



January 31, 2019  
L-2019-023  
10 CFR 50.90

U. S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Washington D C 20555-0001

RE: Turkey Point Nuclear Plant, Unit 3 and 4  
Docket Nos. 50-250 and 50-251  
Renewed Facility Operating Licenses DPR-31 and DPR-41

Response to Request for Additional Information Regarding License Amendment Request 265,  
Revise NFPA-805 License Condition for Reactor Coolant Pump Seals

References:

1. Florida Power & Light Company letter L-2018-170, License Amendment Request 265, Revise NFPA-805 License Condition for Reactor Coolant Pump Seals, October 17, 2018, (ADAMS Accession No. ML18290A862)
2. FPL Letter L-2018-198, Requested Approval for License Amendment Request 265, Revise NFPA 805 License Condition for Reactor Coolant Pump Seals, October 24, 2018 (ADAMS Accession No. ML18297A032)
3. FPL Letter L-2018-219, Supplement to License Amendment Request 265, Revise NFPA 805 License Condition for Reactor Coolant Pump Seals, December 3, 2018 (ADAMS Accession No. ML18338A053)
4. NRC letter to Westinghouse Owners Group, Final Safety Evaluation for Pressurized Water Reactor Owners Group (PWROG) Topical Report WCAP-16175-P, Revision 0, (CE NPSD-1199, Revision 1) Model for Failure of RCP Seals Given Loss of Seal Cooling in CE NSSS Plants (TAC No. MB5803), February 12, 2007 (ADAMS Accession No. ML070240429)
5. NRR E-Mail Capture, Request for Additional Information License Amendment Request to Revise National Fire Protection Association Standard 805 License Condition for Reactor Coolant Pump Seals, Turkey Point Nuclear Generating Station Units 3 and 4, (EPID NO: L-2018-LLA-0280), January 16, 2019

In Reference 1, as supplemented by References 2 and 3, Florida Power & Light Company (FPL) requested amendments to Renewed Facility Operating Licenses DPR-31 and DPR 41 for Turkey Point Nuclear Plant, Units 3 and 4 (Turkey Point), respectively. The proposed license amendments remove reliance on the Flowserve Reactor Coolant Pump (RCP) Seal Topical Report as a condition of Turkey Point's transition to National Fire Protection Association Standard (NFPA) 805, and document the application of NRC approved WCAP-16175-P-A (Reference 4) for modeling RCP seal leakage in the Turkey Point Probabilistic Risk Assessment (PRA).

In Reference 5, the NRC requested additional information necessary to complete its review.

The enclosure to this letter provides FPL's response to the request for additional information (RAI). The response provides additional information that clarifies the application, does not expand the scope of the application as originally noticed, and should not change the NRC staff's original proposed no significant hazards consideration determination as published in the *Federal Register*.

This letter contains no regulatory commitments.

Should you have any questions regarding this submission, please contact Mr. Robert Hess, Turkey Point Licensing Manager, at 305-246-4112.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on the 31<sup>st</sup> day of January 2019.

Sincerely,



Robert Coffey  
Regional Vice President, Southern Region  
Turkey Point Nuclear Plant

Enclosure  
Attachments

cc: USNRC Regional Administrator, Region II  
USNRC Project Manager, Turkey Point Nuclear Plant  
USNRC Senior Resident Inspector, Turkey Point Nuclear Plant  
Ms. Cindy Becker, Florida Department of Health

**ENCLOSURE**

Turkey Point Nuclear Plant Unit 3 and Unit 4  
Response to Request for Additional Information (RAI) Regarding License Amendment Request  
265, Revise NFPA-805 License Condition for Reactor Coolant Pump Seals

In an e-mail memorandum dated January 16, 2019 (Reference 1), the Probabilistic Risk Assessment Licensing Branch (APLA) of the NRC Office of Nuclear Reactor Regulation requested the additional information identified below regarding License Amendment Request 265, Revise NFPA-805 License Condition for Reactor Coolant Pump Seals (Reference 2). FPL's response follows:

#### **APLA RAI 01**

In LAR Section 3.1, the licensee proposed to use the guidance from NRC approved WCAP-16175-P-A for the probabilistic risk assessment (PRA) treatment of the RCP seal package, instead of the guidance from the Flowserve RCP Topical Report. The WCAP and the corresponding NRC SE were written for Combustion Engineering (CE) plants. In Section 4.0 of the SE for WCAP-16175-P-A, the NRC staff identified several additional conditions, limitations, and modifications to address some of the issues that must be addressed when applying the CE RCP seal failure model to non-CE plants.

The current fire protection license condition references NFPA 805 LAR Attachment S, as included in your letter dated November 5, 2014 (ADAMS Accession No. ML14336A634). LAR Attachment S, included modification item 33 to replace RCP seals with Flowserve seals, implementation item 18 to update the Fire PRA model after all modifications and procedural changes are complete and as-built, and implementation item 23 to review the changes made to determine if a focused scope peer review would be required.

The NRC staff is unaware of any peer review performed by the licensee for use of the current RCP seal model from WCAP-16175-P-A.

Clarify whether the proposed use of the seal model in WCAP-16175-P-A has been peer reviewed to verify its applicability and use in the PRA model for each unit. If the WCAP-16175- P-A model has not been peer reviewed, explain why not and include a discussion that includes your conclusion regarding why this change was not considered a PRA upgrade. If you considered this change a PRA upgrade, provide the results from the focused scope peer review including the associated findings and observations (F&Os) and their resolutions.

#### **FPL Response:**

The change to the Turkey Point Fire PRA from the current RCP seal model to the model in WCAP-16175-P-A was reviewed by a third party but not peer reviewed in accordance with RG 1.200 Rev 2 because it was determined to not be an upgrade. This change was considered to be PRA maintenance to reflect the planned modification using existing NRC approved methodology. The change was reviewed by third party PRA and design personnel to ensure proper incorporation of the requirements of the WCAP and associated NRC SE.

This maintenance of the seal leakage model does not constitute new methodology as the current model is simply an expansion of the previous model via a change of failure probabilities and associated human actions. The change to the WCAP-16175-P-A model is only a change in the expected leakages associated with the seals and timing for operator actions to trip the RCPs. The framework of the model remains essentially the same, and the High Level and Supporting Requirements (HLRs and SRs) in the PRA Standard for the Technical Elements associated with RCP seal models (e.g., those within the Accident Sequence Analysis, Data Analysis, Human Reliability Analysis, and Quantification technical elements) continue to be addressed regardless of this change. Although the seal failure rates affect the ordering of the associated accident sequences, the significant sequences were not changed. There is no change in the model scope since the equipment, dependencies, and types of accident sequences remain the same. Finally, there is no change in PRA modeling capability as the PRA model still evaluates the risk associated with station blackout and total loss of cooling events related to RCP seal failures. Therefore, implementation of the new seal leakage model is a change implemented within the framework of the PRA maintenance criteria.

## **APLA RAI 02**

The NRC staff found two changes to the PRA model that are described in the LAR. The primary change is to replace the existing RCP seal model based on the Flowserve RCP Seal Topical Report with the model from WCAP-16175-P-A. The secondary change is to remove a conservatism with respect to latent human errors in the PRA that impact the ability to cross-tie the Unit 4 Safety Injection pumps to the Unit 3 Safety Injection system.

The NRC staff noted that the secondary change to the PRA model does not appear to be accounted for in the risk reduction credit or in the compliant model used for the delta risk. It appears that the risk reduction credit for Area CC would be decreased by this change to the PRA model. Also, it appears that the compliant plant risk from the original NFPA 805 LAR would be decreased from this adjustment, and therefore, the delta calculation for this LAR with respect to the secondary change could be non-conservative.

Justify removing the conservatism from latent human errors in your application, that includes a discussion that the primary and secondary changes, when integrated in the PRA, meet risk guidelines in Regulatory Guide (RG) 1.174, "An Approach For Using Probabilistic Risk Assessment In Risk-Informed Decisions On Plant-Specific Changes To The Licensing Basis," Revision 3, (ADAMS Accession No. ML17317A256). In addition, if you choose to maintain the secondary change and the primary and secondary changes results in a non-negative delta risk, provide the additional risk of recovery actions including a comparison to the risk guidelines.

### **FPL Response:**

The secondary change made to the fire PRA does not affect the calculation of the compliant case risk or the risk reduction credit. The risk reduction credit for Fire Area CC is the primary factor in defining the impact on the overall plant delta risk. For the compliant case risk, the delta risk calculation for Fire Area CC was conservatively set to the total variant case risk assuming a compliant case risk of zero. For the risk reduction credit, the pre-modification risk value was based on control room abandonment, the strategy for the fire area prior to transition to NFPA 805, which does not credit the Safety Injection systems. Thus, the secondary change does not affect the pre-modification risk value. The incorporation of the secondary change would only lower the post-modification risk in Fire Area CC thereby increasing the risk reduction credit for the modification. Therefore, the calculated risk reduction credit in the Turkey Point NFPA 805 Safety Evaluation (Reference 3) is conservative.

As described above the reported change in risk for Fire area CC would still remain negative. Therefore, the secondary change does not affect the delta risk, risk reduction, or risk of recovery actions. The primary and secondary changes together will continue to result in a negative delta risk; therefore, the risk of recovery actions does not require updating. In conclusion, the incorporation of secondary changes into the PRA model would still comply with the risk guidelines of Regulatory Guide 1.174 (Reference 4).

### **References:**

1. NRR E-Mail Capture, Request for Additional Information License Amendment Request to Revise National Fire Protection Association Standard 805 License Condition for Reactor Coolant Pump Seals, Turkey Point Nuclear Generating Station Units 3 and 4, (EPID NO: L-2018-LLA-0280), January 16, 2019
2. Florida Power & Light Company letter L-2018-170, License Amendment Request 265, Revise NFPA-805 License Condition for Reactor Coolant Pump Seals, October 17, 2018, (ADAMS Accession No. ML18290A862)

3. NRC letter to FPL, Turkey Point Nuclear Generating Unit Nos. 3 and 4, Issuance of Amendments Regarding Transition to a Risk-Informed Performance-Based Fire Protection Program in Accordance with Title 10 of the Code of Federal Regulations Section 50.48(c), (TAC Nos. ME8990 and ME8991), May 28, 2015 (ADAMS Accession No. ML15061A237)
4. Regulatory Guide 1.174, An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-specific Changes to the Licensing Basis, Revision 3, January 2018 (ADAMS Accession No. ML17317A256)