

From: Vaidya, Bhalchandra
Sent: Monday, September 12, 2011 10:47 AM
To: 'Dorman, Eugene'; 'Pechacek, Joseph'
Cc: Salgado, Nancy; Harrison, Donnie; Howe, Andrew; Waig, Gerald; Elliott, Robert
Subject: FitzPatrick - ME6755- Draft RAIs Re: LAR for Adopting TSTF-425, Revision 3

SUBJECT: James A. FitzPatrick Nuclear Power Plant (JAFNPP) –REQUESTED LICENSING ACTION
RE: License Amendment Request (LAR) to adopt U.S. Nuclear Regulatory Commission (NRC)-approved Technical Specification Task Force (TSTF-425), Revision 3 (TAC NO. ME6755)

By application dated July 22, 2011 .(Agencywide Documents Access and Management System Accession No. ML112060443), Entergy Nuclear Northeast requested changes to the technical specifications for the James A. Fitzpatrick Nuclear Power Plant. The requested change is the adoption of NRC-approved TSTF-425, Revision 3, “Relocate Surveillance Frequencies to Licensee Control—RITSTF Initiative 5b.”

The NRC staff has completed its initial review of the proposed changes and have identified a number of areas where additional information is needed to complete our review. The request for additional information is provided below:

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REQUEST FOR ADDITIONAL INFORMATION RELATED TO AN AMENDMENT TO

IMPLEMENT TSTF-425 REVISION 3

ENTERGY NUCLEAR NORTHEAST

JAMES A. FITZPATRICK NUCLEAR POWER PLANT

DOCKET NO. 50-333

1. In Section 2.2.3 of Attachment 1 of the LAR, the licensee identified that the September 2009 peer review identified 51 facts and observations (F&Os), 21 of which were considered to not meet at least capability category II of the applicable internal events probabilistic risk assessment (PRA) standard. Table 2-1 of Attachment 1 summarizes and assesses the open F&Os. There are 11 F&Os discussed in Table 2-1.
 - a. How was the determination made for each F&O that capability category II of the standard was not met – was this internally determined by licensee staff, or by the peer review? If determined by licensee, then discuss this decision process.
 - b. The licensee is requested to confirm that the other 10 F&Os not summarized in Table 2-1 have been resolved and closed out, and that their disposition is reflected in the current PRA model proposed for use to support the Surveillance Frequency Control Program (Reference 3 of Attachment 1); if any of these 10 F&Os were closed out without making any changes to the PRA model, then the licensee is requested to provide summary information of the F&O, and justification as to why no change was required to resolve the issue. If the other 10 F&Os are not yet closed, the licensee should discuss and justify why these F&Os were omitted from Table 2-1.
2. The summary of the F&O for supporting requirement (SR) AS-B7 is unclear, in that the table (Table 2-1 of Attachment 1) entry implies that the Control Rod Drive (CRD) system model logic and success criteria do not explicitly account for the fact that the CRD system capacity is insufficient for decay heat removal early in the sequence (i.e., immediately after a plant trip), but that the CRD system is only credited on the success branch, which would seem to imply that the model logic is accurate. Further, the disposition of the importance of this F&O states that surveillance test interval changes would not

be relevant to the modeling of long term use of CRD; this would appear to be inconsistent with the potential impact of improper modeling of CRD on the risk importance of CRD and other injection sources, which could impact the risk calculations made to address surveillance test interval changes for such systems. Finally, it is stated that random failures of early injection are truncated out during accident sequence quantification. While this may be accurate, it does not seem to be relevant to the issue of improper crediting of the CRD injection function. The U.S. Nuclear Regulatory Commission (NRC) staff is unable to reach a conclusion regarding this F&O and requests the following clarifications:

- a. Provide the full text of the F&O for staff review.
 - b. Describe how the CRD injection function is modeled in the accident sequence logic, and specifically identify how this modeling will ultimately be revised to address the F&O (if applicable), or justify that the existing modeling is correct or conservative.
 - c. If the current modeling of the CRD injection function is non conservative, provide bounding sensitivity analyses which do not credit the CRD system.
3. The summary of the F&O for SR HR-G7 identifies that the modeling for human error dependencies is not correct, in that the order of the events is based on individual human error probabilities (HEPs) rather than the order in which the events will occur in a given accident sequence, which is the accepted method for analyzing the overall joint probability of multiple dependent human errors. The licensee discussion of the importance of this F&O states that lower probability human errors (i.e., those most likely to be successful) generally occur earlier in the sequence. The NRC staff is not aware of this fact as a generally accepted principle in PRA. The licensee also states that dependent probabilities are conservative because the dependency between execution portions of two actions are frequently low or zero, while the dependent probability applies to the overall HEPs. While this may be an accurate statement, the qualitative identification of conservatism in a calculation is not an adequate basis to judge the potential quantitative impact of an inaccurate calculation method. The NRC staff is unable to reach a conclusion regarding this F&O and requests the following clarifications:
- a. Provide the basis for the assertion that lower probability human errors generally occur earlier in the sequence.
 - b. Discuss the scope of this F&O in terms of the number of dependency calculations which are impacted, the quantitative impact of individual calculations of dependency, and the potential cumulative impact on overall model results.
4. The summary of the F&O for SR LE-E3 identifies that the definition of "early" is not consistent and that this may result in some large early release frequency (LERF) sequences being classified as non-LERF. The licensee discussion of the importance of this F&O states that changes to surveillance test interval would not impact the time available for protective actions prior to a release. The NRC staff believes that the potential impact of this F&O is that a change to a surveillance test interval may be calculated as having a lesser impact on Δ LERF, since LERF sequences may not be properly identified. The fact that surveillance test intervals are unrelated to the time available for protective actions, while accurate, is not relevant in assessing the potential quantitative impact of this F&O. The NRC staff is unable to reach a conclusion regarding this F&O and requests the following clarifications:
- a. Provide the full text of the F&O for staff review.
 - b. Provide the basis for defining "early" in the actual PRA model of LERF sequences.
 - c. Discuss where the model may be non conservative (i.e., treating potential LERF sequences as non-LERF) and include a quantitative assessment of the non conservatisms.
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Please contact me ASAP, to schedule a telephone conference call between the NRC staff and the licensee staff, to ensure that the RAI is clear to the licensee, and also, to obtain the firm commitment from the licensee for the supplemental submission with full and complete response to the RAI.

Thanks,

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