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Secretary  
US Nuclear Regulatory Commission  
Washington, DC 20555-0001  
Attn: Rulemakings and Adjudications Staff  
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Robert. Beall@nrc.gov

OFFICE OF SECRETARY  
RULEMAKINGS AND  
ADJUDICATIONS STAFF

Re: Docket ID NRC-2010-0031

We are responding to the Advance Notice of Proposed Rulemaking (ANPR) regarding Onsite Emergency Response Capabilities and Recommendation 8 of the Near Term Task Force Report.

We appreciate the opportunity to comment on this notice. While background information was in the notice pertaining to events at Fukushima Dai-Ichi and the Near Term Task Force Report, we note that the notice fails to include Recommendation 8 in its entirety. We believe that it is critically important to start from that important recommendation, so we insert it below.

***Recommendation 8***

***The Task Force recommends strengthening and integrating onsite emergency response capabilities such as EOPs, SAMGs, and EDMGs.***

*The Task Force recommends that the Commission direct the staff to further enhance the current capabilities for onsite emergency actions in the following ways:*

*8.1 Order licensees to modify the EOP technical guidelines (required by Supplement 1, "Requirements for Emergency Response Capability to NUREG-0737," issued January 1983 (GL82-33), to*

- (1) include EOPs, SAMGs, and EDMGs in an integrated manner,*
- (2) specify clear command and control strategies for their implementation, and*
- (3) stipulate appropriate qualification and training for those who make decisions during emergencies.*

- The Task Force strongly advises that the NRC encourage plant owner groups to undertake this activity rather than have each licensee develop its own approach. In addition, the Task Force encourages the use of the established NRC practice of publishing RG (rather than NUREGs, supplements to NUREGs or GLs) for endorsing any acceptable approaches submitted by industry.*

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*8.2 Modify section 5.0, " Administrative Controls," of the Standard Technical Specifications for each operating reactor design to reference the approved technical guidelines for that plant design.*

*8.3 Order licensees to modify each plant's technical specifications to conform to the above changes.*

*8.4 Initiate rulemaking to require more realistic, hands on training and exercises on SAMGs and EDMGs for all staff expected to implement the strategies and those licensee staff expected to make decisions during emergencies, including emergency coordinators and emergency directors.*

The Agency should be operating from Recommendation 8, which provided very clear and specific direction for NRC staff.

Task Force recommendations fell into 5 categories:

- Policy statements
- Rulemaking activities
- Orders
- Staff Actions
- Actions for Long Term evaluations

The Task Force felt that Orders were a reasonable way to proceed because of the lengthy time that rulemaking for regulations entails. In recommendation 8, we see two very definite Orders and a Modification of technical specifications for each reactor design. Unfortunately the ANPR fails to tell us whether any Orders have been issued. If they have not been issued, why not? Why has the Agency not proceeded with these orders? And what is the status of the Modification.

Instead NRC is proceeding to ask stakeholders whether there should be new requirements. We are certain that the industry will not support new requirements. But that does not mean that requirements are not absolutely necessary in order to ensure the safety of millions of Americans.

In addition the notice seems to open up for question what is fundamental to recommendation 8.1: Whether EOPS, SAMGs and EDMGs should be addressed in an integrated manner.

**We fully support Recommendation 8.**

**We urge the Agency to issue an Order in accordance with Task Force recommendations 8.1. We recommend proceeding with the modification in 8.2 and the subsequent additional Order for licensees to upgrade their plant specifications.**

**We also support Recommendation 8.4 and the NRDC petition related to this rulemaking.**

### **Principles for Onsite Emergency Operations**

Adequate and appropriate emergency response demands comprehensive and integrated approaches to all potential hazards, whether internal or external events, design basis or beyond design basis.

EOPS, SAMGs and EDMGs should be addressed in an integrated manner.

Nuclear power is completely different from almost every other industrial activity, except for some similarities to high hazard chemical processing with potentially catastrophic chemical releases. Nuclear reactions unlike the electricity it generates cannot be easily turned off. Multiple events for US nuclear reactors have demonstrated the difficulties in controlling this energy since it cannot be shut down and gaining control of them must occur within minutes. The extremely dangerous or high hazard potential is defined by the combination of the severity of the potential outcomes with the complexity of nuclear reactors and the extremely short time frame in which humans must assess a situation, make a decision and implement it.

Clear command and control strategies are essential and qualifications and training of all decision-makers should be a requirement. Realistic scenarios and hands on experience with these exercises are an essential part of training.

At the same time nuclear incidents, like other safety problems, rarely involve a single problem but multiple interacting or cascading events. Training should anticipate multiple problems as well as conflicting guidance from shared leadership responsibility, that hinders decision-making and actions.

Emergency Operating Procedures must be comprehensive, integrated, governed by regulatory requirements and conceived as Level One, Level Two and Level Three ( or more) depending on severity. We are redefining EOPS to be far more comprehensive than the current applicability only to design basis events.

All personnel need to be trained in EOPs for design and beyond design basis events, and all potential event scenarios. No scenario should be excluded from emergency planning and emergency operating procedures. Fires and an integrated response must be included.

Level One EOPS should be conceived as critically important to preventing the escalation of a nuclear accident scenario to a higher severity situation. Events do not always begin at a high severity level. Level One is particularly important because of the short time frames involved, where a situation can escalate if corrective action is not taken immediately.

Given the greater frequency of Level One type events and the fact that appropriate actions can prevent a more serious event, there must be regulatory requirements for:

- Education and Training of all personnel, those who will be implementing actions as well as those directing them. Planning for the normal situation where key personnel will not be present due to vacations, illness, etc.
- Inclusion of SAMGs and EDMGs within Emergency Operating Procedures must be in a seamless manner.
- Regular and frequent post incident reviews for lessons learned, that include supervisory and all personnel involved.
- Lessons learned should include full exploration of all non-routine incidents—relevance of equipment maintenance (critical with aging plants and equipment), frequency of equipment inspections, presence and adequacy of safety equipment, personnel actions and steps taken. All the possibilities that could have interrupted the incident should be discussed and explored.
- Recommendations for improvement should be a result of all post incident reviews.
- Follow-up to ensure that recommendations for improvement have been undertaken

Having a thorough review of multiple incidents every year as a requirement would also provide substantial benefits to emergency response actions for events of greater severity.

The Agency should also make use of other safety professionals. Safety professionals have a wealth of experience in assessing safety hazards that would be invaluable and they could also bring a new and fresh perspective to nuclear safety. Fresh eyes are always useful in these situations.

Modification of technical specifications for each plant design should be undertaken. Licensees must incorporate these technical specifications for their plant design into emergency planning procedures.

Each licensee should be required to assemble a complete list of the exemptions they have received from the Agency in the course of their operating history. An assessment of the appropriateness and applicability to emergency response should be undertaken. The licensee should be required to evaluate each exemption for its overall impact on safety and emergency operating procedures. A report of this assessment and evaluation should be provided to the Agency so they can update their information on each nuclear reactor and better prepare for rulemaking. ( The NRC apparently has no comprehensive record of these exemptions.)

**Recommendation Number 1 of the Near Term Task Force report has been delayed.** We believe this was a critically important recommendation and its placement as number one demonstrated to us the high priority the Task Force attached to correcting the current “regulatory patchwork” of regulations, guidance and voluntary initiatives for nuclear facilities. We are pleased that a report is being prepared on Recommendation 1 for release in February of 2013. However, we are concerned about the way the Task Force recommendations have been chopped up and divided for consideration and implementation, rather than the adoption of a comprehensive approach to each and every issue. This would speed up appropriate action on important safety issues. For example – why conduct walk downs only for external flooding, leaving internal flooding for another day? The absence of a comprehensive approach for the Agency’s implementation efforts for Tier One recommendations means additional long term delays as well as continuation of the regulatory patchwork. We strongly recommend applying an approach that is comprehensive for each and every one of the Tier One recommendations so that a considerable amount of work will be completed simultaneously for the remaining Tier Two and Three recommendations.

### **Spent Fuel Pools**

Spent Fuel Pools in the United States pose extraordinary risks to life and property with thousands of square miles at risk for each nuclear power plant. To date NRC has been completely negligent in addressing these enormous risks. Plant owners have been allowed to densely pack spent fuel pools far over their original design capacity. The spent fuel pool at the Pilgrim reactor in Massachusetts is at 350% of its original design capacity. (Markey report) Since the fuel is no longer held in open frames, air cooling is impossible and fire would be the outcome if water in the pool is not maintained. In contrast to the reactor core, systems for spent fuel pools are considered non-safety related. Yet spent fuel pools contain enormous inventories of radionuclides.

The spent-fuel pools adjacent to most power reactors contain much larger inventories of Cesium-137 than the 2 MegaCuries (MCi) that were released from the core at Chernobyl. A 1997 study done for the NRC estimated the median consequences of a spent-fuel fire at a pressurized water reactor (PWR) that released 8–80 MCi of <sup>137</sup>Cs. The consequences included: 54,000–143,000 extra cancer deaths, 2000–7000 km<sup>2</sup> of agricultural land condemned, and economic costs due to evacuation of \$117–566 billion. (*A Safety and Regulatory Assessment of Generic BWR and PWR Permanently Shutdown Nuclear Power Plants*)

The GE Mark series of designs are uniquely vulnerable because of the elevated nature of the fuel pool and the limited size of the containment structure. As we saw at Fukushima, explosions ripped fragile buildings surrounding the fuel pools exposing them. The events at Fukushima continue to threaten Japan as a country and the globe if the Unit #4 fuel pool should collapse, losing water and exposing the fuel to air. A fire could distribute huge quantities of radionuclides to the US and the world.

Given the enormous quantities of fuel contained in spent fuel pools in this country and the difficulty of handling any disaster associated with a fuel pool, we question how anyone could expect that nuclear operators actually have a reasonable plan and adequate strategies to deal with a spent fuel disaster after "circumstances associated with loss of large areas of the plant due to explosions or fire." Mitigation of extensive damage that involves a spent fuel pool would require enormous state and federal resources and we don't believe any Agency, much less the private sector, has a plan to handle this. Essentially we believe that EDMGs are completely unrealistic because the problem of spent fuel pools has not been faced squarely.

If EDMGs are not realistic and spent fuel pools remain a serious problem then we desperately need to better examine this potential for catastrophe. If such an assessment was undertaken, particularly post-Fukushima remediation of spent fuel pools might be moved to an immediate priority for the nation-- rather than the current plan for increased instrumentation and alternate cooling systems. The current plan will take years to implement-- and it will still be inadequate. We do not have years to allow this terribly risky situation to exist. We need to send a clear signal to the industry that fuel will be moved out of pools after 5 years. This would allow industry to plan for the needed dry cask storage and their costs. Removing fuel over 5 years old from spent fuel pools to dry casks is probably the most significant action the Agency could take to prevent a future nuclear disaster.

So while we support a comprehensive, integrated approach to Emergency Operations, unrealistic expectations for EDMGs related to spent fuels really translates to -- there is no emergency plan.

Thank you for your attention.

We would appreciate being kept informed of the progress on all of the Near Term Task Force recommendations.

Sincerely,

A handwritten signature in cursive script, reading "Barbara J. Warren".

Barbara J. Warren

Executive Director

## **Rulemaking Comments**

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**From:** Barbara Warren [warrenba@msn.com]  
**Sent:** Monday, June 18, 2012 3:42 PM  
**To:** Rulemaking Comments; beall@nrc.gov  
**Subject:** Comments for Docket ID NRC-2010-0031  
**Attachments:** Final Comments to NRC on Recommendation 8 June 18 2012.pdf

Thank you for your attention.

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