

NRR-PMDAPEm Resource

From: Williams, Shawn
Sent: Thursday, August 03, 2017 5:53 AM
To: 'gkmcclro@southernco.com'
Cc: Jackson, Nicole D.
Subject: Joseph M. Farley Nuclear Plant, Units 1 and 2 - Supplemental RAI request No. 5(b), 5(c), and 6 related to License Amendment Request to revise TS 5.5.17 "Containment Leakage Rate Testing Program." (CAC Nos. MF8844, MF8845)

Dear Mr. McElroy,

By letter dated November 15, 2016 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML 16320A540), the Southern Nuclear Operating Company, Inc., (SNC) submitted an amendment request to revise the Joseph M. Farley Nuclear Plant, Unit 1 and Unit 2, Technical Specifications, related to a request to revise TS 5.5.17 "Containment Leakage Rate Testing Program." By letter dated June 22, 2017 (ADAMS Accession No. ML17173A652), SNC provided a partial response to an NRC request for additional information (RAI) letter dated March 15, 2017 (ADAMS Accession No. ML17058A113). In the June 22, 2017, letter, SNC stated that the remaining RAIs will be provided by August 31, 2017.

Staff has reviewed the June 22, 2017, letter, and has determined that additional information is needed related to SNC's response to RAI No. 6. Please address the supplemental RAI to No. 6 in the supplement to be provided by August 31, 2017. This information was discussed with your staff on July 31, 2017.

Supplement to RAI No. 6 – Service Water Pond Dam Failure

In RAI No. 6, the NRC Staff requested the following:

In the application for NFPA 805, an F&O related SR IE-A 10 cited the need to address the probability of dam failure using newer techniques, possibly with inclusion of loss of the SW pond dam to the model. The resolution cited a sensitivity evaluation for which the estimated CDF and LERF were approximately $1 \text{ E-}5/\text{yr}$ and $1 \text{ E-}7/\text{yr}$, respectively, for each unit. Table 6-2 of Attachment 1 for the Permanent ILRT Interval Extension Risk Impact Assessment cites "screened out" for "Other External Risk," which presumably would include this dam failure. Address whether this dam failure analysis has been updated or not. If updated, discuss whether the "screened out" citation still applies. If not, revise Table 6-2 to include the results of the cited sensitivity evaluation and address the effect on risk and delta-risk metrics.

The NRC Staff reviewed SNC's response contained in the June 22, 2017, letter. In RAI No. 4, SNC provided their resolved F&O for IE-A10-02 along with the F&O Table Appendix information for F&O IE-A10-02 for Service Water Pond Dam Failure. SNC provided additional information in RAI No. 6.

SNC is taking maximum credit for the integrity of its dam (Category 1 for all four evaluation scales) but still cites an apparently subjective reduction factor of 100 to use the SR IR E-C6 screening criteria to dismiss modeling this initiator. SNC is using qualitative arguments to justify this maximum credit. This approach may be applicable to selecting the lowest generic frequency (Category 1) among the different evaluation scales, but does not translate into additional credit for plant-specific reduction below the Category 1 frequency. Using the Category 1 rating, a total internal dam generic failure frequency is estimated as $1.25\text{E-}5/\text{year}$, appropriate as a final plan-specific factor.

The Peer Review questioned the validity of the factor of 100 reduction in the derived dam failure frequency, which is necessary to lower the frequency sufficiently such that the cited screening criterion from SR IE-C6 can be used. The licensee does not address the peer review issue regarding validating the factor of 100.

Please perform a sensitivity analysis incorporating the dam failure at the generic frequency (i.e., without the 100-fold reduction) to demonstrate negligible effect upon the acceptability of the risk metrics for this application. The sensitivity results should be incorporated with any others arising from changes/enhancements requested in the other RAIs.

Supplement to RAI Nos. 5(b) and 5(c)

The NRC staff is aware that SNC is in the process of updating the Farley FPRA for its NFPA-805 “true up” License Condition and that SNC will provide a response to RAI 5(a) by August 31, 2017.

In RAI Nos. 5(b), and 5(c), the NRC Staff requested the following:

In Section 6.3 “Potential Impact from External Events Contribution”, Table 6-2 provides core damage frequency (CDF) and large early release frequency (LERF) values for Fire Events from the FNP Fire PRA (FPRA) that credits pending modifications for NFPA 805 that will be implemented by the end of 2017. Please state if the fire CDFs (and LERFs) reflect changes to FPRA methods made since the safety evaluation (SE) was issued for NFPA 805 including the following:

b. Changes (generally increases) in fire ignition frequencies and non-suppression probabilities from NUREG-2169. For example, the frequency of fires in the Main Control Board is now twice as high as in the original NUREG/CR-6850 and six times higher than in its Supplement 1. The mean time to suppress a welding fire is nearly twice as long as in both the original NUREG/CR-6850 and its Supplement 1.

c. Possible increases in spurious operation probabilities from NUREG/CR-7150, Vol. 2. For example, intra-cable spurious operation for an ungrounded AC, with individual control power transformers, single-break control circuit for a solenoid-operated valve has a probability of 0.64, slightly higher than the value of 0.6 from NUREG/CR-6850.

The NRC Staff reviewed the response contained in the June 22, 2017, letter.

SNC responded to RAI 5(b) with a statement about Fire Human Reliability Analysis (which was not the subject of this part of the RAI). SNC did not address the question related to changes in fire ignition frequencies and non-suppression probabilities from NUREG-2169. Please address this in the August 31, 2017, supplement, including updated calculations related to the risk and delta-risk metrics.

SNC responded to the RAI 5(c) by stating that NUREG/CR-7150, Vol 2, has not been applied to the Farley Fire PRA, and CDF’s and LERF’s presented in this LAR do not reflect NUREG/CR-7150, Vol. 2.

If any spurious operation probabilities would be higher using NUREG/CR-7150, Vol 2, than currently used, please address this in the August 31, 2017, supplement including updated calculations related to the risk and delta-risk metrics. If none are higher, please provide a statement.

Sincerely,
Shawn Williams
NRR/DORL/LPL2-1
V.C. Summer and Farley PM
301-415-1009

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