

NRR-DMPSPEm Resource

From: Wentzel, Michael
Sent: Thursday, May 17, 2018 11:59 AM
To: Hess, Robert
Cc: Hanek, Olga; Kilby, Gary; Czaya, Paul
Subject: Turkey Point Nuclear Generating Unit Nos. 3 and 4, Request for Additional Information Regarding License Amendment Request 236 (CAC Nos. MF5455 and MF5456; EPID L-2014-0002)

Dear Mr. Hess:

By application dated December 23, 2014 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML15029A297); as supplemented by letters dated June 16 and August 11, 2016; February 9, April 27, and October 30, 2017; and February 15 and March 22, 2018 (ADAMS Accession Nos. ML16180A178, ML16243A104, ML17060A249, ML17117A618, ML17303A768, ML18046A597, and ML18081A063, respectively), Florida Power & Light Company (FPL, the licensee) submitted License Amendment Request (LAR) No. 236 for Turkey Point Nuclear Generating Unit Nos. 3 and 4 (Turkey Point). The proposed amendments would revise the Technical Specifications (TSs) to Implement TS Task Force (TSTF)-505, Revision 1, "Provide Risk-Informed Extended Completion Times RITSTF [Risk-Informed TSTF] Initiative 4b." By letter dated November 15, 2016 (ADAMS Accession No. ML16281A021), the U.S. Nuclear Regulatory Commission (NRC) staff informed the TSTF of its decision to suspend approval of TSTF-505, Revision 1 because of concerns identified during the review of plant-specific license amendments requesting adoption of the traveler. The NRC staff is reviewing the licensee's application as a site-specific proposal to address the staff's concerns with TSTF-505, Revision 1.

The NRC's Probabilistic Risk Assessment Licensing Branch A (APLA) staff is reviewing the application and has identified areas where it needs additional information to support its review. The NRC staff's request for additional information (RAI) is provided below. A draft copy of the RAI was provided to your staff on April 19, 2018. Based on a clarification call with the licensee's staff on May 7, 2018, the NRC staff revised the wording on APLA RAI-15.01.a to clarify that modeling to be incorporated is to be done in accordance with NUREG-2180. As discussed with the licensee's staff on call on May 17, 2018, the NRC staff requests your response to the RAI within 30 days of the date of this email.

If you have any questions, please contact me at (301) 415-6459 or michael.wentzel@nrc.gov.

Sincerely,

Michael Wentzel, Project Manager
Plant Licensing Branch II-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

REQUEST FOR ADDITIONAL INFORMATION

LICENSE AMENDMENT REQUEST 236

FLORIDA POWER & LIGHT COMPANY

TURKEY POINT NUCLEAR GENERATING UNIT NOS. 3 AND 4

APLA RAI-12.01 Remaining Unresolved F&Os

APLA RAI-12, dated August 10, 2017 (ADAMS Accession No. ML17223A061), noted that eleven facts and observations (F&Os) were identified in the LAR as unresolved and requested a resolution. In the February 15, 2018, supplemental response to APLA RAI-12, FPL stated that the eleven findings listed as unresolved in the LAR have been closed by an independent assessment (IA) team in accordance with the NRC approved F&O closeout process. FPL further stated that the F&O closeout identified 43 F&Os that were reported as resolved in the LAR but that the IA team concluded required additional documentation or justification. The RAI response included a table of these F&Os, the F&O IA team's comments, and FPL's disposition of the IA team comments for the risk-informed completion time (RICT) calculations. Many of the IA team's comments stated that no documentation confirming FPL's stated resolution was found and, therefore, the F&O could not be closed. In FPL's disposition for RICT responses, FPL generally states that "[d]ocumentation updates are needed" and that there is "[n]o impact on the RICT." The NRC staff has reviewed the information and concludes that when the IA team was unable to identify documentation to verify that the resolution proposed by FPL was implemented, FPL's stated resolution is assumed to have been implemented, but not documented, and therefore there is no impact on the RICT. For several F&Os discussed below, however, it appeared that the documentation available indicated that the resolution proposed by FPL may not have been implemented as summarized, and therefore, the conclusion that there is no impact on the RICT needs additional justification.

a. HR-A2-01

In Attachment 3 of the February 15, 2018, RAI response, the F&O IA team commented that the licensee was using an alternative approach to identify, screen, and quantify pre-initiators from the approach assumed in HR-A2 in the probabilistic risk assessment (PRA) standard. Based on the limited information provided in Table 1 of Enclosure 2 of the LAR, and Enclosure 3 of the February 15, 2018, RAI response, it appears all potential pre-initiator human errors are quantitatively screened based on using a relatively low screening value. The American Society of Mechanical Engineers (ASME) Standard does not address quantitative screening. Additionally, RICT calculations may include multiple structures, systems, and components that are inoperable, which can significantly alter PRA results and invalidate previous quantitative screening decisions. In addition to the use of an alternative approach, the IA team noted that some values seem to differ between the documentation and the PRA model.

1. Please summarize the new approach to identifying and including pre-initiator human errors in the PRA and justify its applicability for RICT calculations. For example, why are screening values of $3E-03$ and $3E-4$ expected to capture all pre-initiator human errors that would become important under configurations for which a RICT may be calculated. Alternatively, implement or provide an implementation item in the response to APLA RAI 15.01 about implementing a method consistent with the ASME Standard.
2. Please confirm that the PRA model and the documentation are aligned.

b. QU-3

Table 1 of Enclosure 2 of the LAR states that changes to the mutually exclusive event combinations, flag file, circular logic breaks, and recovery rule file are documented in the change database and the model updates. However, the F&O team found no evidence of documentation of the recovery or the mutually exclusive files. Improper modeling of these issues can affect the RICT calculations. In its February 15, 2018, disposition of the F&O team's finding, the licensee states that the finding will have no impact on the RICT calculation; however, the basis for that disposition is not clear without a well-documented evaluation. Please summarize how recovery and the mutually exclusive events are identified, evaluated, modeled, and documented.

c. IFSN-A2-01, IFSN-A4-01

Table 1 of Enclosure 2 of the LAR for IFSN-A2-01 states that no credit for floor drains or operator actions to mitigate a flood was taken, and therefore, there was no need to credit flood alarms. Table 1 of Enclosure 2 of the LAR for IFSN-A4-01 states that calculations for flood volumes and subsequent flooding heights had been documented. The F&O team comments identified a PRA document that stated that a reasonable time for the flood to be terminated was based on alarms. In general, timing considerations for operators to terminate the flood is logical, otherwise unreasonable flood damage would have to be assumed. The F&O team also identified at least one drain that appeared to have been assessed. The F&O team could not identify specific calculations on room equipment floods and propagation, nor the input to those calculations (such as time to termination and floor drains).

Please summarize how flooding alarms, human actions, and floor drains have been included in the PRA to determine flood volumes and flood heights. If additional changes are needed to the PRA to resolve these F&Os, provide an implementation item in the response to APLA RAI 15.01 summarizing the changes.

d. IGN-A7

Table 1 of Enclosure 2 of the LAR for IGN-A7 states that supplemental walkdowns were performed to identify any missing ignition sources and the analysis was updated accordingly. The F&O team commented that not all ignitions sources that have been identified have been included in the fire PRA. FPL responded that any effect of and missing sources is bounded by the NUREG-2180, "Determining the Effectiveness, Limitations, and Operator Response for Very Early Warning Fire Detection Systems in Nuclear Facilities (DELORES-VEWFIRE)" sensitivity study. The referenced sensitivity study for NUREG-2180 measures the impact of using a PRA model of fire detection that has since been retired and replaced with a new model. It has no relationship to missing ignition sources. Therefore, the impact of the missing ignition sources is unknown. Further, FPL states that, "[a] model change is required to add the new ignition sources in the cable spreading room." Please confirm that all relevant ignition sources are included in the fire PRA or provide an implementation item in the response to APLA RAI 15.01 summarizing changes to the PRA that will resolve this F&O.

APLA RAI-15.01 Implementation Item

In APLA RAI-15, dated August 10, 2017, the NRC staff requested that several issues (very early warning fire detection system (VEWFDS), human error probability (HEP) floor, and unresolved F&Os) critical to the acceptance of the RICT program be considered for inclusion in a table of implementation items to be completed before implementation of the RICT program. Although FPL states in its February 15, 2018, RAI response that, "[t]he methodology in NUREG-2180 will be incorporated into the Turkey Point Fire PRA model," modeling VEWFDS with NUREG-2180 was not one of the items that FPL proposed as an implementation item in its response to APLA RAI-15. FPL proposed one implementation item for using the HEP floor, and one other implementation item that all F&O "findings will be closed." This general statement does not provide sufficient clarity to support issuing a license amendment.

- a. Provide an implementation item confirming that the VEWFDS modeling in accordance with NUREG-2180 will be used
- b. Provide other implementation item(s), as appropriate, summarizing how the PRA model will be changed for F&Os whose resolution requires changes to the PRA model (i.e., not including any that only need additional documentation) prior to RICT implementation.

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Mail Envelope Properties (Michael.Wentzel@nrc.gov20180517115800)

Subject: Turkey Point Nuclear Generating Unit Nos. 3 and 4, Request for Additional Information Regarding License Amendment Request 236 (CAC Nos. MF5455 and MF5456; EPID L-2014-0002)

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