

From: Pickett, Douglas
Sent: Monday, July 02, 2012 11:35 AM
To: 'Prussman, Stephen G'; 'rwalpol@entergy.com'
Cc: Casto, Greg; Wilson, George; Parks, Benjamin; Miranda, Samuel; Gray, Mel; Gardocki, Stanley; Lingam, Siva; Davis, Jack
Subject: NRC Acceptance Review of Indian Point 3 ADV License Amendment

Bob/Steve -

The staff has performed an acceptance review of Indian Point Unit 3's proposed change to Technical Specification 3.7.4 (i.e., your letter dated May 23, 2012, TAC No. ME8750) in accordance with LIC-109, Appendix B, "Guide for Performing Acceptance Reviews."

Specifically, the staff finds the amendment does not meet the following acceptance review criteria:

- **Completeness of Scope** – Significant analyses/evaluation necessary for staff review are missing from the license amendment request.
- **Sufficiency of Information** – Information provided in the LAR lacks a level of detail that is appropriate and necessary for the staff to perform an acceptance review.
- **Regulatory Basis** – Applicable regulations and criteria consistent with regulatory vehicles were not properly applied in the licensee request, as provided in the amendment request.

In regard to the LIC-109 criteria cited above, specific issues with the Indian Point amendment request is described as follows:

The staff finds that the license amendment request does not provide an adequate evaluation for determining the appropriate Technical Specification Limiting Condition for Operation based upon a complete safety analysis encompassing the most limiting single failure.

In accordance with 10 CFR 50.36, Technical Specifications are derived from analyses and evaluation and continues to specify that limiting conditions for operation shall define the lowest functional capability required for safe operation. 10 CFR 50 Appendix A defines a single failure.

In FSAR, Section 1.3, Criterion 34, Residual Heat Removal, the licensee states it will ensure system safety function can be accomplished assuming a single failure.

In FSAR Section 14.2.4, Steam Generator Tube Rupture, the licensee states that in the event of a loss of off-site power (LOOP), the licensee credits the use of the steam generator power-operated relief valves (ADV) on the intact steam generators to cooldown the reactor coolant system (RCS) as rapidly as possible prior to depressurizing the RCS in order to stop the primary to secondary leakage.

In the amendment request letter dated May 23, 2012, the licensee states under the first paragraph in their Technical Analysis, "... When the TS were revised for the power uprate (Reference 2), the SG tube rupture analysis assumed that three ADVs were available to reduce pressure and allow isolation of the ruptured generator. An LCO of 4 ADVs is required for three to be available since the ADV on the ruptured SG is not considered available. No additional ADV is assumed to fail consistent with the analysis (Reference 3) that was submitted in Reference 4." Since the plant only has four ADVs and the ADV on the ruptured steam generator is not credited for use, and assuming at least one ADV is lost due to a single failure,

then only two ADVs are available to perform the cooldown in the required period of time to prevent an over fill condition and limit the radiological release.

In order to meet the requirements of LIC-109, the licensee needs to provide an analysis, considering dose, mass release, and overfill, for a steam generator tube rupture by taking into account the unavailability of the ADV on the ruptured steam generator and the loss of additional ADVs due to the most limiting single failure.

Therefore, the staff concludes that your application is unacceptable with the opportunity to supplement.

We request a telephone conference call to discuss the deficiencies in your application and how you intend to respond. As stated in LIC-109, you will be expected to provide a written response within 13 working days following the phone call. While we normally schedule a phone call within five working days of this email, we understand that due to the holiday week, it may be difficult to schedule a call this week. Please let me know when you and your staff are available to discuss the staff's findings.

References:

The staff issued a Task Interface Agreement (TIA) 2010-002, dated December 20, 2010 (ML103230177), to address the licensing basis for single failure at the Bryon Station. Within this TIA, the staff explained to the licensee of Bryon Station the requirement to address the most limiting single failure when evaluating a steam generator tube rupture. At Bryon, an electrical failure was found to make two ADVs unavailable.

WCAP-10698, SGTR Analysis Methodology to Determine the Margin to Steam Generator Overfill, was evaluated and approved by the staff for industry use. The report identified the worse single failure for the reference plant was failure of an ADV to open on an intact steam generator.

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