

From: Lamb, John
Sent: Friday, May 13, 2022 4:03 PM
To: Quarles, Adam Graham
Cc: Joyce, Ryan M.; Enfinger, Timothy Lee; Havertape, Joshua; Brown, Adrienne; Tetter, Keith; Park, Sunwoo; Wilk, Mark
Subject: For Your Action: Hatch TSTF-505 - Follow up from Audit Question 12
Attachments: APLC AUDIT Q12 Follow-up.docx

Importance: High

Adam,

At the continuation of the Hatch TSTF-505 Audit scheduled for May 20, 2022, the NRC has a follow-up to Audit Question 12 (see attached) that the NRC staff requests to discuss with SNC.

Thanks.
John

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APLC AUDIT Q12 Follow-up

Section 2.3.1, Item 7, of NEI 06-09 states that the “impact of other external events risk shall be addressed in the risk management technical specification (RMTS) program” and explains that one method to do this is by “performing a reasonable bounding analysis and applying it along with the internal events risk contribution in calculating the configuration risk and the associated RICT.” The NRC staff’s SE for NEI 06-09 states that “Where PRA models are not available, conservative or bounding analyses may be performed to quantify the risk impact and support the calculation of the RICT.”

In the LAR, the seismic penalty approach is used to quantify the risk impact and to support the RICT evaluation. Section 5 of Enclosure 4 to the LAR indicates that a seismic PRA (SPRA) for the Hatch plant was developed and that the Hatch SPRA was not directly used in the RICT program but provided input into the calculation for SCDF and SLERF penalty values. The licensee compared the estimated SCDF penalty for the proposed RICT calculations against the point-estimate SCDF from the site-specific SPRA. In addition, the licensee used the SLERF to SCDF ratio from the site-specific SPRA to determine the SLERF penalty for use in the proposed RICT calculations.

The comparison of the estimated SCDF and SLERF penalties against the corresponding point-estimate mean values from the site-specific SPRA does not provide justification that the SCDF and SLERF penalty estimates are conservative. There is no upper bound on the change-in-risk calculation, and the change in risk can exceed the base SCDF and SLERF. However, it appears to the NRC staff that the SPRA could provide the means to justify that the proposed SCDF and SLERF penalty estimates are conservative, consistent with the NRC staff’s SE for NEI 06-09.

During the regulatory audit conducted on April 5 - 7, 2022, the licensee attempted to address this concern by referencing Table 3.5-1 and 3.5-2 in “License Amendment Request to Revise the Required Actions of Technical Specifications 3.8.1, AC Sources – Operating, for One-Time Extension of Completion Time for Unit 1 and Swing Emergency Diesel Generators,” dated July 31, 2020 (ADAMS Accession No. ML20213C715). However, the staff identified potentially non-conservative Incremental Conditional Core Damage Probability (ICCDP) and Incremental Conditional Large Early Release Probability (ICLERP) values listed in Table 3.5-1 for the DG 1C seismic hazard, as well as other cases for other PRAs. As a result of this inquiry, the licensee reviewed its calculations and identified errors involved in the modeling and provided reevaluated results for Unit 1 EDG 1C on the portal for the NRC staff to review.

To allow the NRC staff to better understand the effect of these changes on the RICT program, the licensee is requested to address the following:

- a. Briefly describe the modeling errors identified in the quantification results provided in Tables 3.5-1 and 3.5-2. Include in the response how each error was resolved. Include identification of errors determined to impact the PRA models (i.e., internal events, internal floods, internal fire, seismic) and the real-time risk (RTR) model being used to support the review of the TSTF-505 LAR and confirm the resolution has been incorporated into the models as applicable.
- b. Based on the results of Part (a), provide updated Tables 3.5-1 and 3.5-2 of the July 31, 2020, LAR (ML20213C715) that reflect the modeling error resolutions. Ensure that the values are updated across all six EDGs.

- c. Provide a table that includes risk results, illustrating the differences between the July 31, 2020, entries for Tables 3.5-1 and 3.5-2 and the updated values provided in Part (b) for all site EDGs.
- d. For any changes to the PRA models identified in part(a) that are used to support the TSTF-505 LAR, confirm there is no adverse impact on the RICT program.
- e. Confirm if the Hatch SPRA CDF and LERF values provided in the RICT LAR are impacted by the aforementioned modeling errors, if so, provide the updated values from Section 5 of Enclosure 4 to the TSTF-505 LAR. Also, evaluate the impact of the identified modeling errors on estimating the average Seismic Conditional Large Early Release Probability (SCLERP) used in calculating the SLERF penalty value for the RICT LAR,
- f. Justify that the SCDF and SLERF penalty values in the LAR are conservative based on the results from change-in-risk calculations (delta-CDF and delta-LERF) for the DGs cited above using the Hatch SPRA.