

PEF Draft Response to Non-Seismic Portions of LNP-RAI-LTR-108

NRC Letter No.: LNP-RAI-LTR-108

NRC Letter Date: March 15, 2012

NRC Review of Final Safety Analysis Report

NRC RAI NUMBER: 01.05-1

Text of NRC RAI:

Subject: Request for Additional Information Letter No. 108 Concerning Implementation of Fukushima Near-term Task Force Recommendations

Bullet 2

Provide reasonable protection for equipment currently provided pursuant to 10 CFR 50.54(hh)(2) from the effects of design-basis external events and to add equipment as needed to address multi-unit events while other requirements are being revised and implemented (detailed Recommendation 4.2 - Enclosure 4 of SECY-12-0025).

Bullet 3

Provide sufficient reliable instrumentation, able to withstand design-basis natural phenomena, to monitor key spent fuel pool parameters (i.e., water level, temperature, and area radiation levels) from the control room (detailed Recommendation 7.1 - Enclosure 6 of SECY-12-0025).

Bullet 4

Determine and implement the required staff to fill all necessary positions for responding to a multi-unit event, conduct periodic training and exercises for multiunit and prolonged station blackout (SBO) scenarios, ensure that emergency preparedness equipment and facilities are sufficient for dealing with multi-unit and prolonged SBO scenarios, provide a means to power communications equipment needed to communicate onsite and offsite during a prolonged SBO and maintain the Emergency Response Data System capability throughout the accident (detailed Recommendation 9.3 - Enclosure 7 to SECY-12-0025).

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PGN RAI ID #: L-0999

PGN Response to NRC RAI:

Bullet 2

The LNP response to this item is based on Attachment 3 of SECY-12-0025 Enclosure 4. This attachment is identified as applicable to Vogtle Units 3 and 4 in the SECY. The basis for different requirements for Vogtle Units 3 and 4 in Attachment 3 from other plants in Attachment 2 was based on the passive design and other features characteristic to the AP1000 design. These AP1000 features are standard, and thus, are applicable to the LNP design also. Therefore, a license condition is proposed for LNP with similar content as was required for Vogtle Units 3 and 4 in Attachment 3 of SECY-12-0025. Performing these actions prior to initial fuel load is included as the required time of implementation. This would ensure the mitigation strategies for beyond design basis external events are in place prior to irradiation of fuel when the strategies could potentially be necessary.

Proposed LNP License Condition:

MITIGATION STRATEGIES FOR BEYOND-DESIGN-BASIS EXTERNAL EVENTS

PROPOSED LICENSE CONDITION:

Prior to initial fuel load, PEF will fully implement the following actions associated with mitigation strategies including procedures, guidance, training, and acquisition, staging, or installing of equipment needed for the strategies:

- A. Develop, implement, and maintain guidance and strategies to maintain or restore core cooling, containment and spent fuel pool cooling capabilities following a beyond-design-basis external event. These strategies must:
 - Be capable of mitigating a simultaneous loss of all ac power and loss of normal access to the normal heat sink and,
 - Have adequate capacity to address challenges to core cooling, containment, and spent fuel pool cooling capabilities at all units on the LNP site and,
 - Have the capability to be implemented in all modes.
- B. Provide reasonable protection for the associated equipment from external events. Such protection must demonstrate that there is adequate capacity to address challenges to core cooling, containment, and SFP cooling capabilities at all units on the LNP site.

Attachments/Enclosures:

None

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PGN RAI ID #: L-1000

PGN Response to NRC RAI:

Bullet 3

The LNP response to this item is based on Attachment 3 of SECY-12-0025 Enclosure 6. This attachment is identified as applicable to Vogtle Units 3 and 4 in the SECY. The basis for different requirements for Vogtle Units 3 and 4 in Attachment 3 from other plants in Attachment 2 was based on the design features of the AP1000. These AP1000 features are standard, and thus, are applicable to the LNP design also. Therefore, a license condition is proposed for LNP with similar content as was required for Vogtle Units 3 and 4 in Attachment 3 of SECY-12-0025. Performing these actions prior to initial fuel load is included as the required time of implementation. This would ensure reliable spent fuel pool level instrumentation is in place prior to irradiation of fuel when the instrumentation could potentially be necessary.

Proposed LNP License Condition:

RELIABLE SPENT FUEL POOL LEVEL INSTRUMENTATION

PROPOSED LICENSE CONDITION:

Prior to initial fuel load, PEF will fully implement the following requirements for spent fuel pool level indication.

- A. The spent fuel pool level instrumentation shall include the following design features:
1. Arrangement: The spent fuel pool level instrument channels shall be arranged in a manner that provides reasonable protection of the level indication function against missiles that may result from damage to the structure over the spent fuel pool. This protection may be provided by locating the safety-related instruments to maintain instrument channel separation within the spent fuel pool area, and to utilize inherent shielding from missiles provided by existing recesses and corners in the spent fuel pool structure.
 2. Qualification: The level instrument channels shall be reliable at temperature, humidity, and radiation levels consistent with the spent fuel pool water at saturation conditions for an extended period.
 3. Power supplies: Instrumentation channels shall provide for power connections from sources independent of the plant alternating current (ac) and direct current (dc) power distribution systems, such as portable generators or replaceable batteries. Power supply designs should provide for quick and accessible connection of sources independent of the plant ac and dc power distribution systems. Onsite generators used as an alternate power source and replaceable batteries used for instrument channel power shall have sufficient capacity to maintain the level indication function until offsite resource availability is reasonably assured.
 4. Accuracy: The instrument shall maintain its designed accuracy following a power interruption or change in power source without recalibration.
 5. Display: The display shall provide on-demand or continuous indication of spent fuel pool water level.

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B. The spent fuel pool instrumentation shall be maintained available and reliable through appropriate development and implementation of a training program. Personnel shall be trained in the use and the provision of alternate power to the safety-related level instrument channels.

Attachments/Enclosures:

None

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PGN RAI ID #: L-1001

PGN Response to NRC RAI:

Bullet 4

The LNP response to this item will be based on the Recommendation 9.3 section of SECY-12-0025 Enclosure 7. The PEF response to the Recommendation 9.3 regarding requested actions and information on EP staffing and communications would be provided in response to a 50.54(f) letter issued to PEF from the NRC following LNP COL issuance similar to other AP1000 licensees.

Proposed LNP License Condition:

None

Attachments/Enclosures:

None