



Main Office: 33 Central Ave, 3rd Floor, Albany, New York 12210
Phone: (518) 462-5527 ♦ Fax: (518) 465-8349 ♦ E-mail: cectoxic@igc.org

Websites: www.cectoxic.org ♦ www.ecothreatny.org ♦
www.toxicfreefuture.org

May 17, 2012

John V. Kauffman
Senior Project Manager
Policy and Support Branch
Japan Lessons-Learned Project Directorate
Office of Nuclear Reactor Regulation
Nuclear Regulatory Commission
One White Flint North
11555 Rockville Pike
Rockville, MD 20852

Dear Mr. Kauffman,

Re: Tier 3 Recommendations of the NTTF Report : #3, 9.1, 9.2, 9.3, (9.4 forgotten), 10, 11,
Emergency Planning Zones and Potassium Iodide

The Near Term Task Force was organized in presenting its findings in a logical way and citing the most problematic and fundamental safety issue facing us in the United States—the patchwork approach of regulations, guidance and voluntary initiatives which cannot provide defense- in-depth. We are not happy that Recommendation 1 has not been prioritized by staff into Tier 1. We were pleased to learn that there will be a staff paper issued in February 2013 on Recommendation 1.

The patchwork problem continues and was expanded upon in the approach to seismic and flooding hazards. The Near Term Task Force identified two types of actions for dealing with these hazards—orders and rulemaking. Orders were to be used as a way of initiating immediate action, since rulemaking can take several years. As we become more familiar with the NRC approach to addressing the Fukushima disaster and ongoing worsening nuclear catastrophe, we are beginning to better understand what is planned and what safety measures are being shuffled aside or postponed.

A very fundamental problem is associated with nuclear energy. Once started, we cannot stop a nuclear reaction; we can only slow it down or modify it. Unlike electricity, we cannot flip a switch and turn it off.

This fundamental problem poses enormous safety consequences, some of which we have seen at Fukushima and continue to see with the worsening catastrophe. It means that any adverse event can cascade into a series of complex, complicating events by the absence of the right response immediately. Few other accidents or emergencies have the extremely short time factor that nuclear events have.

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While the Near Term Task Force prepared a reasonably comprehensive report, it failed to make adequate recommendations related to spent fuel pools. This was the report's most serious failing. Concerns about the spent fuel pools emerged in the first few days following the Fukushima disaster and the damage to the Dai-Ichi plant. Numerous news accounts covered the problem, the inventory of fuel, the danger of loss of water, etc. Now over a year later we are learning and absorbing the possibility that there will be further consequences to this disaster. Another earthquake could cause the collapse of the Unit #4 fuel pool or the water could leak causing a fire that would spread 10 times the radioactive contamination spread from Chernobyl.

Urgent assistance must be provided by the US to stabilize the Unit #4 pool to avoid lethal radiation levels & spreading contamination that could force the Dai-Ichi plant to be evacuated and unmanned – worsening the nuclear disaster. We urge the NRC to take this issue up immediately.

For over one year we have understood the serious problem associated with spent fuel pools and we have been very cognizant that US reactors have more fuel in their pools than the Dai-ichi plant had.

The NTTF failed to call for moving fuel out of the pools to dry casks or hardened on-site storage, instead recommending instrumentation and additional cooling measures. Fortunately staff have recommended moving the fuel out of pools, but unfortunately this top priority for most environmentalists was placed in Tier 3.

This problem is a long standing and well recognized one, including by the National Academy of Sciences. The consequences of a spent fuel disaster include thousands of deaths and thousands of square miles made uninhabitable.

The NRC must order US reactors to begin to move fuel older than 5 years out of reactor pools to on-site storage. Too many pools have inventories several times their original design capacity. This must be remedied as quickly as possible.

The GE Mark 1 designs were involved in the Fukushima disaster and a number of the recommendations reflect the serious problem with these designs. Some of these problems were recognized in the 70s. The logical solution would be to close these plants, which also are most of the oldest plants. No analysis has been done of the costs of the proposed multiple fixes for these Mark 1 & 2 plants. Such an economic analysis could enable consideration for closure. Instead plant owners will continue to resist the necessary fixes to protect the public citing high costs.

Full Cost Accounting Analysis of the fixes needed for Mark I & 2 reactor designs should be completed.

Recommendation #2.2 should not have been placed in Tier 3. It was a recommendation to initiate rulemaking and the NRC should undertake rulemaking. The NTTF report never identified this item for longer term review.

The approach to seismic and flooding hazards should be systematic and comprehensive. This means that Recommendations 2.1, 2.2 and 2.3 should be dealt with together. Unfortunately the staff evaluation identified Recommendation 2.2 differently from the way it was stated in the

NTTF report. Recommendation 2.2 is “Initiate rulemaking to require licensees to confirm seismic hazards and flooding hazards every ten years and address any new and significant information. If necessary update the design basis for SSCs important to safety to protect against the updated hazards.”

The Staff prioritization paper SECY-1-0137 appears to have both moved Recommendation 2.2 into Tier 3 and to have modified it, so that it is no longer rulemaking, but mere confirmation of seismic and flooding hazards. The NTTF recommended 2 orders be issued so that all plants would start the process of comprehensive evaluation of seismic and flooding hazards. Rulemaking would ensure that regulations were the outcome to protect against these hazards.

The discussion preceding all #2 recommendations indicated that external and internal impacts of seismically induced fires and floods were to be addressed under these recommendations. The NTTF wanted seismically induced fires and floods to be addressed comprehensively under these recommendations including internal flooding from pipe or equipment ruptures.

The walkdowns should comprehensively address not just the plant’s design basis, but the plant and equipment’s current condition, noting corrosion, embrittlement, and state of maintenance and repair.

We also note that little discussion has occurred regarding plant and equipment aging. Many US plants are operating beyond their life expectancy with no extensive evaluation required. While piping is included in the discussion of seismically induced floods, no mention is made of electric cables and their connections and corrosion. A seismic event could disrupt control room and critical safety functions.

Electrical systems should be evaluated for their ability to withstand a seismic event as well as whether there is a need for redundant or wireless controls.

Recommendation #3 is more nuanced. The discussion of this recommendation in the NTTF report indicates that it is to be seen as an enhancement of the three recommendations under #2. Recommendation #3 is supposed to deal with the fact that there may be multiple plant locations that are affected by a seismically induced fire or flood or there may be multiple failures of safety systems as a consequence. The task force also noted that fire protection systems are not required to be functional after a seismic event and fighting fires could be hindered. At the same time, a seismic event could prevent fire crews from reaching the plant. (We would add that this is also true for additional technical and managerial staff in an emergency.) The NTTF report also discusses historical regulatory reviews (GSI-172) and industry voluntary initiatives (IPEEE), which were inadequate in addressing multiple concurrent events or failures.

Internal Flooding and Fires induced by seismic events should first be addressed under the comprehensive plans to deal with the 3 Recommendations under #2.

Recommendation 2.2 should be handled as a priority recommendation (under Tier 1) as the NTTF report intended. This would mean that regulations would be promulgated to address seismically induced fires and floods, before Recommendation 3 is acted on. The focus of Recommendation 3 should be on a careful qualitative assessment using the judgment of safety experts, including some from outside the nuclear establishment. The

work under all of the #2 recommendations should inform the work under Recommendation 3.

Undertaking a PRA could be a possible eventual outcome, but only after a qualitative assessment of various scenarios has been prepared for the public with adequate opportunity for discussion and comment.

The staff are indicating that they don't have the resources to pursue Recommendation 3 now or for several years. At the same time they indicate they are interested in pursuing a methodology for a PRA, probabilistic risk assessment. We disagree. We believe that the most significant failure of PRA is its emphasis too early in the evaluation on quantification. Where quantification is not possible for a variety of reasons—those issues are simply left out of the subsequent evaluation in our experience. The PRA results can be quite useless when significant issues fail to be considered at all.

We recommend very careful work under all of the #2 Recommendations. The assessment should include 1) likely, 2) possible, but less likely scenarios and 3) worst case scenarios. In this context there should be no "failure of imagination" (as discussed in the 9/11 Commission report). Multiple, concurrent and interacting factors or events should be included. We recommend a full report for the public of all of the findings including the analysis and judgment of all of the safety experts. We believe safety experts outside of the nuclear establishment should be included as their knowledge and insights will be useful. This report should constitute a careful qualitative assessment that is prepared for public review and extensive time and opportunity for comment. The public should have the opportunity to ensure that all factors and issues have been considered and worst case scenarios identified in the qualitative assessment.

Near Term Task Force Recommendations 9.1, 9.2, 9.3, 9.4, 10 and 11.

We have found it extremely difficult to figure out how these recommendations from the NTTF have been chopped up and divided into the three Tiers. For example supposedly recommendation 9.3 is being handled in Tier 1 and 2, but part of it is not being handled until Tier 3.

We consider the issue of Communications to be extremely important to emergency planning and response. We note that communications have been found to be a considerable obstacle in many recent disasters—at the World Trade Center on 9/11, in New Orleans following Katrina, in Haiti following the earthquake and at the Fukushima Dai-Ichi plant when telephone service was lost.

The Near Term Task Force report 9.3 Recommendation was to order licensees to provide a means of power communication during a prolonged SBO. Under Recommendation 9.4 NRC was to order licensees to complete the ERDS modernization initiative by June 2012 to ensure multi-site monitoring capability. Yet recommendation 9.4 was not even mentioned in the Staff prioritization report.

The absence of backup emergency power for the ERDS system means that you do not have a system for information in the event of an emergency.

The Agency is proposing primarily information collection activity, with only the possibility of regulation, when the NTTF recommended initiating rulemaking. Recommendation #10 was supposed to be supplemental or an enhancement to Recommendations under #9, not used as a reason to delay regulatory actions under #9. It seems clear that NRC's plans are to postpone both of these recommendations to Tier 3 for longer term review, when the Task Force called for dealing with these immediately, not in the long term.

There should be an NRC order to licensees related to ensuring alternate power to all communications equipment during a prolonged SBO, including the ERDS data system and monitoring for multiple units.

Recommendations 9.1 and 9.2 should be included in Tier 1 for early action.

Emergency Planning zones should be expanded consistent with a recent petition, which we have supported. We expect a full and careful study of that petition by the NRC.

The slide presentation provided on May 3rd indicates that: “The staff considers that the existing KI framework and regulations provide reasonable assurance of adequate protection of public health and safety in the event of a radiological emergency.” We are forced to ask- What existing KI framework?

We are unaware of any stockpiles of KI. We also are unaware of any plan for distribution of potassium iodide or a so-called framework. Please inform us as to the availability of the KI framework and who is responsible for its implementation.

Recommendation 11

We recommend a more robust means of public involvement including state and local governments and emergency planners and responders. It is extremely difficult to even get to first base with an understanding of exactly what NRC is proposing to do under each of the NTTF recommendations.

We believe that if the Agency is serious about obtaining meaningful comments that the topics should be organized around an issue or problem and then deal with that issue or problem comprehensively. We should not have to figure out a puzzle that leads to a possible approach the NRC is suggesting. Recommendation 11 will be impossible without improvements to NRC’s process.

Thank you for your attention.

Sincerely,

A handwritten signature in black ink, reading "Barbara J. Warren". The signature is fluid and cursive, with the first name "Barbara" and last name "Warren" clearly distinguishable.

Barbara J. Warren, RN, MS
Environmental Health Science
Executive Director