NRR-PMDAPEm Resource

From: Rankin, Jennivine
Sent: Friday, March 20, 2015 2:55 PM
To: Alan I Hassoun (hassouna@dteenergy.com)
Subject: FERMI 2 - Request for Additional Information regarding the License Amendment Request to adopt TSTF -425, "Relocate Surveillance Frequencies to Licensee Control - RITSTF Initiative 5b" (MF4859)
Attachments: MF4859 PRA RAIs.docx

Mr. Hassoun,

By letter dated September 16, 2014 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML14259A564), DTE Electric Company (DTE, the licensee) requested a revision to the Operating License for the Fermi 2 facility. The proposed change would modify the technical specifications (TS) by relocating specific surveillance frequencies to a licensee-controlled program with the adoption of Technical Specification Task Force (TSTF) – 425, Revision 3, "Relocate Surveillance Frequencies to Licensee Control – RITSTF Initiative 5b." Additionally, the change would add a new program, the Surveillance Frequency Control Program (SFCP) to Section 5.5, "Programs and Manuals" of the TS.

The NRC staff has reviewed the information provided in the license amendment request and determined that additional information is required in order to complete its review.

A draft request for additional (RAI) was transmitted on March 13, 2015, and a clarification call was held on March 20, 2015. As agreed upon during the clarification call, please submit your response to the RAIs within 30 days of this email. If you wish to alter the date of your response, please contact me at (301) 415-1530.

Please treat this e-mail as formal transmittal of the RAIs.

Thanks,
Jennie

Jennie Rankin, Project Manager
Plant Licensing Branch III-1
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Office of Nuclear Reactor Regulation

Hearing Identifier: NRR_PMDA
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REQUEST FOR ADDITIONAL INFORMATION

DTE ELECTRIC COMPANY

FERMI 2

LICENSE AMENDMENT REQUEST TO REVISE TECHNICAL SPECIFICATIONS

BY RELOCATING SURVEILLANCE FREQUENCIES TO LICENSEE CONTROL

IN ACCORDANCE WITH TSTF-425, REVISION 3

DOCKET NO. 50-341

By letter dated September 16, 2014 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML14259A564), DTE Electric Company (DTE, the licensee) requested a revision to the Operating License for the Fermi 2 facility. The proposed change would modify the technical specifications (TS) by relocating specific surveillance frequencies to a licensee-controlled program with the adoption of Technical Specification Task Force (TSTF) – 425, Revision 3, "Relocate Surveillance Frequencies to Licensee Control – RITSTF Initiative 5b." Additionally, the change would add a new program, the Surveillance Frequency Control Program (SFCP) to Section 5.5, "Programs and Manuals" of the TS. The NRC staff has reviewed the information provided in the license amendment request (LAR) and determined that additional information is required in order to complete its review.

Request for Additional Information (RAI) 01

As specified in LAR dated September 16, 2014, the SFCPat Fermi 2 will follow the guidance provided in Nuclear Energy Institute (NEI) 04-10, Revision 1, "Risk-Informed Technical Specifications Initiative 5b, Risk-Informed Method for Control of Surveillance Frequencies." NEI 04-10 endorses the guidance provided in Regulatory Guide (RG) 1.200, Revision 1, "An Approach for Determining the Technical Adequacy of Probabilistic Risk Assessment Results for Risk-Informed Activities."RG 1.200 endorses, with exceptions and clarifications ASME/ANS RA-Sa-2009, "Addenda to RA-S-2008Standard for Level 1/Large Early Release Frequency Probabilistic Risk Assessment for Nuclear Power Plant Applications,"(Probabilistic Risk Assessment (PRA) Standard). Section 1-5, "PRA Configuration Control" of the PRA Standard states that the PRA configuration control program shall include a process that ensures the cumulative impact of pending plant changes or model improvements is considered when applying the PRA.

Based on Page 3 of Enclosure 2 in the LAR, the Fermi 2 PRA Maintenance and Configuration Control Program tracks issues that could potentially affect the PRA models (e.g., due to plant changes, errors or limitations identified in the model, industry operating experience). It is clear on Page 4 of Enclosure 2 of the LAR that plant changes not yet incorporated into the PRA model will be reviewed and assessed for their impact on the PRA results for each surveillance test interval (STI) change request. However, it is not clear whether other tracking issues that could potentially affect the PRA models will be assessed.

Please clarify whether other tracking issues that could potentially affect the PRA models (e.g., errors or limitations identified in the model, industry operating experience) will be reviewed and assessed for impact on the PRA results for each STI change request.

RAI 02

As specified in the LAR dated September 16, 2014, the SFCP at Fermi 2 will follow the guidance provided in NEI 04-10, Revision 1. Part 4 in Section 3.0 of NEI 04-10 states, "The PRA used to support this change will, at a minimum, address CDF and LERF for power operation. External event risk and shutdown considerations will be addressed through quantitative or qualitative means." Step 10 in Section 4.0 of NEI 04-10 provides guidance on the initial assessment of internal events, external events, and shutdown events.

The licensee discusses the assessment of internal events and external events in Enclosure 2 of the LAR, but does not address shutdown event considerations.

Please describe how shutdown events will be assessed as part of the Fermi 2 SFCP. If the licensee has developed shutdown PRA models that they are proposing to use, then describe these PRA models and submit documentation that identifies technical characteristics of these models consistent with RG 1.200, Revision 2, Section 1.2, "Technical Elements of a PRA and Associated Characteristics and Attributes" and Section 1.3, "Level of Detail of a PRA."

RAI 03

As specified in the LAR dated September 16, 2014, the SFCP at Fermi 2 will follow the guidance provided in NEI 04-10, Revision 1. NEI 04-10 endorses the guidance provided in RG 1.200, Revision 1. RG 1.200 describes a peer review process utilizing ASME/ANS RA-Sa-2009 as one acceptable approach for determining the technical adequacy of the PRA once acceptable consensus approaches or models have been established for evaluations that could influence the regulatory decision. The primary results of a peer review are the Findings and Observations (F&Os) recorded by the peer review and the subsequent resolution of these F&Os.

A full-scope peer review of the internal events, at-power PRA (i.e., PRA version FermiV8) was performed in August 2012, and the gaps to meet Capability Category II of the PRA Standard are listed in Table 2, "Resolution of Fermi 2 Internal Events Peer Review F&Os Associated with not Meeting Capability Category II" of the LAR.Three of those gaps are associated with human reliability analysis (HRA) dependency analysis. Later in 2013, the HRA dependency analysis was upgraded using a different methodology (i.e., PRA version FermiV10) and a focused-scope peer review of the upgraded HRA dependency analysis was performed in February 2014.

Given the upgraded HRA dependency analysis in the FermiV10 PRA, please clarify whether the resolutions to the following F&Os/supporting requirements in Table 2 of the LAR are applicable to the FermiV10 PRA: 1-22/QU-C2, 2-16/HR-G7, and 3-28/HR-G7. Also, were these supporting requirements peer reviewed during the focused-scope peer review of the HRA dependency analysis in February 2014.

RAI 04

As specified in the LAR dated September 16, 2014, the SFCP at Fermi 2 will follow the guidance provided in NEI 04-10, Revision 1.NEI 04-10 endorses the guidance provided in

RG1.200, Revision 1. RG 1.200 describes a peer review process utilizing ASME/ANS RA-Sa-2009 as one acceptable approach for determining the technical adequacy of the PRA once acceptable consensus approaches or models have been established for evaluations that could influence the regulatory decision. The primary results of a peer review are the F&Os recorded by the peer review and the subsequent resolution of these F&Os.

In Table 2 of the LAR, F&O 4-16 stated the following regarding the Quantification Notebook:

> However, this comparison fails to explain why the CDF at Fermi 2 is less than or equal to half the CDF of all of the other plants. In addition, there is no breakdown of how the various initiators compare to the other plants such as turbine trip, loss of condenser, etc. that could be used to explain where the major reductions in CDF at Fermi 2 come from and why they are appropriate.

In the resolution to this F&O, the licensee stated that "[t]he Quantification Notebook was revised to reference the comparison of the results from a similar plant included in the Uncertainty Analysis Notebook and to explicitly discuss the significant differences." However, a discussion of these results is not provided in the resolution.

Please summarize the comparison of results from the similar plant and the discussion of the significant differences.

RAI 05

As specified in the LAR dated September 16, 2014, the SFCP at Fermi 2 will follow the guidance provided in NEI 04-10, Revision 1. NEI 04-10 endorses the guidance provided in RG 1.200, Revision 1. RG 1.200 endorses, with exceptions and clarifications, PRA standard ASME/ANS RA-Sa-2009. Section 1-5.4, "PRA Maintenance and Upgrades"of the PRA Standard states:

> Changes in PRA inputs or discovery of new information identified pursuant to 1-5.3 shall be evaluated to determine whether such information warrants PRA maintenance or PRA upgrade. (See Section 1-2 for the distinction between PRA maintenance and PRA upgrade.) [Appendix 1-A of the PRA Standard provides additional information and examples on PRA maintenance and PRA upgrade.]
>
> 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.

The below summarizes the staff's understanding of the development of the internal events, at-power Fermi 2 PRA. The summary was based on Page 4 and Table 1, "History of the Major Fermi 2 PRA Model Updates" of Enclosure 2 in the LAR.

- August 2012: Performed a full-scope peer review of the FermiV8 PRA (i.e., internal events, at-power Fermi 2 PRA, Version FermiV8).

- April 2013: Completed the FermiV9 PRA. This included: addressing the gaps identified from the August 2012 peer review, and "upgraded" the initiating events, success criteria, data, system notebooks, HRA, internal flooding, MAAP 4.0.7 Analysis, and Level 2/LERF analysis.

- Later in 2013: Completed the FermiV10 PRA, which upgraded the HRA dependency analysis to a different methodology.

- February 2014: Performed a focused-scope peer review of the HRA dependency analysis in the FermiV10 PRA, which was determined to meet Capability Category II.

Based on the discussion above and with the exception of the HRA dependency analysis, it appears that the FermiV9 PRA (and subsequently the FermiV10 PRA) includes "upgrades" that were not peer reviewed (i.e., Table 1 of the LAR listed the following upgrades for the FermiV9 PRA: initiating events, success criteria, data, system notebooks, HRA, internal flooding, MAAP 4.0.7 Analysis, and Level 2/LERF analysis). Therefore, it is unclear whether the latest Fermi 2 PRA (i.e., FermiV10) fully meets Capability Category II.

Please provide the following additional information:

1. Describe the changes made between the FermiV8 and FermiV9PRAs. This description should be of sufficient detail to assess whether these changes are PRA maintenance or PRA upgrades as defined in Section 1-5.4 of the PRA Standard. Since the following may indicate a PRA upgrade, include in your discussion: any new methodologies, changes in scope that impacts the significant accidentsequences or the significant accident progressionsequences, changes in capability that impacts the significantaccident sequences or the significant accident progression sequences.

2. Indicate, and provide justification, whether the changes described in RAI 05, number 1 above, are PRA maintenance or PRA upgrades as defined in Section 1-5.4 of the PRA Standard.

3. Indicate whether a peer review has been performed for those PRA upgrades identified in RAI 05, number 2 above. As applicable, provide a list of the F&Os from these peer reviews that do not meet Capability Category II, and explain how the F&Os were dispositioned for this application.

4. Discuss whether the PRA upgrades identified in RAI 05, number 2 above meet Capability Category II.