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U.S.NRC
United States Nuclear Regulatory Commission
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AUTHOR: REP Fred Upton, et al.

AFFILIATION: CONG

ADDRESSEE: CHRM Allison Macfarlane

SUBJECT: Provides questions of concern relating to the ongoing regulatory process and to request additional information

ACTION: Signature of Chairman

DISTRIBUTION: RF, OCA to Ack.

LETTER DATE: 01/15/2013

ACKNOWLEDGED No

SPECIAL HANDLING: Commission Correspondence.
A response is requested by Monday, 2/11.

NOTES:

FILE LOCATION: ADAMS

DATE DUE: 02/01/2013 **DATE SIGNED:**

FRED UPTON
CHAIRMAN

HENRY A. WAXMAN
RANKING MEMBER

ONE HUNDRED THIRTEENTH CONGRESS

Congress of the United States

House of Representatives

COMMITTEE ON ENERGY AND COMMERCE

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January 15, 2013

The Honorable Allison M. Macfarlane
Chairman
U.S. Nuclear Regulatory Commission
11555 Rockville Pike
Rockville, MD 20852

Dear Chairman Macfarlane:

On March 11, 2011, Japan suffered a massive earthquake and tsunami that led to the meltdown of three nuclear reactors at its Fukushima Daiichi plant. Since that time, the U.S. Nuclear Regulatory Commission (NRC) has devoted significant attention and resources to understanding and responding to that accident. While we have supported the NRC's progress on post-Fukushima regulations to date, we write to outline specific concerns relating to the ongoing regulatory process and to request additional information. We believe that it is critical that the Commission fully and rigorously analyze all proposed changes in an integrated manner, taking into account the safety benefits embedded in the actions already taken, and consider any pending and future changes against this new, higher level of safety.

Background

On March 23, 2011, the Commission directed the staff to begin both short-term and long-term reviews of the potential lessons to be learned from the Fukushima accident. The short-term review was to explore any near-term deficiencies and recommend actions that could quickly be taken to address safety issues highlighted by the Fukushima accident. This Near-Term Task Force produced a report: *"Recommendations for Enhancing Nuclear Safety in the 21st Century."* The Commission then voted to subject that report's conclusions to public comment and broader staff review including prioritization. To address the need for a longer-term, more systematic and methodical review, the Commission directed the creation of a senior-level steering committee and NRC management established the Japan Lessons Learned Project Directorate to continue the

work. On March 9, 2012, in response to recommendations by the Project Directorate, the Commission issued three orders and three requests for information, a precursor to regulatory action, and initiated two rulemaking efforts.

During the Committee on Energy and Commerce hearing with the Commission last July, Members on the Committee urged you to consider the cumulative impacts of NRC's actions in connection with the post-Fukushima response and other matters. In particular, concerns were raised about the agency's departure from rigorous technical and cost-benefit analysis. Yet as the Commission readies itself to take additional actions concerning "Tier One" recommendations (post-Fukushima items of highest priority), it appears that the NRC may be discarding the disciplined processes that for years have ensured that reactor safety is rooted in performance-based regulation, appropriately recognizing each nuclear plant is different. It also appears that the Commission is considering some issues on an independent basis without considering how those issues impact other matters currently pending before the Commission and previous NRC actions that are already being implemented by the industry. This suggests the Commission views the cumulative impact[s] of its actions as merely a cursory scheduling challenge, and ignores the serious risk that piecemeal consideration of related issues may yield unintended consequences.

The Need to Consider Regulatory Differences

> *"We should not assume that a similarly situated U.S. plant under similar conditions would have necessarily suffered the same fate as Fukushima. Nor should we assume that a U.S. nuclear power plant would have been permitted to operate as situated and configured as was Fukushima Daiichi in the first place."*
> *--Commissioner William Magwood*
> *SECY 12-0025: February 29, 2012*

> *"What must be admitted – very painfully – is that this was a disaster 'Made in Japan.' Its fundamental causes are to be found in the ingrained conventions of Japanese culture: our reflexive obedience; our reluctance to question authority; our devotion to 'sticking with the program'; our groupism; and our insularity. Had other Japanese been in the shoes of those who bear responsibility for this accident, the result may well have been the same."*
> *-- The Official Report of the Fukushima Nuclear Accident Independent Investigation Commission*
> *National Diet of Japan*
> *July 5, 2012*

The regulatory requirements imposed on the nuclear industry in the United States are unquestionably different from those that exist in Japan. In trying to answer the question of whether a Fukushima-like accident can happen here, it is important to examine what protections existed at Fukushima, which protections failed, any gaps in those protections, and, most importantly, whether those gaps in protection exist in the U.S. To have a sound basis for regulatory changes in response to Fukushima, it is essential that proposed regulatory changes be informed by a comparison of U.S. and Japanese regulatory requirements. As Commissioner Svinicki wrote in her vote on SECY 11-0093, "Without this comparison, NRC's post-Fukushima

response will lack a strong basis for determining the adequacy of, or strengthening where necessary, the U.S. nuclear regulatory framework."

In fact, the National Diet of Japan's report expressly contrasted the Japanese regulator's shortcomings with the NRC's robust and deliberate practices and requirements. The Diet report observed that unlike the United States, the Japanese regulator did not require the plants to consider the potential for a station blackout scenario as instituted by the NRC beginning in the 1980s. The Diet report also concluded that the defense-in-depth philosophy, which is an integral part of the NRC's approach to regulation, has "not been fully considered" in Japan. Additionally, the Diet report noted that if the Japanese regulator had required measures similar to the NRC's B.5.b rules (instituted after 9/11), the Fukushima accident "may have been preventable."

Despite the Diet report's candid assessment of regulatory differences that exist between Japan and the U.S., the NRC has not pursued a comparison of the relevant regulatory differences between Japan and the U.S. We find this failure to be troubling both from a perspective of regulatory soundness and public confidence. In this vacuum, the Fukushima accident remains a justification for regulatory actions that have already been taken and many yet to be considered without a discernible endpoint to the agency's post-Fukushima deliberations. Failing to examine the distinctions between the Japanese and U.S. regulatory systems also fosters a public misapprehension that the systems are similar and we face the same risk of a Fukushima-like disaster. Both of these dynamics undermine public confidence in the agency and in the safety of our nuclear plants.

We further note that such a comparison must be guided by first principles of the NRC's mission. In the Atomic Energy Act, Congress declared that nuclear energy should "make the maximum contribution to the general welfare (Section 1(a))" which recognizes nuclear energy's vital role in contributing to our nation's energy security. In choosing such language, Congress endeavored to balance the benefits of nuclear energy with protection of public health and safety. Our goal as legislators and yours as regulators should be to preserve that balance.

Need for Rigorous Technical and Cost-Benefit Analysis

> *"...the post-TMI review considered a number of actions that were proposed for general safety enhancement rather than being directed at specific safety weaknesses revealed by the TMI accident. As a result, some of the actions taken by the NRC after TMI were not subjected to a structured review and were subsequently not found to be of substantial safety benefit and were removed."*
>
> *--The Near-Term Task Force Review of Insights from the Fukushima Dai-ichi Accident*
> *U.S. Nuclear Regulatory Commission*

> *"We do not support Option 3, Filtered Vents, as the sole course of action. We prefer Option 4 which allows more scope for innovation and may result in more effective solutions. We recognize that installation of an external filter may be one acceptable outcome of Option 4."*

--Advisory Committee on Reactor Safeguards
Nuclear Regulatory Commission
Letter to Chairman Macfarlane: Nov. 8, 2012

It is in the nature of any regulatory body to issue regulations and the NRC is no exception. However, more regulation is not always safer, sometimes it is just "more." The NRC's reliance on thorough technical and cost-benefit analysis has historically provided a basis for distinguishing between safety-significant regulatory changes and unnecessary regulatory burdens. The agency's reputation as the gold standard for nuclear regulation is due in no small part to its deliberate, systematic approach.

Since the Fukushima accident, the NRC has repeatedly indicated that our nuclear plants are safe and post-Fukushima regulatory changes are often represented as "safety enhancements," including in testimony before our Committee last July. We note that, although U.S. plants are considered safe, the scope of the post-Fukushima "safety enhancements" under consideration has grown to include at least 40 enhancements.

With respect to these enhancements, we have particular concern about the potential requirement to install "filtered vents" for certain boiling water reactors which we understand to be significant, capital-intensive structures. As instructed by the Commission, the NRC staff has proposed four potential options but urged the Commission to choose "Option 3." Under this option, the Commission would issue an order requiring the installation of filtered vents rather than pursuing a performance-based process. Our understanding is that the staff recommendation is not based on the need for adequate protection as specified in Section 182(a) of the Atomic Energy Act, as is the practice for such orders, and would effectively prevent this regulatory change from being subject to a legal challenge based on its failure to meet cost-benefit requirements. Such an approach would set a new precedent by indirectly redefining the adequate protection standard.

In his October 31, 2011, vote on SECY 11-0137, *"Prioritization of Recommended Actions to be Taken in Response to Fukushima Lessons Learned,"* Commissioner Ostendorff cautioned:

> "...I note that the staff has proposed 'to initiate actions on the NTTF recommendations under the premise of assuring or redefining the level of protection of public health and safety that should be regarded as adequate in accordance with the backfit rule.' In the absence of a ***fully developed justification*** for a proposed new requirement, I find it premature at this time to cast judgment on adequate protection as the basis. In my view, decisions on adequate protection are among the most significant policy decisions entrusted to the Commission and are not impulsive 'go or no-go' choices." (***emphasis added***).

We strongly agree and observe that the "fully developed justification" Commissioner Ostendorff referenced remains absent. To move forward on a poorly justified, precedent-setting proposal like Option 3 would be a disturbing erosion of the NRC's historically disciplined standard of adequate protection.

Moreover, cost-benefit concerns have been raised by the NRC's own Advisory Committee on Reactor Safeguards (ACRS), a Congressionally-mandated panel of experts, which noted that the NRC staff recommendation on filtered vents was "not justified by risk-informed cost-benefit analyses" (Nov. 8, 2012, ACRS letter to Chairman Macfarlane). In addition, the ACRS also stated:

> "The staff has taken only limited steps to develop potential performance measures and other elements of a performance-based approach. In the development of a performance-based approach to a filtering strategy, it is important to consider the potential for unintended negative consequences. In addition to the effectiveness of a filtering strategy in preventing radioactive materials from being released from the containment, there are other characteristics of a performance-based approach that we think are important in reducing the likelihood of unintended negative consequences."

Further, the nuclear industry has noted that "No strategy has been identified where an external filter alone would successfully mitigate releases." (October 5, 2012, letter from Joseph Pollock, Nuclear Energy Institute (NEI), to David Skeen, NRC Japan Lessons Learned Project Directorate) In this letter NEI went on to observe that containment filtering strategies to mitigate radioactive releases are broader than just the implementation of external filtered vents and include water injection, containment sprays, controlled venting, and combinations of all these actions. Lastly, the NEI letter indicates there is a need for integration of several of the regulatory changes underway at the NRC:

> "As the industry is implementing the Tier 1 post-Fukushima requirements, safety enhancements are not being delayed. Therefore, there is time to gauge the impact of the Tier 1 actions and learn the lessons from their implementation. There are four matters the NRC is considering concurrently that are directly related to each other through potential off-site effects of severe events: Near-Term Task Force Recommendation 1 about beyond design-basis regulation, Risk-Management Task Force Report, economic consequences of land contamination, and filtered containment venting systems. Each of these four major efforts has the potential to alter in a significant manner all or important parts of the way NRC regulates nuclear power plants. The NRC should consider these matters as one and develop a consistent direction. This would avoid Commission decisions on each matter made in isolation from the others. This would allow for synergistic decision making that would benefit each matter by avoiding overlap and the potential for conflicting decisions."

The views expressed by the ACRS and the industry indicate that the NRC staff recommendation of a "one-size-fits-all" approach requiring the installation of filtered vents is not cost-beneficial and risks unintended consequences. We are further concerned to learn that the costs used in that test only reflected a portion of the true costs attributable to filtered vents, a fact that makes the failure of the cost-benefit analysis all the more striking.

We understand that the NRC may find itself under pressure to implement all possible post-Fukushima actions regardless of whether there is a sound technical basis or whether there has been a rigorous cost-benefit analysis. However, it is important for the Commission to take fully into account the significant safety benefits of the regulatory requirements issued in March

2011 as it considers the issues currently pending before it. The NRC should assess the new level of safety achieved with those actions and analyze any future actions in an integrated manner against that new benchmark.

We strongly encourage the NRC to adhere to its historic practice of rigorous technical and cost-benefit analysis. Without disciplined processes, there is no objective basis for distinguishing items of significant safety benefit from ideas that merely sound good. When proposals fail a cost-benefit analysis, regulators should not abandon technical rigor in favor of subjective, qualitative factors to justify one-size-fits-all regulatory changes. Rigorous technical bases encourage regulatory stability and give the agency, the public, and licensees confidence that the NRC is pursuing justified, defensible safety improvements.

Regulatory Burden Matters

> *"...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, in cases like this one, lose sight of the relative benefits and burdens of our regulatory actions."*
>
> *--Commissioner Kristine Svinicki*
> *SECY 12-0025: March 2, 2012*

> *"Regulatory activities should be consistent with the degree of risk reduction they achieve. Where several effective alternatives are available, the option which minimizes the use of resources should be adopted."*
>
> *--Principles of Good Regulation: Efficiency*
> *Nuclear Regulatory Commission*

Nuclear energy production is a business like any other, subject to the challenges of the marketplace. Like many other industries impacted by the economic downturn, those challenges have become particularly acute. As you are aware, Dominion recently announced plans to close the Kewaunee plant in Wisconsin for economic reasons. Shortly after, Exelon warned that it might close the Oyster Creek plant prematurely if it requires any significant unplanned capital expenditures. Speculation about additional early retirements continues in the press.

The closure of a nuclear plant has consequences. When Kewaunee closes, not only will Wisconsin lose 556 megawatts of electricity, but 665 employees will lose their jobs. An article in the *Green Bay Gazette* indicated that the plant makes up approximately 13.4 percent of the employment in Kewaunee County and 30.3 percent of the county's revenue. The disruption will be profound. The *Marshfield News-Herald* wrote: "Wages and salaries are good and support many families in the region. The human toll will last far longer than the immediate impact of missed energy production that results from the closure."

As it considers regulatory changes that may result in significant costs, the Commission must recognize that it has a duty to thoroughly scrutinize the costs and benefits of any changes. If strong economic headwinds force the premature closure of nuclear plants, increased regulatory burden will likely increase the number of nuclear plants prematurely closed. It is incumbent on

the Commission, in light of its statutory mission, to recognize that its decisions may result in that outcome and proceed in a deliberate, thoughtful manner. Market forces do not absolve the NRC of its responsibility for ensuring that the safety significance of new requirements is sufficient to warrant any additional regulatory burden.

Conclusion

In the 112th Congress, this Committee focused significant attention on the combined effect that many substantial EPA regulations have had on our nation's coal plants. As indicated in our July 24, 2012, hearing, we are similarly concerned about the potential cumulative impact of numerous post-Fukushima and other regulatory changes on our nation's nuclear plants.

We appreciate the difficulty that you face in light of competing and conflicting viewpoints, incomplete information, and a lack of decisions in matters related to those that come before you. However, a piecemeal approach of deciding the filtered vent issue in isolation, while potentially eroding the adequate protection standard is in our opinion not appropriate. To the contrary, we urge the Commission to take the time necessary to follow a disciplined, integrated, performance-based approach that reflects safety benefits already under implementation. Union of Concerned Scientists Director David Lochbaum dismissed criticism that the NRC is taking too long to roll out its new rules when he said the agency is striking the right balance. "The NRC has been criticized by some for the pace of the response," he said. "I'd rather take the time to get it right." (*Greenwire*, 10-31-12).

To assist the Committee in its continuing oversight, a list of questions and a request for additional information and documents is attached. Please respond no later than February11, 2013. Should you have any questions, please contact Annie Caputo of the Committee staff at (202) 225-2927.

Sincerely,

Fred Upton
Chairman

Joe Barton
Chairman Emeritus

cc: The Honorable Henry A. Waxman

The Honorable Kristine L. Svinicki, Commissioner
The Honorable George Apostolakis, Commissioner
The Honorable William D. Magwood, IV, Commissioner
The Honorable William C. Ostendorff, Commissioner

REQUESTS FOR ADDITIONAL INFORMATION

1. When will the Commission conduct a full review of the regulatory differences between the U.S. and Japan that existed at the time of the accident?

   a. Please describe how Japan's utilization of the "defense-in-depth" philosophy prior to the Fukushima accident differs from the NRC's.

   b. Please describe how a fuller implementation by Japanese regulators of "defense-in-depth" philosophy might have altered the outcome of the Fukushima accident.

2. Has the NRC reviewed the potential cumulative impacts of its post-Fukushima actions and proposals on licensees? If so, please provide any such reviews.

3. Please provide a list of all proposed post-Fukushima actions that have been evaluated by the NRC, found lacking in safety significance, and eliminated from further consideration.

4. Please describe the NRC staff's rationale for recommending a deterministic approach on the issue of filtered vents rather than:

   a. The performance-based approach utilized by the Canadian Nuclear Safety Commission to address the very same issue of filtered vents; or,

   b. The performance-based approach used by the NRC to address the flooding and seismic issues.

5. Please explain how the Commission's vote on the filtered vents issue may set a new precedent by altering the NRC's definition of "adequate protection."

6. During the January 9, 2012, Commission meeting with stakeholders and agency staff on the issue of filtered vents, there was discussion of cost estimates and, in some cases, the lack of detailed cost estimates.

   a. Explain whether or not the Commission believes it is sufficient for staff to provide only vendor estimates of a filtered vent exclusive of site variability and the costs of analyzing, preparing, installing, testing, personnel training, building structures and support systems to fully incorporate such vents.

   b. Does the Commission agree that, if the costs the staff did <u>not</u> consider are included, the proposed Option 3 will fail to meet cost-benefit analyses by an even greater margin?

List of Signatories

Page 7:

Fred Upton, Chairman
Marsha Blackburn
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Phil Gingrey
Joe Barton, Chairman Emeritus
John Shimkus
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Page 8:

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