoing budget formulation, a matter upon which we act as a collegial body.

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.
As an individual member of the Commission, I have supported the agency's development of a budget estimate of the costs to fully resume the Yucca Mountain application review, including the associated adjudicatory proceeding. I have and will continue to deliberate with my fellow Commissioners on the question of seeking supplemental or routine appropriations for this purpose in the course of our ongoing budget formulation, a matter upon which we act as a collegial body.

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.
No. The "waste confidence" rulemaking that the Commission has underway seeks to adopt the Commission's generic assessment of the environmental impact of several scenarios, including the need for continued storage of spent fuel at reactor sites for an indefinite period of time due to continued uncertainty concerning the licensing and construction of a repository. Although the NRC staff is currently considering and developing responses to the comments received on the generic environmental impact statement (GEIS), NRC's analysis supports the view that not only is it 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, without regard to whether additional funds for the licensing process are sought or received.

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.
As a part of actions taken in response to the writ of mandamus, the Commission directed the staff to work on completion of the Safety Evaluation Report volumes concurrently, but to release each volume upon its completion. The Commission noted that such serial release, in addition to other benefits, would enhance agency transparency.

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 1 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:
The Commission continues to review and deliberate on the staff's recommendation in this matter. Respecting the fact that our ongoing collegial deliberation is not yet concluded, I am not able to comment specifically but will note that my individual vote and accompanying views will be released to the public on the agency's website, upon completion of the Commission's decision-making process.

I will note as a general matter, however, that during my tenure as a member of the Commission I have had occasion to disapprove a staff recommendation to the Commission, in whole or in part. Such disapprovals have arisen or may arise in the future not from any doubt about the staff's professionalism and competency, but rather from my role as an independent decision maker, who may weigh the facts or factors bearing on the matter differently than the staff.

Questions from Representative Joe Barton

QUESTION 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.
The staff's comparison report was limited in scope and was based solely on documents publicly available, in English, resulting in limitations in the number and breadth of insights provided by the report. That said, I do not have a basis to disagree with or take exception to the report's findings.

b. The authors of the report acknowledge 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.
On the whole, I have supported the NRC's regulatory response and regulatory actions taken in response to Tier 1 priorities, i.e., those related to preventing or mitigating the types of conditions that contributed to core damage and the release of radioactive materials following the earthquake and tsunami in Japan. I assess these regulatory actions to be appropriate in light of their clear and evident relationship to the accident sequence in Japan. It cannot be dismissed, however, that a more comprehensive regulatory comparison – if one were conducted – could have some bearing on or provide insights into determining the appropriate regulatory response to items less directly related to the accident sequence or that the NRC has binned into lower priority tiers.

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

ANSWER.
As the publicly available voting records show, I advocated for a more comprehensive regulatory comparison to be conducted but failed to secure the support of a Commission majority for undertaking a more comprehensive review. The Commission majority would best be able to identify those areas deemed not to merit further analysis.

The Commission did support, however, the limited comparison referred to in your question, and I believe this analysis, albeit limited, has been beneficial to the agency's work. 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, among others. The NRC staff has identified examples of technical areas that were not directly related to the sequence of events and therefore not included in the comparison. They include fire protection, security, and design basis accidents (e.g., losses of heat removal or inventory with AC power available).

Questions from Representative Lee Terry

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

ANSWER.
At the time of the hearing, the Commission as a body had not been solicited for a Commission position on H.R. 3132. Consequently, I had not engaged in deliberations with Chairman Macfarlane, or any other of my colleagues, to solicit individual or a possible consensus view in advance of my appearance on December 12, 2013.

QUESTION 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 support the goal of H.R. 3132, which I understand to be clarification of certain provisions of the Reorganization Plan No. 1 of 1980 and codification of other, existing provisions. I stand ready to answer questions or lend whatever insights I may have regarding the underlying provisions if this would be of use in the Committee's work on this matter.

QUESTION 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.
Yes, a Chairman who begins exercising emergency authority should declare that he or she is doing so.

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

ANSWER.
A Chairman should be allowed to exercise emergency authority during the pendency of an emergency which has necessitated the declaration, until the circumstances necessitating the declaration are relieved or ameliorated. I believe this to be consistent with President Carter's statement, which I interpret to correspond, in general terms, to the United States' national response framework, which envisions a stepwise restoration of governance norms, as an emergency stabilizes and is brought under control.

QUESTION 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:
In general, an NRC Chairman's use of emergency authority should be limited to events and actions under the legal span of regulatory authority of the NRC. Although the NRC as an agency may be called upon to provide its expert consultation and advice in response to, for example, a nuclear emergency in a bordering country with cross border effects, based upon my understanding of our current national response framework, the NRC Chairman would not direct the response to such an event for the U.S. government as a whole.

QUESTION 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.
I do not believe such a notification need be burdensome. As noted in the question, the Executive Team and Operations Center provide a Chairman leading a response with extensive resources and support.

QUESTION 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.
Clear and understandable procedures are important to emergency preparedness and response. The Commission now has under deliberation a revision to its internal procedures to conform the procedures to the provision enacted by Congress in the Consolidated Appropriations Act, 2014, Pub. L. No. 113-76, § 402, 128 Stat. 5, 182-183 (2014), requiring the NRC Chairman to provide notification to the Commission and Congress within one day after beginning to exercise emergency authority. This procedure will be posted to the agency's website when revisions are complete.

QUESTION 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.
Under the provision enacted by Congress in the Consolidated Appropriations Act, 2014, Pub. L. No. 113-76, § 402, 128 Stat. 5, 182-183 (2014), the NRC Chairman will provide notification to the Commission and Congress within one day after beginning to exercise emergency authority. Given the extensive resources available to a Chairman responding to an emergency from both the Executive Team and the Operations Center, this notification need not be burdensome and could likely be completed well before the 24 hours expire.

QUESTION 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, during an emergency, the Office of Public Affairs would be involved in the process of notifying the public about the emergency, under the Chairman's direction.

QUESTION 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 Commission now has under deliberation a revision to its internal procedures to conform the procedures to the provision enacted by Congress in the Consolidated Appropriations Act, 2014, Pub. L. No. 113-76, § 402, 128 Stat. 5, 182-183 (2014), requiring the NRC Chairman to provide notification to the Commission and Congress within one day after beginning to exercise emergency authority. This procedure will be posted to the agency's website when revisions are complete. The NRC Operations Center already has procedures in place to keep each Commissioner office notified of significant events on a continuous basis. Such notifications generally occur well within 24 hours of an event and there should be no reason similar notifications could not be made directly to the Commissioners should the Chairman determine that there is a need to exercise emergency authority.

QUESTION 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.
The new Appropriations Act requires notification to Congress within one day after the Chairman commences exercise of emergency authority. The Office of Congressional Affairs would likely be involved in the process of complying with this requirement.

QUESTION 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.
Pre-planned notifications would be an efficient option to ensure timeliness and efficiency of notifications.

QUESTION 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.

As a practical matter, the Commission must have a common base text to review, deliberate, and vote on, in order to advance the timely and efficient formulation of an agency budget. Historically, this base text has come in the form of a Chairman's budget proposal which is subsequently reviewed and voted on by the other four members of the Commission. At bottom, however, a budget proposal developed by the agency's senior career leadership and delivered to all five members of the Commission for review and approval would serve the same purpose and would arguably be no different than the host of other administrative proposals, including budget adjustments, the Commission receives from the staff and votes on over the course of the year. The core principle to be preserved in the budget development process is the principle that each member "shall have one vote." I have concerns about any process which would permit Chairmen to vote on their own budget proposals (which come in the form of a COM and therefore constitute a vote under Commission procedure). This would seem, while perhaps not technically improper, to offend the spirit of "one member, one vote."

QUESTION 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 the 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 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 take an appropriate and measured response that they believe has the best chance of resolving the issue, based on the facts at hand. The effort of any deliberative group to work in collegial accord with one another is a fragile endeavor, even in the best of times. It has been my observation that Commissioners approach their obligations to the agency, to the Nation, and to the integrity of their public office in a grave and solemn manner. While they may struggle for a time and deliberate among themselves in arriving at what they believe to be the most appropriate mechanism and degree of response to a disagreement with their Chairman, it may nevertheless be most beneficial to preserve their freedom to act in accordance with the facts of any specific matter, as it arises, without legislating specific responses.

QUESTION 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 relative to voting deadlines, 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.
The Commission seeks to provide meaningful hearing opportunities to the public, while at the same time providing license applicants a prompt resolution of adjudicatory disputes concerning their applications. The time needed for the Commission's consideration and resolution of an adjudicatory matter will vary and will be informed by a number of factors, including the nature of the legal, factual, and/or policy issues that must be decided. These issues may vary in number and in legal and technical complexity. With this in mind, the Commission's rules of procedure in 10 C.F.R. Part 2 provide broad latitude for the Commission to take action as a collegial body in individual proceedings, to ensure prompt and effective resolution of matters set for adjudication.

As to the Commission's internal decision-making process, the Internal Commission Procedures provide that Commissioners' votes on Commission papers – including adjudicatory papers – are normally requested in 10 business days. The procedures 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 circulate additional or dissenting 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. In sum, the procedures provide a comprehensive, clear process to guide Commission action on adjudicatory matters, and 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.

QUESTION 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.
I have no other general considerations regarding H.R. 3132 to submit at this time.

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

ANSWER.
I have no other opinions on H.R. 3132 to convey at this time.

Question from Representative Cathy Castor

QUESTION 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 expense and time away from your responsibilities at the Commission.**

ANSWER.
International activities are an integral part of the NRC's work and are managed in a manner consistent with the NRC's domestic organizational and programmatic priorities. The Commission's foreign travel is a reflection of the importance of engagement with international counterparts to advance the goals of nuclear safety and security shared by the United States and many other countries around the world. In addition, Commissioners collaborate with regulatory authorities of other nations regarding NRC's authority for import and export approvals for nuclear materials and equipment, coordinate on safeguards and nonproliferation matters, and carry out the body of work necessary to support the United States' obligations as a party to certain international conventions and treaties.

In the last fifteen years, several events have significantly changed the landscape within which NRC conducts its domestic and international activities. These events include the terrorist attacks of September 11, 2001, and the subsequent focus on securing radioactive materials of concern; the restart of new build for commercial power plants in the United States and abroad, including the significant number of "new entrant" countries seeking nuclear power programs; and the March 2011 Fukushima-Daiichi accident following the Tōhoku earthquake and tsunami. In addition, the manufacture of nuclear parts and the provision of nuclear services have been significantly reduced in the United States for domestic nuclear power plant construction and servicing, which has created a dependence on the global marketplace among U.S. nuclear power plant owners/operators.

A part of this trend has been the increased visibility of international standards and international peer reviews, as well as a focus on strengthening and harmonizing the international import-export regime. The Commission is best able to influence, and learn from, these international developments by traveling internationally and bringing to bear insights gained from international activities. The advancement of these priorities by Commissioners themselves often results in greater responsiveness and higher levels of participation by the government of the country being visited. While the NRC is an independent agency, it is still the expert voice on nuclear safety and security regulation for the United States. For that reason, Commissioner participation in international fora is frequently encouraged by NRC's counterparts in the U.S. Departments of State and Energy, as well as by U.S. diplomats and representatives in-country, for the purpose of advancing these goals.

While on international travel, Commissioners make use of communications technology to continue to conduct their domestic responsibilities by staying in touch with colleagues and staff. The Commission's procedures also allow for voting remotely. Consequently, the Commission's work need not be interrupted while a member is absent.