

From: Purnell, Blake
Sent: Tuesday, June 2, 2020 1:07 PM
To: Lashley, Phil H.
Cc: Salgado, Nancy; talentz@firstenergycorp.com; Nesser, Kathryn M; Nevins, Kathleen J (EH)
Subject: Davis-Besse Nuclear Power Station, Unit No. 1 - Request for Additional Information Regarding License Amendment Request to Adopt TSTF-425
Attachments: RAI - DB TSTF-425 LAR.pdf

Mr. Lashley,

By application dated November 14, 2019 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML19318F668), FirstEnergy Nuclear Operating Company submitted a license amendment request for Davis-Besse Nuclear Power Station, Unit No. 1 (Davis-Besse). The proposed amendment would revise the Davis-Besse technical specifications by relocating specific surveillance frequencies to a new surveillance frequency control program. The proposed changes are based on the NRC-approved Technical Specification Task Force (TSTF) traveler TSTF-425, Revision 3, "Relocate Surveillance Frequencies to Licensee Control – RITSTF [Risk Informed TSTF] Initiative 5b" (ADAMS Package Accession No. ML090850642).

The NRC staff is reviewing the application and has determined that additional information is needed to complete the review. A response to the attached request for additional information is requested to be provided within 30 days from the date of this email. The NRC staff discussed this request with you on June 2, 2020. If you have any questions, please contact me at (301) 415-1380.

Sincerely,

Blake Purnell, Project Manager
Plant Licensing Branch III
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission

Docket No. 50-346

EPID L-2019-LLA-0252

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REQUEST FOR ADDITIONAL INFORMATION
LICENSE AMENDMENT REQUEST TO ADOPT TSTF-425
ENERGY HARBOR NUCLEAR GENERATION LLC
ENERGY HARBOR NUCLEAR CORP.
DAVIS-BESSE NUCLEAR POWER STATION, UNIT NO. 1
DOCKET NO. 50-346

By application dated November 14, 2019 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML19318F668), FirstEnergy Nuclear Operating Company (FENOC) submitted a license amendment request (LAR) for Davis-Besse Nuclear Power Station, Unit No. 1 (Davis-Besse). Effective February 27, 2020, the facility operating license for Davis-Besse was transferred from FirstEnergy Nuclear Generation, LLC (owner) and FirstEnergy Nuclear Operating Company (operator) to Energy Harbor Nuclear Generation LLC (owner) and Energy Harbor Nuclear Corp. (operator) (ADAMS Accession No. ML20030A440). Upon completion of this license transfer, Energy Harbor Nuclear Corp. assumed the responsibility for all licensing actions under U.S. Nuclear Regulatory Commission (NRC) review at the time of the transfer and requested that the NRC continue its review of these actions (ADAMS Accession No. ML20054B733).

The proposed amendment would revise the Davis-Besse technical specifications by relocating specific surveillance frequencies to a new surveillance frequency control program. The proposed changes are based on the NRC-approved Technical Specification Task Force (TSTF) traveler TSTF-425, Revision 3, "Relocate Surveillance Frequencies to Licensee Control – RITSTF [Risk Informed TSTF] Initiative 5b" (ADAMS Package Accession No. ML090850642). The NRC staff is reviewing the LAR and has determined that the additional information below is required to complete the review.

Request for Additional Information (RAI) 1

Enclosure B of the LAR provides documentation of the technical adequacy of the probabilistic risk assessment (PRA) for Davis-Besse. Section 2.3, "Applicability of Peer Review Findings and Observations (F&Os),"¹ of LAR Enclosure B states that an independent assessment and closeout review for the PRA was conducted in October 2017 in accordance with Appendix X to the Nuclear Energy Institute (NEI) guidance document NEI 05-04.² The NRC has not officially endorsed the guidance in Appendix X, but licensees may use the guidance on an interim basis subject to the conditions of acceptance outlined in a May 3, 2017, letter from the NRC to NEI.³

¹ Findings and observations are also referred to as facts and observations.

² Appendix X, "Close Out of Facts and Observations (F&Os)" (ADAMS Accession No. ML17086A451), to NEI 05-04, Revision 2, "Process for Performing Internal Events PRA Peer Reviews Using the ASME/ANS PRA Standard" (ADAMS Accession No. ML083430462).

³ ADAMS Accession No. ML17079A427.

Provide the following information regarding the October 2017 closure review:

- a. Describe how the selection of members for the October 2017 independent assessment met the five criteria in Section X.1.3 of Appendix X to NEI 05-04.
- b. Explain how closure of the F&Os was assessed to ensure that the capabilities of the PRA elements, or portions of the PRA within the elements, met capability category II for supporting requirements in ASME/ANS RA-Sa-2009,⁴ as endorsed by NRC Regulatory Guide (RG) 1.200, Revision 2.⁵
- c. Discuss whether the scope of the F&O closure review included all finding-level F&Os, including F&Os where the supporting requirements were met. If not, identify and describe any F&Os that were excluded from the F&O closure review and provide the disposition of these F&Os for this application.

RAI 2

Adoption of TSTF-425 requires a PRA of sufficient technical adequacy that meets capability category II of the applicable standards endorsed in RG 1.200, Revision 1 (ADAMS Accession No. ML070240001). Table 1 in LAR Enclosure B provides the independent assessment of F&O SY-B11, which concerns the lack of modeling of the emergency diesel generator actuation signals from the undervoltage relays and the safety features actuation system. The independent assessment indicates that FENOC's justification for not modeling these actuation signals meets the requirements of capability category I, but does not meet capability category II or III. The independent assessment also found that the F&O requires a review for other instances where the actuation logic may not have been modeled.

Provide the results of the review of F&O SY-B11. Describe the actions taken based on the results of this review and the effect on the LAR.

RAI 3

On June 21, 2019 (ADAMS Accession No. ML19100A306), the NRC staff issued Amendment No. 298 to the Davis-Besse license, which authorized the transition to a fire protection program based on the National Fire Protection Association Standard 805, "Performance-Based Standard for Fire Protection for Light Water Reactor Electric Generating Plants," 2001 Edition, as incorporated into Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.48(c). Section 3.4.3.2, "Fire PRA Model," of the associated safety evaluation for Amendment No. 298 states, in part, that:

... the licensee stated that a finding related to fire-induced MSO [multiple spurious operation] modeling constituted an upgrade to the [fire PRA] model, so a focused-

⁴ 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," is a joint standard of the American Society of Mechanical Engineers (ASME) and the American Nuclear Society (ANS).

⁵ NRC RG 1.200, Revision 2, "An Approach for Determining the Technical Adequacy of Probabilistic Risk Assessment Results for Risk-Informed Activities," March 2009 (ADAMS Accession No. ML090410014).

scope peer review was performed. The peer review determined that the supporting requirements applicable to the MSO modeling were all met at [capability category II] or higher. The NRC staff determined that the performance of the focused-scope peer review for this PRA upgrade is consistent with the ASME/ANS RA-Sa-2009 standard, as qualified by RG 1.200.

Table 2 of LAR Enclosure B provides five finding-level F&Os related to the fire PRA which remained open after the October 2017 independent assessment. The LAR states, in part, that F&Os ES-A1-01 and FQ-A1-01 have been resolved by making appropriate changes to the PRA model as identified in the F&O. However, the LAR indicates that closure of these F&Os would also entail identifying and addressing similar issues.

- a. F&O ES-A1-01 identifies modeling errors associated with MSO scenarios. The LAR states that a possible resolution of this F&O involves correcting the identified modeling issues *and addressing similar issues* that may exist.

Provide the results of the review to identify and address other similar issues. Describe the actions taken based on the results of this review and the effect on the LAR.

- b. F&O FQ-A1-01 indicates that incorrect values were used for the spurious operation probability for the pressurizer pilot-operated relief valves. The LAR states that a possible resolution of this F&O involves reviewing the pilot-operated relief valve circuitry to ensure single-break and double-break circuitry is correct and reviewing the circuit failure likelihood analysis results *for other unique types of failure modes*.

Provide the results of the review to address similar issues including other unique types of failure modes. Describe the actions taken based on the results of this review and the effect on the LAR.