

December 13, 2012

Dr. J. Sam Armijo, Chairman  
Advisory Committee on Reactor Safeguards  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

SUBJECT: RESPONSE TO THE ADVISORY COMMITTEE ON REACTOR SAFEGUARDS' RECOMMENDATIONS IN LETTER DATED NOVEMBER 7, 2012, ON THE DRAFT INTERIM STAFF GUIDANCE DOCUMENTS IN SUPPORT OF TIER 1 ORDERS

Dear Dr. Armijo:

The purpose of this letter is to provide the Advisory Committee on Reactor Safeguards (ACRS) with the U.S. Nuclear Regulatory Commission (NRC) staff's review of the ACRS comments provided to Chairman Macfarlane in a letter dated November 7, 2012.

In a July 17, 2012, letter, the ACRS provided comments and recommendations on the proposed interim staff guidance (ISG) documents for implementation of the following:

- Order EA-12-049, "Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events,"
- Order EA-12-050, "Order Modifying Licenses with Regard to Reliable Hardened Containment Vents," and
- Order EA-12-051, "Order Modifying Licenses with Regard to Reliable Spent Fuel Pool Instrumentation."

In an August 15, 2012, letter, I provided you with the NRC staff disposition of these comments. The NRC publicly issued the ISG documents on August 30, 2012, and licensees are using them to implement the orders and prepare their overall integrated plans, which are due by February 28, 2013. In your November 7, 2012, letter, you stated that the ACRS was satisfied with the NRC staff's August 15, 2012, response, except for areas related to the reliable spent fuel pool instrumentation. Specifically, the ACRS expressed concern that the required instrumentation may be inadequate to provide unambiguous knowledge of spent fuel pool water inventory and status of heat removal or cooling capabilities.

One of the lessons learned from the Fukushima Dai-ichi event was that plant operators were distracted from other emergency response actions while they attempted to spray water into the spent fuel pools because they could not tell if the spent fuel remained covered following the hydrogen explosions in the reactor buildings. This formed the basis for issuing Order EA-12-051, which requires licensees to have a reliable indication of the spent fuel pool water level to ensure that plant personnel can effectively prioritize emergency actions. The instrument capabilities endorsed by the ISG are sufficient for plant personnel to identify a loss of coolant inventory and implement recovery measures well before changes in pool conditions could reasonably affect those actions. Thus, plant personnel would have sufficient information to prioritize actions to restore spent fuel pool cooling in relation to other emergency actions and meet the objectives of the order.

In light of the November 7, 2012, ACRS letter, the staff revisited the reasoning for focusing on spent fuel pool level as the parameter of interest in determining if operator action was needed to maintain or recover the pool inventory following an extreme external event. The staff held several public meetings to discuss the requirements for enhancing spent fuel pool instrumentation during development of Order EA-12-051. Parameters such as resolution of level measurements, spent fuel pool temperature, and radiation levels on the refueling floor were all discussed with stakeholders during these meetings. The staff concluded that although all of these parameters may be desirable, pool level indication at the three points described in the order provides adequate warning for operators to take timely actions to maintain or recover pool level during extreme emergency conditions.

For these reasons, the NRC staff does not plan to revise the ISG documents at this time. However, the NRC staff plans to consider the November 7, 2012, ACRS comments during development of the associated Near-Term Task Force rulemaking activities, which will subsequently codify the order requirements, and also during its evaluation of long-term Tier 3 recommendations. For example, the Tier 3 item to consider enhanced reactor and containment instrumentation would consider spent fuel pool instrumentation.

Sincerely,

***/RA by Michael R. Johnson for/***

R. W. Borchardt  
Executive Director  
for Operations

cc: Chairman Macfarlane  
Commissioner Svinicki  
Commissioner Apostolakis  
Commissioner Magwood  
Commissioner Ostendorff  
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