

Vogle PEmails

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**Request for Additional Information (RAI) for License Amendment Request (LAR) 16-032
(Changes to In-Containment Refueling Water Storage Tank (IRWST) Level
Instrumentation)**

10 CFR 50.55a(h), "Protection and Safety Systems," requires compliance with IEEE Std. 603-1991, "IEEE Standard Criteria for Safety Systems for Nuclear Power Generating Stations," and the correction sheet dated January 30, 1995. Clause 5.1 of IEEE Std. 603-1991 requires, in part, that safety systems shall perform all safety functions required for a design basis event in the presence of any single detectable failure within the safety systems concurrent with all identifiable but non-detectable failures. Clause 5.7 of IEEE Std. 603-1991 requires, in part, that capability for test and calibration of safety system equipment shall be provided while retaining the capability of the safety system to accomplish their safety functions. Clause 6.7 of IEEE Std. 603-1991 requires, in part, that capability of a safety system to accomplish its safety function shall be retained while sense and command features equipment is in maintenance bypass.

10 CFR 52.47(a)(2), "Contents of applications; technical information", states, in part, with regard to systems, structures and components (SSCs) that the description shall be sufficient to permit understanding of the system designs.

1. As mentioned above, Clause 5.1 of IEEE Std. 603-1991 covers single-failure criterion, Clause 5.7 requires capability for test and calibration for safety system equipment, and Clause 6.7 has the maintenance bypass criterion. It states in the LAR that only two of the three remaining wide range level channels are used for the refueling cavity and Spent Fuel Pool Cooling System (SFS) isolation function. Please provide a safety justification for using only two level channels (and specifically justify having only one remaining channel when the other channel is out-of-service for maintenance) for the refueling cavity and SFS isolation safety function.
2. The LAR states, in part, that isolation valves are added for the four newly proposed lower narrow range level instruments. But the revised Figure 6.3-2 in Enclosure 3 of the LAR shows that existing and new IRWST level instruments share the existing isolation valves. Do the new lower narrow range level instruments have their own isolation valves? Revise Figure 6.3-2 if necessary.
3. Page 9 of Enclosure 1 in the LAR states that the four new lower narrow range level instruments are specified to "meet the same environmental qualification requirements with the exception of a Protection and Safety Monitoring System (PMS) function, with only a required 24 hours operating time". NRC staff understands this to mean that two of the three remaining wide range level channels Passive Core Cooling System (PXS-047 and PXS-048) remain required to be environmentally qualified for Post-Accident Monitoring System (PAMS) functions with a required four months operating time. The revised Table 3.11-1 in Enclosure 3 of the LAR still anticipates four months PAMS operating time for all three remaining wide range level channels for their PAM functions.

Please provide the following:

- a. Justification to support this exception of a 24 hours operating time, instead of 4 month operating time required for PAMS.
 - b. Revisions to make the statements in these two sections provide an explanation for why they are already consistent.
4. It states in the LAR that the L-2, L-3, and PAMS functions are re-assigned to the new level instruments, but it is not clear what PAMS functions are assigned to the new lower narrow range level instruments. Which PAMS functions are retained for the remaining three existing wide range level instruments?
5. Note 4 in Table 7.5-1 of Updated Final Safety Analysis Report (UFSAR) states that two instruments are required after plant conditions become stable. Three instruments are required for non-stable plant conditions. Enclosure 1 of this LAR states that two of the three remaining wide range level channels (PXS-047 and PXS-048) must be environmentally qualified for PAMS function with a required four months operating time. Please explain the inconsistency between the need for three instruments for non-stable conditions and the possibility of having only two instruments available based on the Equipment Qualification (EQ) requirements.
6. The LAR states that isolation valves are added for the four newly proposed lower narrow range level instruments. The existing isolation valves PXS-PL-V150A, -150B, -150C, and -150D are deleted in the revised Table 3.2-3 in Enclosure 3. How will the remaining three wide range level channels be isolated for maintenance?
7. The LAR states that the existing wide range level instrument channels cannot provide their Low-3 actuation signal within the accuracy assumed in the safety analysis. What is the required accuracy of the IRWST level instruments assumed in the safety analysis for the Low-3 actuation signal? How will the new level instruments meet the accuracy requirement assumed in the safety analysis?