

## **NRR-DRMAPEm Resource**

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**From:** Green, Kimberly  
**Sent:** Monday, August 5, 2019 12:10 PM  
**To:** MIKSA, JAMES P  
**Subject:** Draft Request for Additional Information for Palisades License Amendment Request to Adopt TSTF-425 (EPID L-2019-LLA-0070)  
**Attachments:** Palisades Draft RAIs.docx

Dear Mr. Miksa,

By letter dated March 28, 2019 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML19098A966) to the U.S. Nuclear Regulatory Commission (NRC), as supplemented on May 6, 2019 (ADAMS Accession No. ML19127A018), Entergy Nuclear Operations, Inc. (ENO) submitted a license amendment request (LAR) for the Palisades Nuclear Plant (PNP). The proposed amendment would modify the PNP technical specifications (TS) by relocating specific surveillance frequencies to a licensee-controlled program with the implementation of Technical Specifications Task Force (TSTF) Traveler TSTF-425, "Relocate Surveillance Frequencies to Licensee Control – RITSTF [Risk-Informed TSTF] Initiative 5b," Revision 3, (ADAMS Accession No. ML090850642) in accordance with Nuclear Energy Institute (NEI) 04-10, Revision 1, "Risk-Informed Technical Specifications Initiative 5b, Risk-Informed Method for Control of Surveillance Frequencies" (ADAMS Accession No. ML071360456).

The U.S. Nuclear Regulatory Commission (NRC) staff is reviewing your submittal and has identified areas where additional information is needed to complete its review. Attached, please find a draft request for additional information (RAI).

The draft RAI is being sent to ensure that the request is understandable and the regulatory basis for the request is clear. This email and the attachment do not convey or represent an NRC staff position regarding ENO's request.

Please let me know if ENO needs a call to clarify the NRC staff's request.

Regards,  
Kim Green  
(301) 415-1627  
[kimberly.green@nrc.gov](mailto:kimberly.green@nrc.gov)

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**Created By:** Kimberly.Green@nrc.gov

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"MIKSA, JAMES P" <jmiksa@entergy.com>  
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DRAFT REQUEST FOR ADDITIONAL INFORMATION

LICENSE AMENDMENT REQUEST TO ADOPT TSTF-425, REVISION 3,

“RELOCATE SURVEILLANCE FREQUENCIES TO LICENSEE CONTROL –  
RISK INFORMED TECHNICAL SPECIFICATION TASK FORCE (RITSTF) INITIATIVE 5b”

ENTERGY NUCLEAR OPERATIONS, INC.

PALISADES NUCLEAR PLANT

DOCKET NO. 50-255

By letter dated March 28, 2019 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML19098A966) to the U.S. Nuclear Regulatory Commission (NRC), as supplemented on May 6, 2019 (ADAMS Accession No. ML19127A018), Entergy Operations, Inc. (Entergy) submitted a license amendment request (LAR) for the Palisades Nuclear Plant (PNP). The proposed amendment would modify the PNP technical specifications (TS) by relocating specific surveillance frequencies to a licensee-controlled program with the implementation of Technical Specifications Task Force (TSTF) Traveler TSTF-425, “Relocate Surveillance Frequencies to Licensee Control – RITSTF [Risk-Informed TSTF] Initiative 5b,” Revision 3, (ADAMS Accession No. ML090850642) in accordance with Nuclear Energy Institute (NEI) 04-10, Revision 1, “Risk-Informed Technical Specifications Initiative 5b, Risk-Informed Method for Control of Surveillance Frequencies” (ADAMS Accession No. ML071360456).

The NRC staff is reviewing the LAR and has determined that additional information is needed to complete its review.

**APLA RAI 01 - PRA Facts and Observations (F&Os)**

Regulatory Guide (RG) 1.200, Revision 2, “An Approach for Determining the Technical Adequacy of Probabilistic Risk Assessment Results for Risk-informed Activities” (ADAMS Accession No. ML090410014), provides guidance for addressing the acceptability of a probabilistic risk assessment (PRA) for use in regulatory decision-making. RG 1.200, Revision 2, describes a process utilizing a peer review team to assess a PRA against pertinent technical elements in the American Society for Mechanical Engineers/American Nuclear Society (ASME/ANS) PRA standard (currently ASME/ANS-RA-Sa-2009). The primary result of a peer review are the F&Os recorded by the peer review team and the subsequent resolution of these F&Os by the licensee. A process to close out finding-level F&Os is documented in Appendix X to NEI 05-04, NEI 07-12, and NEI 12-13, “Close-Out of Facts and Observations” (ADAMS Accession No. ML17086A431) dated February 21, 2017, and was accepted by the NRC in the letter from Joseph Giitter and Mary Jane Ross-Lee, NRC, to Greg Krueger, NEI, dated May 3, 2017 (ADAMS Accession Number ML17079A427).

RG 1.200, Revision 2, states that the LAR should include:

*. . . [a] discussion of the resolution of the peer review . . . findings and observations that are applicable to the parts of the PRA required for the application [including] a discussion of how the PRA model has been changed [or] a justification . . . that demonstrates the accident sequences or contributors significant to the application decision were not adversely impacted . . . by the particular issue.*

NEI 04-10, Revision 1, states that:

*Plants implementing TSTF-425 shall evaluate their PRAs in accordance with this regulatory guide [RG 1.200, Revision 2]. The RG specifically addresses the need to evaluate important assumptions that relate to key modeling uncertainties (such as reactor coolant pump seal models, common cause failure methods, success path determinations, human reliability assumptions, etc.). Further, the RG addresses the need to evaluate parameter uncertainties and demonstrate that calculated risk metrics (e.g., CDF [core damage frequency] and LERF [large early release frequency]) represent mean values. The identified "Gaps" to Capability Category II requirements from the endorsed PRA standards in the RG and the identified key sources of uncertainty serve as inputs to identifying appropriate sensitivity cases.*

The LAR supplement dated May 6, 2019, provides PNP PRA acceptability information. Tables 1, 2, 3, and 4 of the enclosure to the LAR supplement provide a list of open finding F&Os and application-specific dispositions for the internal events and flooding PRAs models, and fire PRA (FPRA) models, respectively. Provide the following information regarding these open F&Os below:

- a. Internal Events and Internal Flooding PRA F&O IFSO-A4-01 pertains to the identification and characterization of human-induced flooding events. The disposition for this F&O states that "human induced flood events were characterized for each flood area initiating event as part of the maintenance induced flooding frequency development." The "Importance to Application" column further states that plant-wide maintenance induced flood frequency is distributed among plant flood areas with greater weighting applied to areas with more potential flood sources. Thus, there is greater apportionment of frequency where greater maintenance induced flooding is expected due to increased levels on on-line maintenance. However, the section also states that current plant maintenance and risk mitigation limits periodic maintenance in these areas.

Considering this, clarify if the apportionment of frequency is based only on the level of potential flood sources and the anticipated increased maintenance activities or the level of potential flood sources and the actual maintenance activities and how the choice of affects frequency apportionment.

- b. Internal Events and Internal Flooding PRA F&O IFSN-A3-01 pertains to the identification and documentation of automatic and operator responses that can terminate or contain the flood propagation for each defined flood area and source. The disposition for this F&O states that a flood mitigation abnormal operating procedure defines operator actions for flood mitigation in all 11 PRA defined flood areas; however, the independent assessment

team indicated that human error probability (HEP) values were developed for only the 1D switchgear room. The “Importance to Application” column states that detailed flood mitigating actions were developed for important flood areas (cable spreading room, 1-D and 1-C switchgear rooms, and EDG 1-1 and EDG 1-2 rooms).

Identify each flood area for which an HEP has been calculated and clarify the relationship between these flood areas with an HEP and the 11 PRA defined flood areas.

- c. FPRA F&O FQ-C1-01 and HRA-D2-01 indicate that additional updating is needed in the fire PRA human reliability analysis (HRA) dependency analysis. The LAR states that the updated analysis will be performed to support NFPA 805 implementation. Because F&O FQ-C1-01 is identified in the May 6, 2019, supplement to the LAR as “open” with additional update needed, the NFPA-805 implementation item does not appear to be completed. Table 3 in the LAR supplement indicates that for those surveillance test intervals (STIs) which HRA dependency is determined to have a potential impact, the effect is expected to be assessed in the change evaluations for the affected STIs. Furthermore, the LAR supplement states the assessment may involve either completion of the HRA dependency analysis or sensitivity cases using bounding assumptions of (1) no dependency between human failure events (HFEs), and (2) complete dependency between HFEs.
  - i. Provide an assessment of current HRA dependency modeling that will be used as the basis for sensitivity cases for STI evaluations.
  - ii. Provide an explanation that describes how the sensitivity evaluation using bounding assumptions can accurately characterize the impact of STI increases using an incomplete HRA dependency model.
  - iii. The terms “expected” and “may” indicate flexibility in the utilization of sensitivity studies for STIs affected by HRA dependency. Therefore, provide assurance that sensitivity studies associated for those STIs that are impacted by HRA dependency analysis will be completed.

## **APLA RAI 02 – Plant Changes Not Yet Incorporated**

Section 3.2.1 of the LAR supplement enclosure states:

*PNP is installing a number of plant modifications for NFPA 805 implementation that impact the PRA model. The PNP model infrastructure allows for enabling or disabling of these modifications as needed to ensure the model reflects the current plant, as-built and as-operated. When performing STI evaluations, the PNP model will only credit NFPA [National Fire Protection Association] 805 modifications that are currently installed and reflected in current plant procedures.*

The relationship between the PNP model infrastructure and the internal events, internal flooding and internal fire models is unclear. Regarding consistency of the PRA models with the as-built and as-operated plant, provide the following:

- a. An explanation about how the PNP model infrastructure enabling or disabling NFPA 805 modifications is reflected in the internal events, internal flooding, and internal fire PRA

models, and how the enabled or disabled modification are automatically or manually reflected in all three hazard models.

- b. A mechanism to ensure that the PRA models for all three hazards that are used for performing STI evaluations include changes such that the PRA reflects the as-built, as-operated plant.

### **APLA RAI 03 – External Hazards Analysis**

LAR Section 3.5 states, “PNPS does not have a PRA model . . . associated with external hazards such as seismic” and “When performing STI extension evaluations PNP will assess the risk from external events hazards (seismic) by applying the screening evaluations generated in response to the IPEEE [Individual Plant Examination of External Events] in accordance with NEI-04-10 guidance”; and “These base insights would then be assessed to account for any updated information or attributes that may have changed since the IPEEE to better reflect the as-built, as-operated plant.”

Based on the information above, provide the following:

- a. According to the LAR, PNP does not have a seismic PRA model, and according to the May 1996 IPEEE submittal (ADAMS Accession No. ML080030218), PNP does not have a seismic margins analysis. Therefore, explain how PNP intends to meet the guidance outlined in NEI 04-10, Revision 1, Step 10, “Initial Assessment of Seismic Events” using a screening evaluation. If PNP intends to deviate from the guidance, provide an assessment for how the approach is technically justifiable.
- b. Provide an explanation for how PNP intends to update seismic information or attributes that have changed since the IPEEE to better reflect the as-built, as-operated plant.

### **APLA RAI 04 – Performance Monitoring**

RG 1.174 Element 3 states that an implementation and monitoring program should be developed to ensure that the engineering evaluation conducted to examine the impact of the proposed changes continues to reflect the actual reliability and availability of the systems, structures, and components evaluated. NEI 04-10, Section 3.0, “Key Safety Principles” outlines the key safety principles to be addressed in risk-informed change applications. The fifth principle addresses monitoring changes using performance monitoring strategies. The LAR provides a brief statement in Section 2.1, “Surveillance Frequency Change Process” that indicates the integrated decision-making panel is responsible for reviewing the performance monitoring results. Describe how PNP intends to implement performance monitoring strategies to monitor changes in surveillance frequencies.