

**NOTATION VOTE**

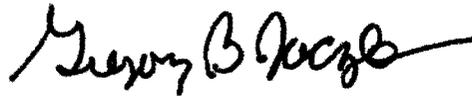
**RESPONSE SHEET**

**TO:** Annette Vietti-Cook, Secretary  
**FROM:** Chairman Gregory B. Jaczko  
**SUBJECT:** SECY-11-0093 – NEAR-TERM REPORT AND  
RECOMMENDATIONS FOR AGENCY ACTIONS  
FOLLOWING THE EVENTS IN JAPAN

Approved  X  Disapproved   Abstain

Not Participating

**COMMENTS:** Below   Attached  X  None



\_\_\_\_\_  
SIGNATURE

8/9/2011

\_\_\_\_\_  
DATE

Entered on "STARS" Yes  X  No

**Chairman Jaczko's comments on SECY-11-0093  
"Near-Term Report and Recommendations for Agency Actions Following  
the Events in Japan"**

Over the years, I have cast many votes on issues that have had impacts - some minor, some major - on the course of nuclear regulation. The votes the Commission will cast on the Task Force report's recommendations will have impacts for a very different reason. In this case, the Commission is reacting to a real accident at a plant with a design similar to designs licensed and built in the United States. Not since the Three Mile Island plant accident has the Commission had such a significant task. At the same time the Commission is addressing these issues, it is also on the verge of making final decisions on several design certifications and combined license applications for reactors that may actually be built if licensed. These are both tasks the agency has not confronted for decades.

To address the first challenge, the Commission established a process of in-depth study by a dedicated group of NRC staff members to proceed in two phases. The first phase, the matter presently in front of the Commission, was to be completed in 90 days to learn if there were immediate actions that should be taken based on information available now, and given the short time frame, was to be independent of industry efforts. The second phase was to be completed in six months and started near the end of the 90 day review effort, but ultimately when additional and final lessons from the Fukushima Dai-ichi accident were developed.

On July 12, the Task Force completed its report and made it available to the public. I thank Dr. Charles Miller and the other members of the Task Force for all their work in conducting the near-term review. The report's analysis and recommendations reflect their experience, expertise, and commitment to nuclear safety. I would also like to acknowledge Chuck Casto, who has tirelessly worked in Japan, the hundreds of dedicated employees who staffed the operations center around the clock, as well as many others, both here and abroad, who served the agency, our country, and the Japanese people, since the accident occurred. Additionally, I note the many other NRC staff who supported this review, as well as the Federal Emergency Management Agency, the Institute for Nuclear Power Operations, the Environmental Protection Agency and other groups and individuals who shared their views with the Task Force.

In laying out a Regulatory Framework for the 21<sup>st</sup> Century, the Commission's Task Force developed a comprehensive set of 12 recommendations it believed are needed to strengthen nuclear safety. In developing their report and recommendations, the members of the Task Force had full access to the entire NRC staff, conducting more than 100 hours of interviews. They also spent thousands of hours reviewing agency products and information, and consulted closely with the NRC site team in Japan. With 135 years of collective experience, the Task Force clearly has a stake in the NRC's current regulations. I believe the Task Force found that the status quo of our existing regulatory framework is no longer acceptable - calling for changes to the regulations that we have long relied on for adequate protection. These recommendations, both near term and longer, range in areas from loss of electrical power to earthquakes, flooding, spent fuel pools, venting, and emergency preparedness. Throughout the report, the Task Force emphasized that effective NRC action is essential in addressing these challenges and that voluntary industry initiatives are no substitute for strong and effective NRC oversight.

Almost immediately after receiving the Task Force report, the Commission began discussions of the process to review the report, and not, unfortunately, on the content of the report and its profound meaning for nuclear safety. Several of my colleagues have found one aspect of the report they accept without question. The most frequently cited statement is that "continued operation and continued licensing activities do not pose an imminent risk to public health and safety." A majority of the Commission appears to accept this statement without the need for further scrutiny, debate, or discussion. On the other hand, the substantial body of the Task

Force report which details safety gaps in our regulatory system, and all of the recommendations about how to close those gaps do require additional analysis, according to my Commission colleagues.

When the report was presented to the Commission, it became clear that my colleagues wished to have additional stakeholder engagement before acting on the recommendations. I agreed with that approach and therefore followed our normal Commission procedure for developing an agenda for the Commission to consider. I worked with the agency's senior managers to develop a plan of action that included multiple public Commission meetings and written comments from external stakeholders and the NRC staff to provide the Commission with all the input it would need to disposition each of the 12 recommendations made by the Task Force. I made a commitment to my colleagues that the NRC staff would stand ready to provide them with any additional information they needed to be able to make their decisions. My only request was that we work to complete this activity within approximately 90 days so that we could disposition the safety issues in a prompt and finite amount of time. Given the logical, straightforward approach taken by the Task Force and the fact that the Commission had been briefed twice in the preceding months on the progress of their review, and the fact that the recommendations were telegraphed quite clearly during the public briefings, this is a task that I felt was eminently reasonable to accomplish in that timeframe.

Rather than voting directly on the Task Force's recommendations, my colleagues have instead elected to vote proposals outlining their own approach to managing the process. As I have indicated on many prior occasions, I believe this is a result of a flawed voting system that encourages the Commission to sidestep the actual substantive policy issues presented, and this current situation is just one more example. I mention it here not to further distract us, for this Task Force Report involves far too many substantive policy issues that require our undivided attention, but in the hope that my colleagues and I can come together at some point in the future to fix our voting process in a way that will discourage this type of ineffectiveness.

Given these circumstances and where the Commission currently stands, I have several options with this vote. I could simply vote on the recommendations themselves; I could vote on the process to consider the recommendations; or I could vote on a combination of the two. Each of these options has pros and cons.

Under the first option I would be forced to offer my views on the Task Force's substantive recommendations without the benefit of hearing from stakeholders and other NRC managers. I would note, however, that the agency's most senior managers have told me that they support all of the 12 high-level recommendations and a broad cross-section of the agency's stakeholders – including Members of Congress from both parties, public interest groups, major newspapers, and the Administration - have publicly encouraged us to implement the recommendations expeditiously, and the industry has been actively expressing their views on these issues as well.

My particular interest in hearing more from our stakeholders is to better understand the realities of implementation and to explore the Task Force finding that there is no imminent threat. Clearly the Commission must be willing to challenge this Task Force's finding just as vigorously as the safety recommendations themselves, even if the Commission agrees with it in the end. This is, after all, the most profound statement in the entire report. Because I have not had the opportunity to fully explore these issues, voting now on the merits of the 12 recommendations - rather than by October after a series of public Commission meetings, public engagements, and discussions with my Commission colleagues as I had proposed - is less than ideal.

The second option - voting only on process at this point - has the advantage of being in line with the majority of my colleagues on the Commission who have voted on process rather than on the substance of the recommendations. This approach has the disadvantage, however, of encouraging the current Commission's preoccupation with process at the expense of nuclear safety policy - a focus which makes this important government body less effective and less

efficient. In addition, this option would ensure that, along with the votes of my colleagues, the Commission would never vote on the 12 actual safety recommendations as presented by the Task Force.

As in many dilemmas, the best option here is to do both – vote on the process and the substance.

### Process

Having said that, I offer the following principles for consideration of the 12 Task Force recommendations:

First, the Commission should vote within 90 days on each recommendation.

Second, the Commission should hear from additional NRC managers and staff on implementation issues within sufficient time to move forward in 90 days. On this point, several of my colleagues have also proposed a paper from the staff prioritizing the Task Force recommendations. I would note that the Task Force has already done much of that work by providing a prioritization of actions by outlining near-term orders and rulemakings, along with longer term reviews. Since a majority of my colleagues favor this proposal, I could support the paper provided it was completed within 45 days, and the Commission would then complete its vote within 90 days of Task Force's report.

Third, the Commission should conduct all of this activity openly and transparently. The Commission should meet with stakeholders in public meetings and we should deliberate in public to ensure all Commissioners have equal and contemporaneous access to stakeholder, staff, and Commissioner views.

As I review the votes of my colleagues, I find there are many areas of agreement that we could move forward on within the 90 day timeframe. There are, however, several proposed process arguments with which I do not agree. I am troubled by the suggestion of Commissioner Magwood to have the staff prepare a series of analyses and time-consuming voting papers for each of the 34 specific actions outlined in an appendix of the Task Force report. This is a level of micro-management that the Commission should not engage in and it could take years to complete. Instead I believe the staff should provide the Commission with their best judgment on implementation challenges they would face in carrying out the recommendations of the Task Force if approved by the Commission and prioritize the 12 recommendations to help the Commission understand the time line for implementation.

In addition, I strongly oppose Commissioner Svinicki's proposal, supported by other members of the Commission, for the staff to provide the charter for the long-term Task Force to the Commission. This document is a tool for managing staff work and is not a policy issue for the Commission's consideration. To enshrine such a working level document in a Commission vote limits the ability of the Executive Director for Operations to manage the agency and resources under his direction.

I appreciate Commissioner Ostendorff addressing some substantive issues in his vote by offering his view on six specific areas that he believes warrant short-term attention. I do have concerns however, with his proposal that the staff should prepare papers (papers whose general purpose I do not necessarily oppose) through the "lens of the Task Force's finding that the currently regulatory approach has served the Commission and the public well." This would seem to direct the staff to completely reconsider all the recommendations in the Task Force's report, including those that concern near-term reactor safety issues, defeating the purpose of

establishing the Task Force to begin with. Moreover it is unclear what this requirement actually means.

I encourage the Commission to direct the staff to consider the recommendations as the Task Force presented them – namely, 12 recommendations with specific implementation suggestions for each. That will ensure a more transparent accounting of the Commission's action on each recommendation. I think it is important to keep in mind, even where a recommendation calls for rulemakings or orders, there will be several opportunities for the Commission to further decide the policy options. For instance, if the Commission approves a rulemaking, the staff would provide the proposed rule language to the Commission for its approval, stakeholders would then provide comments on the proposed rule in writing and in meetings, and then the Commission would be asked to approve any final rule after the staff has considered stakeholder input. This is the normal process for the Commission to consider rulemakings and involves a great deal of Commission, NRC staff, and stakeholder feedback. All that is before the Commission now is a decision about whether or not to begin that well-established process.

### Substance

Regarding the substance of the Task Force report, I will first break down the recommendations into three groups and add the caveat that my views on these recommendations may evolve with additional stakeholder interactions.

In the first group are the four recommendations for a long-term review which the staff did not have sufficient information to make specific recommendations at this time. It would seem obvious that the Commission could dispense with these recommendations promptly and forward them to the long-term review efforts. My only direction regarding these recommendations is that they should ultimately be addressed to ensure complete implementation within five years. It is possible, however, that stakeholder interactions will convince me that some or all of the recommendations in this category do have sufficient basis to begin implementation now.

In the second group are the six recommendations that directly apply to licensees, and the Task Force had sufficient information to make specific recommendations for action. I will discuss each of these recommendations in detail. The third group involves two recommendations focused on the NRC itself.

Below are my comments for the recommendations that fall into that second category. These six specific near-term recommendations are actions that the agency should require licensees to do now, either through rulemaking, orders, or a combination of both.

Recommendation 2 requires licensees to reevaluate and upgrade as necessary the design-basis seismic and flooding protection of structures, systems, and components for each operating reactor. Such protection from natural phenomena is critical for the safe operation of nuclear power plants due to the potential for common-cause failures and the potential for significant core damage as demonstrated at Fukushima. In fact, the Task Force recommended a rulemaking and two near-term orders underscoring the importance and high priority of this recommendation.

It is easy to see the value of this recommendation based upon experiences with our own reactors as well. Recently, our inspectors identified a finding of substantial safety significance in a licensee's flood protection measures. As a result, the licensee appropriately made physical changes to their site to improve their ability to withstand flooding. While the floods in the Midwest we have seen this year did not directly impact the safety related components of the sites, they underscored the possibility of unpredictable and sudden challenges from natural phenomena to a plant's safety. Also recently, the NRC staff identified concerns with one of our licensee's design basis flood analysis. In response, the licensee redid the design basis analyses and discovered that additional measures were needed to adequately protect their sites

from external flooding. If the licensee had not initiated a licensing action that warranted the additional NRC review, the shortcomings in their flooding analysis may not have been uncovered.

Based on our own experience and the lessons we can draw from Fukushima today, there appears to be good reason to have all licensees reevaluate seismic and flooding design basis analyses and if necessary, make improvements. Additional stakeholder interaction, however, would provide useful information for the Commission to consider the specific implementation mechanisms. We have also seen the benefits of our licensees doing a similar review of probable maximum flooding which has resulted in improvements to dams and other embankments that strengthened their ability to withstand such an event. This recommendation should be promptly adopted.

Recommendation 4 provides for improving mitigation of station blackout events (SBO) where a nuclear plant loses all AC power. While many of the contributing causes to the conditions leading to core damage at Fukushima Dai-ichi remain unknown at this time, operating strategies and equipment did not provide sufficient operating margin to prevent core damage for the low-probability events involving extended loss of AC power. There is no doubt that the cross-cutting aspect of the prolonged loss of electrical power at Fukushima Dai-ichi severely impacted the ability of the site's operators to prevent and to mitigate the accident. The Task Force recommended in the near term that the NRC strengthen station blackout mitigation capability at all operating and new reactors for design-basis and extended design-basis events. Specifically, the Task Force recommended that the Commission direct the staff to begin the actions to further enhance the ability of nuclear power plants to deal with the effects of prolonged SBO conditions at single and multiple unit sites without damage to the nuclear fuel in the reactor or spent fuel pool, and without the loss of reactor coolant system or primary containment integrity. The Commission already recognized the importance of this issue when it held a meeting on April 28, 2011. At that time, it was clear changes were needed to our requirements. The Task Force sensibly established two implementation strategies, a rule change and an order. In this case I have sufficient information to fully endorse this recommendation. The rule change will provide ample opportunity for stakeholder involvement and the order is consistent with common sense actions, which in some cases already are being taken by licensees.

The fifth recommendation requires reliable hardened vent designs in boiling water reactors (BWRs) with Mark I and Mark II containments. Even though we do not know the specific details of the Fukushima operators' use of hardened vents, we do know the containments were over-pressurized, that hydrogen was generated, and that there were explosions. Furthermore, we know from our own inspections that the industry's implementation of this voluntary initiative is inconsistent and it certainly did not envision the need to vent in an extended station blackout condition. Ensuring that BWR Mark I and Mark II containments have reliable hardened venting capability would significantly enhance the capability of these types of BWRs to mitigate an extended design-basis accident. Here again, we see the potential implication of the cross-cutting effect a prolonged loss of electrical power has on the ability to prevent and to mitigate accidents. Only eight BWR units in the United States have Mark II containment designs. Three of these units have installed hardened vents, and the remaining five units at three sites do not have hardened vents. I support taking action on this recommendation, which through a proposed rulemaking would benefit from implementation discussions with stakeholders.

Recommendation 7 would enhance nuclear power plant operators' ability to add water and to provide instrumentation in order to remotely observe conditions of spent fuel pools. I agree with the Task Force that the reliability and availability of U.S. spent fuel pool makeup systems would be better ensured if the NRC had a requirement for those systems to have safety-related electrical systems. It also makes much more sense to have a seismically qualified means to supply water to the spent fuel pools rather than a trial-and-error method such as obtaining pumper trucks employing high booms to spray water from a distance into the spent fuel pools. While in many circumstances directly observing level markings in the spent fuel pool provides a

simple and reliable means of indication, it is also sensible that operators should have alternative methods of obtaining a spent fuel pool level other than having to go physically to that location. As we have seen with Fukushima Dai-ichi, there may be prolonged periods where it is physically impossible to get a direct indication of spent fuel pool conditions due to infrastructure damage, poor lighting, or other adverse conditions such as smoke and high radiation.

I also believe the Commission should consider in the long term if there should be new regulations to require licensees to move spent fuel to dry cask storage within a specific timeframe. This step, recognizing the inherent safety benefits of dry storage and combining that knowledge with the new ISFSI security regulations under development, may provide a safer and more secure disposition for spent fuel. I also believe that an NRC-developed pilot probabilistic risk assessment provides additional supporting evidence of the benefits of having more of the spent fuel held in dry storage.

I approve Recommendation 8 to provide for the strengthening and integration of onsite emergency response capabilities such as emergency operating procedures, severe accident management guidelines, and extensive damage mitigation guidelines. The accidents at Fukushima highlight the importance of having plant operators who are well prepared and well supported by technically sound and practical procedures, guidelines, and strategies. It is clear that a properly planned and coordinated approach to command and control, and decision making during an emergency is vital. The findings from our inspectors of this important aspect revealed an inconsistent implementation of Severe Accident Management Guidelines (SAMGs) attributed to their voluntary nature. As the accident at Fukushima has clearly shown, both prolonged station blackout and multiple unit events present new challenges to dealing with emergencies. The use of a performance-based emergency planning approach could be an effective means to address these challenges. As with other areas, the implementation of this recommendation would benefit from extensive stakeholder interaction. Adding additional procedures to the requirements will necessarily change how operators train and potentially change the number of operators needed. The Commission must carefully understand how licensees can best accomplish this.

In Recommendation 9, once again we see the cross-cutting aspect of a prolonged station blackout. The effectiveness of onsite emergency actions is a very important part of the overall safety of nuclear power plants. In the interest of strengthening emergency preparedness, I approve this Task Force recommendation that facility emergency plans need to address prolonged station blackouts and multiple unit events. This recommendation, when implemented, would strengthen our current system substantially by requiring more formal, rigorous, and frequent training of reactor operators and other onsite emergency response staff on realistic accident scenarios with realistic conditions.

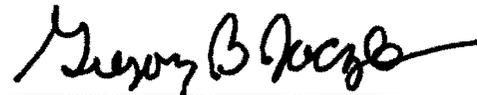
The final two recommendations fall into the third group of actions focused on the NRC itself.

I support the Task Force's first recommendation to establish a logical, systematic, and coherent regulatory framework that appropriately balances adequate protection, defense-in-depth and risk considerations. I believe that as a longer term action, the Commission should incorporate this recommendation. In doing so, this would provide a clearer structure for future Commission decisions regarding the issues that should be subject to NRC requirements and what those requirements should be. The Task Force envisioned a framework in which the current design-basis requirements would remain largely unchanged and extended design-basis requirements (e.g., for anticipated transient without scram (ATWS) and station blackout (SBO)) would be complemented with a more balanced and effective application of defense-in-depth. This recommendation would also strengthen the defense-in-depth philosophy by including explicit requirements informed by a state-of-the-art probabilistic risk assessment as needed for extended design-basis events. Most importantly, this recommendation also tightens the loose ends of our regulations by addressing voluntary industry initiatives so that they do not become a substitute for regulatory requirements.

Recommendation 12 is one area where I would have benefitted from holding a public Commission meeting to gain a further understanding of this issue. While I believe through the course of implementing the other recommendations, this recommendation could be achieved, I think a greater clarity could be brought to this recommendation. I believe we should always strive for improving the efficiency of NRC programs and strengthening the regulatory oversight of licensees by focusing more attention on defense-in-depth requirements. This issue will, however, require extensive discussions about implementation. Changes to our inspection program ultimately relate to resource considerations that must be carefully planned.

In light of the Task Force's work, I see no reason why the Commission cannot provide clear direction to the staff to address each of the Task Force's recommendations within 90 days. That does not mean the Commission would be taking final action on these matters. Several of the recommendations require rules or orders that may take months or years to develop.

These are not normal times for the NRC or for our licensees. We all know that some changes are in order, and none of us want to make rushed, poor decisions. We must move forward, however, with the urgency called for by these safety issues. That is why I have called for the NRC and the nuclear industry to commit to complete and implement the process of learning and applying the lessons of the Fukushima accident within five years - by 2016. This will require much hard work by our staff, strong and decisive leadership by the Commission, and an even stronger commitment by our licensees.

 8/9/2011  
Gregory B. Jaczko                      Date