



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

November 8, 2018

Vice President, Operations
Entergy Nuclear Operations, Inc.
Palisades Nuclear Plant
27780 Blue Star Memorial Highway
Covert, MI 49043-9530

SUBJECT: PALISADES NUCLEAR PLANT - SUPPLEMENTAL INFORMATION NEEDED FOR ACCEPTANCE OF REQUESTED LICENSING ACTION RE: AMENDMENT REQUEST TO REVISE TECHNICAL SPECIFICATIONS TO ADOPT TSTF-425, REVISION 3 (EPID L-2018-LLA-0258)

Dear Sir or Madam:

By letter dated September 27, 2018, Entergy Nuclear Operations, Inc. submitted a license amendment request for Palisades Nuclear Plant (PNP). The proposed amendment would modify the PNP technical specifications (TSS) by relocating specific surveillance frequencies to a licensee-controlled program consistent with Technical Specifications Task Force (TSTF) Traveler TSTF-425, "Relocate Surveillance Frequencies to Licensee Control – RITSTF [Risk-Informed TSTF] Initiative 5b," Revision 3, 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." The purpose of this letter is to provide the results of the U.S. Nuclear Regulatory Commission (NRC) staff's acceptance review of this amendment request. The acceptance review was performed to determine if there is sufficient technical information in scope and depth to allow the NRC staff to complete its detailed technical review. The acceptance review is also intended to identify whether the application has any readily apparent information insufficiencies in its characterization of the regulatory requirements or the licensing basis of the plant.

Consistent with Section 50.90 of Title 10 of the *Code of Federal Regulations* (10 CFR), whenever a holder of a license, including a construction permit and operating license under this part, and an early site permit, combined license, and manufacturing license under part 52 of this chapter, desires to amend the license or permit, application for an amendment must be filed with the Commission, as specified in §§ 50.4 or 52.3 of this chapter, as applicable, fully describing the changes desired, and following as far as applicable, the form prescribed for original applications. Section 50.34 of 10 CFR addresses the content of technical information required. This section stipulates that the submittal address the design and operating characteristics, unusual or novel design features, and principal safety considerations.

The NRC staff has reviewed your application and concluded that the information delineated in the enclosure to this letter is necessary to enable the staff to make an independent assessment regarding the acceptability of the proposed amendment request in terms of regulatory requirements and the protection of public health and safety and the environment.

In order to make the application complete, the NRC staff requests that Entergy supplement the application to address the information requested in the enclosure by November 27, 2018. This will enable the NRC staff to begin its detailed technical review. If the information responsive to the NRC staff's request is not received by the above date, the application will not be accepted for review pursuant to 10 CFR 2.101, and the NRC will cease its review activities associated with the application. If the application is subsequently accepted for review, you will be advised of any further information needed to support the staff's detailed technical review by separate correspondence.

The information requested and associated time frame in this letter were discussed with Mr. Jeff Erickson of your staff on November 7, 2018.

If you have any questions, please contact me at (301) 415-1627.

Sincerely,



Kimberly J. Green, Senior Project Manager
Plant Licensing Branch III
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-255

Enclosure:
As stated

cc: ListServ

SUPPLEMENTAL INFORMATION NEEDED
LICENSE AMENDMENT REQUEST REGARDING APPLICATION TO REVISE
TECHNICAL SPECIFICATIONS TO ADOPT TSTF-425, REVISION 3, "RELOCATE
SURVEILLANCE FREQUENCIES TO LICENSEE CONTROL – RISK INFORMED TECHNICAL
SPECIFICATION TASK FORCE (RITSTF) INITIATIVE 5B"
ENTERGY OPERATIONS, INC
PALISADES NUCLEAR PLANT
DOCKET NOS. 50-255

By letter dated September 27, 2018 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML18270A320), Entergy Nuclear Operations, Inc. (Entergy) submitted a license amendment request (LAR) for Palisades Nuclear Plant (PNP). The proposed amendment would modify the PNP technical specifications (TSs) by relocating specific surveillance frequencies to a licensee-controlled program consistent with Technical Specifications Task Force (TSTF) Traveler TSTF-425, "Relocate Surveillance Frequencies to Licensee Control – RITSTF [Risk-Informed TSTF] Initiative 5b," Revision 3, 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."

The U.S. Nuclear Regulatory Commission (NRC) staff performed an acceptance review of the LAR in accordance with the Office of Nuclear Reactor Regulation (NRR) Office Instruction LIC-109, Revision 2, "Acceptance Review Procedures," dated January 16, 2017 (ADAMS Accession No. ML16144A521), and determined that the application is unacceptable for review with opportunity to supplement because it is missing a significant analysis and, therefore, is lacking completeness of scope. Specific missing analysis is described below.

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 2¹]. 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 and LERF) 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.

Regulatory Guide (RG) 1.200, Revision 2, states that the LAR should include,

¹ Regulatory Guide 1.200, Revision 2, "An Approach for Determining the Technical Adequacy of Probabilistic Risk Assessment Results for Risk-Informed Activities," Revision 2, March 2009 (ADAMS Accession No. ML090410014).

... [a] discussion of the resolution of the peer review (...) findings and observations that are applicable to the parts of the PRA [probabilistic risk assessment] 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.

1. Several application-specific impacts of "open" peer review facts and observations (F&Os) for the PNP internal events and internal flooding PRA models were addressed in part by the following statement: "For those STIs [surveillance test intervals] on which this finding is determined to have a potential impact, the effect is expected to be assessed in the change evaluations for the affected STIs." A few of these F&Os appear to pertain to systemic topics such as common cause failure (CCF) modeling (e.g., SY-B3-01) and human reliability analysis (HRA) dependency analysis (e.g., HR-G7-01 and QC-C1-07). The licensee's assessments of application-specific impacts for open F&Os are not sufficient to enable the NRC staff to determine how the identified "gaps" from the PRA standard, as clarified by RG 1.200, Revision 2, will be used to identify appropriate sensitivity cases per the guidance described in NEI 04-10, Revision 1. Therefore, there is not sufficient information for the NRC staff to conclude that the dispositions of each open F&O assessed in this manner will be adequate to support the application.

To address this completeness of scope item, for each of the F&Os SY-B3-01 (related to CCF modeling), HR-G7-01 and QC-C1-07 (related to HRA dependency analysis), QU-A3-01 (related to intersystem loss of coolant accident and state-of-knowledge correlation), and LE-C2 (related to plant-specific HRA evaluation on Level 2 HRA events):

- i. resolve the F&O and provide a description of its resolution, or
 - ii. provide a detailed justification of why the F&O has no impact on the application, or
 - iii. describe and justify the evaluation which will be performed on a case-by-case STI basis to address the impact of each unresolved F&O.
2. The NRC staff also identified two completeness of scope items related to the PNP internal events and internal flooding PRA peer-review. These items along with requested licensee action to address these items are described below.
 - a. The PRA Standard,² which is endorsed with certain clarifications and qualifications by RG 1.200, Revision 2, defines a PRA upgrade as, "the incorporation into a PRA model of a new methodology or significant changes in scope or capability that impact the significant accident sequences or the significant accident progression sequences . . ." The PRA Standard further states that, "upgrades of a PRA shall receive a peer review in accordance with the requirements specified in the Peer Review Section of each respective Part of this Standard, but limited to aspects of the PRA that have been upgraded."

Attachment 2, Section 3.2.2, of the LAR, states that, ". . . none of the changes made to the PNPS [PNP] PRA constituted an upgrade, while one change implemented in response to a suggestion was considered a new PRA method." Since incorporation of a

² ASME/ANS PRA Standard ASME/ANS RA-Sa-2009, "Addenda to ASME/ANS RA S 2008, Standard for Level 1/Large Early Release Frequency Probabilistic Risk Assessment for Nuclear Power Plant Applications."

a new methodology into a PRA constitutes a PRA upgrade and thus requires a PRA peer review, provide the following:

- i. Describe the new method identified in the internal events and internal flooding PRA.
 - ii. Describe and justify how this method in the internal events and internal flooding PRA was peer reviewed.
 - iii. Provide any F&Os that resulted from the peer review related to this method, along with a disposition of each F&O for the application.
- b. F&Os HR-G7-01 and QC-C1-07 are related to HRA dependency analysis in the internal events and internal flooding PRA. For HR-G7-01, the independent assessment team noted that, "While the process for HRA combination was described in the HRA document at the time of the peer review, no HRA combinations were available to indicate how the method was applied and how adjustments in the HRA combinations were made . . ." Similarly, the independent assessment team noted that for QC-C1-07, ". . . the Review Team considered that the method had been reviewed. However, the implementation of the method did not meet the standard requirements for SR HR-G7, so that Finding remains open, and as a result, this Finding also remains open." Therefore, it is not readily apparent to the NRC staff whether implementation of the HRA dependency analysis was peer-reviewed in accordance with RG 1.200, Revision 2, and the PRA Standard. To address this concern:
- i. Describe how the HRA dependency analysis in the internal events and internal flooding PRA was peer reviewed.
 - ii. Provide any F&Os that resulted from the peer review of the HRA dependency analysis along with a disposition of each F&O for the application.

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