NOTATION VOTE

RESPONSE SHEET

TO: Annette Vietti-Cook, Secretary

FROM: Commissioner Apostolakis

SUBJECT: SECY-12-0025 – PROPOSED ORDERS AND REQUESTS FOR INFORMATION IN RESPONSE TO LESSONS LEARNED FROM JAPAN'S MARCH 11, 2011, GREAT TOHOKU EARTHQUAKE AND TSUNAMI

Approved __X__ Disapproved __X__ Abstain _____

Not Participating _____

COMMENTS: Below ___ Attached _X_ None ___

SIGNATURE

February 29, 2012
DATE

Entered on "STARS" Yes _x__ No ___

Commissioner Apostolakis' Comments on SECY-12-0025
Proposed orders and Requests for Information in Response to Lessons Learned from Japan's March 11, 2011, Great Tohoku Earthquake and Tsunami

I commend the staff for their hard work to implement the Tier 1 activities, including development of the proposed orders and 50.54(f) letter for Commission consideration under extreme time constraints. I also appreciate the leadership that the Steering Committee has provided. The staff's proposal is buttressed by the language of the FY 2012 appropriations law for the NRC and the accompanying conference report language. These directives from Congress reflect an important policy judgment that the Commission must act promptly on the Tier 1 recommendations.

I approve issuance of the proposed orders subject to the following comments. I do not find compelling the staff's justification for redefinition of adequate protection. Instead, I approve issuing the orders for mitigating strategies and containment vents as necessary to ensure continued adequate protection. Furthermore, I approve the proposed order regarding spent fuel pool instrumentation, but I do not find sufficient justification to impose it as a matter of adequate protection. Therefore, I recommend exercising an administrative exemption from the requirements of the backfit rule (10 CFR 50.109), as part of the basis for this order.

The Commission has broad discretion to determine necessary safety measures on a case-by-case basis using engineering judgment and the relevant technical information available at the time. Each of these proposed orders represents a worthwhile safety improvement. Their issuance is justified from a policy perspective in light of particular and unusual circumstances favoring timely action in response to the lessons learned from the accident at Fukushima Dai-ichi. Practically speaking, the requirements imposed by the orders should be the same regardless of whether such proposals are characterized as ensuring adequate protection, redefining adequate protection, or exercising an administrative exemption to the backfit rule.

Adequate protection is not defined by statute or regulation. It does not mean zero risk or absolute protection. The Commission is charged by statute with deciding what measures are necessary to provide reasonable assurance that the public will be protected. In addition, the Commission has broad authority to set such standards as the Commission deems necessary or desirable to enhance safety beyond the minimum requirements for adequate protection.

The Commission has recognized the importance of regulatory stability and has imposed discipline on regulatory decision making through the backfit rule as well as through issue finality provisions in 10 CFR Part 52. Only once has the Commission concluded that it was appropriate to exempt itself administratively from backfitting requirements. This was done when the Commission imposed the aircraft impact assessment rule on new reactors, including already-certified designs, in response to the specific challenges created by the events of September 11, 2001. Similarly, the events at Fukushima Dai-ichi point to a specific set of challenges warranting regulatory action that is not easily accomplished within the existing framework.

As the staff noted in SECY-12-0025, the events at Fukushima Dai-ichi demonstrate that extreme external events may adversely affect: (i) more than one unit at a site with two or more units, and (ii) multiple safety functions at each of several units located on the same site. The staff also noted that the events at Fukushima highlighted the possibility that extreme natural phenomena could challenge the prevention, mitigation, and emergency preparedness defense-in-depth layers.

While true, the "possibility" that extreme natural phenomena "could challenge" defense-in-depth layers does not, in itself, provide a compelling justification for action under the mantle of

adequate protection. This thought is not inconsistent with the Near-Term Task Force (NTTF) conclusion that "a sequence of events like the Fukushima accident is unlikely to occur in the United States and some appropriate mitigation measures have been implemented, reducing the likelihood of core damage and radiological releases." Also arguably weighing against the need for immediately effective orders based on adequate protection is the fact these proposals are characterized as providing "enhancements" for protection against beyond-design-basis events that are believed to be of very low probability and for which some mitigation capability is already available beyond the multiple layers of protection for design basis events.

More specific factors may distinguish the circumstances that led to the Fukushima accident. For instance, I refer to the considerable under-estimation of the design basis tsunami for Fukushima Dai-ichi. In addition, the decision-making protocols during emergencies at nuclear facilities in the United States differ significantly from those in Japan. While a full comparison of pertinent regulatory requirements and programs could provide additional relevant information, and may do so in time, the staff reasonably recommends that we initiate appropriate action now.

In addition to its technical findings and recommendations, the NTTF also found that the NRC should clarify its regulations and guidance related to adequate protection and the appropriate balancing of defense in depth and risk information (Recommendation 1). The NRC activities related to NTTF Recommendation 1 are ongoing. Thus, to ensure a timely response to the lessons learned from the Fukushima accident, these orders are being undertaken without realizing the benefit of potential improvements to the NRC's regulatory framework. I acknowledge that an unfortunate consequence of taking action now is that the so-called regulatory "patchwork" is perpetuated. Also, it is normally preferable that the implementation guidance be ready and be subjected to comment by all stakeholders before imposing new requirements.

There are substantive factors that favor acting under continued assurance of adequate protection for the orders on mitigation strategies and containment vents. These proposed requirements are tied to prior regulatory determinations and firm expectations that protection is warranted in these areas. In addition, I find substantive factors that favor exercising an administrative exemption to the backfit rule for issuance of the order on spent fuel pool instrumentation.

Mitigation Strategies

Following the terrorist attacks of September 11, 2001, the Commission established new security requirements via orders on the basis of adequate protection. Those requirements resulted from new insights regarding potential security events. The subsequent rule promulgated to codify the security orders related to development of mitigation strategies for beyond-design-basis events was also issued as a matter of adequate protection. Similarly, regarding the lessons learned from the Fukushima Dai-ichi accident, the staff agreed with the NTTF that the accident provides new insights into extreme events that warrant enhancements to defense in depth on the basis of adequate protection. In addition, results of NRC inspections conducted immediately after the Fukushima Dai-ichi accident indicated some problems with the availability or functionality of such equipment and revealed that the equipment was not always maintained appropriately or systematically at all sites. This order will further ensure adequate protection in that external events will not compromise the functionality or availability of this equipment for each unit at multi-unit sites.

Containment Vents

The 1989 generic letter, which requested that licensees with a Mark I plant provide notification of their plans to address installation of a hardened vent, reflected an expectation that industry would have means for dealing with the Mark I containment issues arising during some severe accidents. Although the NRC did not impose binding requirements regarding hardened vents, it was prepared to do so for any licensee that did not voluntarily make the suggested plant modifications. The accident at Fukushima bolsters the earlier concerns regarding the Mark I containment design and supports action to ensure that functionality is maintained under extreme conditions. As the staff pointed out, because Mark II containment designs are only slightly larger in volume than Mark I containment designs and use wetwell pressure suppression, it can reasonably be concluded that a Mark II under similar circumstances would have suffered similar consequences. Therefore, it is appropriate to impose the order on both BWR Mark I and II licensees as a matter of ensuring continued adequate protection.

Spent Fuel Instrumentation

As I stated, I support the proposed order regarding spent fuel pool instrumentation, but I do not find sufficient justification at this time to impose it as a matter of adequate protection. Although there may be several benefits to enhanced spent fuel pool instrumentation, the most compelling reason is, as the staff states, the recognition that Fukushima demonstrated the confusion and misapplication of resources that can result from extreme beyond-design-basis external events when more diverse instrumentation is not available. On the other hand, the likelihood of a catastrophic event affecting spent fuel pools in the U.S. remains very low and the imposition of the order on mitigation strategies supplements existing protection for spent fuel pool cooling. Furthermore, as the ACRS pointed out, the overall contribution to risk from spent fuel pools is low. Thus, I find it difficult to support this immediately effective order as necessary for adequate protection. While there are obvious benefits, it would be difficult to assess them in a quantitative or qualitative manner, particularly in a short time frame. Therefore, the Commission should take the rare step of exercising an administrative exemption from the backfit rule in support of the issuance of this order.

Conclusion

Overall, I find that these three orders contain sound and common-sense proposals. They could rest on one or more regulatory bases. At the very least, they enhance protection of public health and safety in mitigating the consequences of beyond-design-basis external events. Moreover, the staff has had extensive interaction with stakeholders as the development of these proposals has proceeded. I am unaware of any significant comment that these proposed actions are not warranted.

My vote reflects my conclusion that unusual and particular circumstances favor issuance of the proposed orders for mitigating strategies and containment vents as needed for ensuring continued adequate protection, as well as the order on spent fuel pool instrumentation as enhanced protection under an administrative exemption to the backfit rule. These are specific case-by-case determinations. Even though these orders are to be made immediately effective, they are premised on the need for prompt action to complete the necessary analysis and ensure timely implementation of these safety improvements. Eventually, some of these proposals will lead to rulemaking with appropriate adjustments in the requirements or their bases as a result of further study.

George Apostolakis
2/ 29 /12