

From: Paige, Jason
Sent: Friday, April 01, 2011 11:03 AM
To: Abbatiello, Tom
Cc: Abbott, Liz; Tiemann, Philip; Hoffman, Jack; Hanek, Olga; Tomonto, Bob
Subject: Turkey Point EPU - Containment and Ventilation (SCVB) Request for Additional Information - Round 1

Tom,

Below are requests for additional information (RAIs) regarding the Turkey Point Extended Power Uprate (EPU) license amendment request. On March 31, 2011, the Nuclear Regulatory Commission (NRC) staff and Florida Power & Light Company (FPL) held a public meeting to discuss draft RAIs generated from various NRC technical branches while reviewing the October 21, 2010, EPU application. During the meeting, it was concluded that two of the draft questions (SCVB-1.11 and SCVB-1.12) regarding generic safety issue (GSI) 191 and net positive suction head (NPSH) should be withdrawn until the NRC staff finalizes guidance on how to resolve these two issues while EPUs are under NRC staff review. FPL believes GSI-191 is a separate licensing action than the EPU, and is currently being resolved through Generic Letter 2004-02. Also, regarding question SCVB-1.10, FPL plans on providing a commitment in its response to provide a new analysis at a later date. The below RAIs reflect the questions discussed during the March 31, 2011, meeting. FPL agreed upon providing its responses within 30 days of the date of this email. If you have any questions, feel free to contact me.

Containment and Ventilation

SCVB-1.1 Section 2.5.3, "Fission Product Control," of Attachment 4 (Licensing Report (LR)) to the license amendment request (LAR) dated October 21, 2010, subsection 2.5.3.1.2.2 discusses the control room ventilation system emergency operating parameters in the recirculation mode. The application states that in this mode the control room filter removal efficiency is 97.5% and the unfiltered in-leakage flow is assumed to be no greater than 115 cfm.

However, in response to a staff RAI during the alternate source term (AST) application review, Florida Power & Light Company (FPL) revised control room filter efficiency and unfiltered control room in-leakage assumptions (see letter dated June 25, 2010 (Agencywide Document and Management System (ADAMS) Accession No. ML101800222)). Specifically, FPL reduced the credited control room filter efficiencies for elemental iodines and organic iodides from 97.5% to 95%. FPL also reduced the amount of unfiltered air in-leakage into the Control Room from 115 cfm to 100 cfm in order to preclude any encroachment on the AST LAR 196 indicated margin to the regulatory dose limits.

Explain why the filter removal efficiency and in-leakage flow parameters discussed in subsection 2.5.3.1.2.2 are different than those stated in the AST LAR.

SCVB-1.2 Section 2.7.1, "Control Room Habitability," of Attachment 4 to the LAR, Subsection 2.7.1.2.3 discusses the ability of the Control Room Ventilation System (CRVS) to maintain a mild temperature environment as required by the

Equipment Qualification Program. Specifically, FPL evaluated the CRVS at EPU conditions. Provide a summary of the CRVS heat removal evaluation performed (discuss any changes in CR heat loads), and specify if the evaluations performed are qualitative or quantitative.

- SCVB-1.3 Section 2.3.5, "Station Blackout" of Attachment 4 to the LAR, Subsection 2.3.5.2.3 concludes that the EPU will not affect the ability to fulfill the requirements of Turkey Point's HVAC system during a station blackout (SBO) event. It is stated in this section that heat loads in the buildings have either not increased or when increased, it is minor and well within the capacity of the area ventilation. Provide the details of the evaluations performed, and compare the results with the pre-EPU conditions.
- SCVB-1.4 Section 2.6.3.2, "Mass and Energy Release Analysis for Secondary System Pipe Ruptures," of Attachment 4 to the LAR, subsection 2.6.3.2.2.1 discusses the addition of a backup isolation valve being added in the main feedwater (MFW) bypass line, which will isolate the feedline volume if a failure of the bypass line isolation valve is postulated. Is the new backup isolation valve being added to the Technical Specifications?
- SCVB-1.5 Section 2.6.3.2, "Mass and Energy Release Analysis for Secondary System pipe Ruptures," of Attachment 4 to the LAR, subsection 2.6.3.2.2.1 refers to the modified feedwater isolation valves (FIVs) as "quality-related". Is "quality-related" the same as "safety-related"? Are these valves designed under the Turkey Point 10 CFR 50 Appendix B Quality Assurance Program?
- SCVB-1.6 Section 2.6.3.2, "Mass and Energy Release Analysis for Secondary System Pipe Ruptures," of Attachment 4 to the LAR, subsection 2.6.3.2.2 provides the details of the main steam line break (MSLB) analysis at the EPU conditions. Explain the differences between the current licensing basis analysis and the EPU analysis, with special attention to the hardware modifications as a result of the EPU (e.g. modified FIVs, addition of a backup isolation valve in the MFW bypass line, AFW pump modifications). In particular, discuss all changes to the inputs, assumptions, single failures, AFW flow rates, AFW pump start times, and the codes used in the analysis.
- SCVB-1.7 Section 2.6.1.2.3, "Containment Response to Main Steam Line Break," of Attachment 4 to the LAR, subsection 2.6.1.2.3.5 states the limiting containment pressure case for the EPU is a 1.0 ft² split break of the main steamline initiated from hot zero power with a single failure of the main steamline check valve. Provide the peak containment pressure and temperature for the EPU with a 1.0 ft² split break of the main steamline initiated at 100% power with a single failure of the main steamline check valve?
- SCVB-1.8 Section 2.7.2, "Engineered Safety Feature Atmosphere Cleanup," of Attachment 4 to the LAR, subsection 2.7.2.2.3.1 states that the EPU impact on the ECCS ability to provide homogeneous atmospheric mixing has been evaluated in LR Section 2.6.4, "Combustible Gas Control in Containment." The staff reviewed LR Section 2.6.4 and determined that no such assessment was discussed. In accordance with the requirements of Section (b)(2) of 10 CFR 50.44 as related to combustible gas control for currently licensed reactors, confirm that the Turkey

Point containment has the capability of ensuring a mixed atmosphere following a Loss-of Coolant Accident at EPU conditions. Summarize the Turkey Point's containment design that support this assessment.

- SCVB-1.9 The applicability of NRC Generic Letter (GL) 96-06 as it relates to Turkey Point was addressed in Section 2.5.4.3, "Reactor Auxiliary Cooling Water Systems (Component Cooling Water System)." Specifically, discuss fluid contained in penetrations between containment isolation valves and if any additional measures are required as a result of the EPU.

Containment Accident Pressure (CAP) and ECCS Pump Net Positive Suction Head

- SCVB-1.10 Section 2.6.3.1, "Mass and Energy Release Analysis for Postulated Loss-of-Coolant Accident," of Attachment 4 to the LAR, subsection 2.6.3.1.2.1.3 discusses the evaluation model used for the long-term LOCA M&E release calculations. Westinghouse discovered that the computer code (EPITOME) used to generate the M&E inputs for the containment peak pressure analysis contains an error which could result in an increase in the containment pressure and temperature for the double ended pump suction LOCA, including a maximum increase in the peak containment pressure of up to 5 psi and temperature of up to 5.5 deg F. Since FPL used the EPITOME code in its EPU analysis for Turkey Point, provide information on how this code error affects Turkey Point's containment response analysis for a LOCA, specifically regarding the calculated peak pressure and peak temperature.
- SCVB-1.11 Section 2.6.6, "Pressure Analysis for ECCS Performance Capability." Provide the minimum containment pressures calculated during reflood for the current licensing basis and for the proposed EPU.

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