

NRR-PMDAPEm Resource

From: Mozafari, Brenda
Sent: Monday, August 08, 2011 8:07 PM
To: John.caves@pgnmail.com; 'Bass, Kimberly'
Cc: Saba, Farideh
Subject: MUR RAI (Mat)(ME6169).docx

John and Kim,

By letter dated April 28, 2011 (Agencywide Documents Access and Management System Accession No. ML11124A180), Carolina Power & Light Company requested approval from the U.S. Nuclear Regulatory Commission (NRC) to increase the core thermal power level of Shearon Harris Nuclear Power Plant, Unit 1 from 2,900 megawatts thermal (MWt) to 2,948 MWt, an increase of approximately 1.66% over the present licensed power level and to change the power plant technical specifications accordingly.

The NRC staff is reviewing your submittal and has determined that additional information is needed to complete its review. The specific questions are found in this e-mail request for additional information (RAI). It is requested that your RAI response be provided by September 7, 2011, as discussed with your staff on August 8, 2011. If more time is needed to respond to the RAI, your request for additional time should include a basis for the need for an extension.

Based on its review, the NRC staff requests the following additional information:

The NRC staff reviewed sections regarding the leak-before-break (LBB) evaluations in the submittal and requests the following additional information.

Enclosure 2 of the submittal dated April 28, 2011

1. Section II.2.40.b, *Short-term LOCA Mass and Energy Release Analysis*, page 56, states that "...HNP is approved for leak-before-break, so Case 1 through 5 breaks [hot and cold leg pipe and pump suction breaks] have been eliminated and only breaks in the largest branch lines (Cases 6 and 7) require evaluation...Since RCS piping breaks have been eliminated by the leak-before-break methodology...the only breaks evaluated for the power uprate are those in the pressurizer subcompartment (pressurizer surge line and pressurizer spray line breaks)..."

The NRC staff notes that the dynamic effects of the LBB pipe break should still be considered in the containment design as stated in the Statement of Consideration of the final rule to modify General Design Criterion 4, dated April 11, 1986 (51 FR 12502). Clarify why the dynamic effect for pipe breaks in Cases 1 through 5 have been eliminated and not evaluated for the impact of the power uprate on the containment design.

2. Section IV.1.B.vii.2, *Leak-Before-Break Evaluation*, page 94, states that "...[t]he leak-before-break acceptance criteria are based on SRP Section 3.6.3. The acceptance criteria are satisfied for primary loop piping at power uprate conditions. The recommended margins are satisfied, and the existing analyses conclusions remain valid. Therefore, the dynamic effects of RCS primary loop piping breaks are not considered in the structural design basis at MUR power uprate conditions..." (a) Discuss in detail exactly how the acceptance criteria and the recommended margins are shown to be satisfied, and how the existing analyses conclusions remain valid for primary loop piping at power uprate conditions. (b) Clarify which structural design basis will not include the dynamic effects of RCS primary loop piping breaks at MUR power uprate conditions and for what components.

3. (a) List all piping that have been approved for LBB (LBB piping). (b) List all approved LBB piping that contain nickel-based Alloy 82/182 dissimilar metal welds which are susceptible to primary water stress corrosion cracking. (c) If mitigation has been implemented on the subject welds, discuss whether the original

LBB evaluation has been updated per NRC Regulatory Issue Summary 2010-07. (d) If the mitigation has not been implemented, discuss plans to mitigate the subject welds. If mitigation is not planned, provide justification.

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