

NRR-DMPSPeM Resource

From: Goetz, Sujata
Sent: Tuesday, March 06, 2018 10:52 AM
To: Jason R Haas
Subject: Request for Additional Information Regarding Fermi LAR to Adopt TSTF -542
Attachments: DORL RAI feb 28.docx

In a letter dated August 31, 2017, (Agencywide Documents Access and Management System Accession No. ML17243A422), the DTE Electric Company submitted a license amendment request (LAR) to adopt TSTF-542.

The LAR replaces existing technical specifications requirements related to operations with a potential for draining the reactor vessel with new requirements on reactor pressure vessel water inventory control to protect Safety Limit 2.1.1.3. Safety Limit 2.1.1.3 requires reactor vessel water level to be greater than the top of active irradiated fuel.

The Nuclear Regulatory Commission staff has reviewed your submittal and has determined that additional information, as stated in the attachment to this email, is needed to complete its review.

Please let me know if you would like to schedule a clarification call. Your response to the NRC is due by April 5, 2018.

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REQUEST FOR ADDITIONAL INFORMATION
APPLICATION TO REVISE TECHNICAL SPECIFICATION TO ADOPT TSTF-542
REVISION 2, "REACTOR PRESSURE VESSEL WATER INVENTORY CONTROL"
DTE ELECTRIC COMPANY
FERMI 2

By application dated August 31, 2017 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML17243A422, DTE Electric Company, requested to adopt Technical Specifications Task Force (TSTF) Traveler TSTF-542, "Reactor Pressure Vessel Water Inventory Control," Revision 2, ADAMS Accession No ML16074A448, which would change the technical specifications (TSs) related to "operations with a potential for draining the reactor vessel" (OPDRVs) with new requirements on reactor pressure vessel water inventory control to protect Safety Limit 2.1.1.3. Safety Limit 2.1.1.3 requires reactor vessel water level to be greater than the top of active irradiated fuel.

The Nuclear Regulatory Commission (NRC) staff has reviewed the information provided in your August 31, 2017, LAR and requests the following additional information.

RAI-EICB - 1:

In Enclosure 1 of the LAR, page 2, the licensee proposed the following variation:

1. The proposed Fermi 2 TS 3.3.5.3, "Reactor Pressure Vessel (RPV) Water Inventory Control Instrumentation," Table 3.3.5.3-1 does not include functions corresponding to STS Table 3.3.5.1-1, Function 1.d, "Core Spray Pump Discharge Flow – Low," and Function 2.g, "Low Pressure Coolant Injection Pump Discharge Flow – Low," since the Fermi TS do not currently contain these functions in TS Table 3.3.5.1-1.

The Fermi 2 Updated Final Safety Analysis Report, Sections 6.3.2.2.3.3 and 6.3.2.2.4.4, describes the minimum flow instruments which protect the associated low pressure emergency core cooling system (ECCS) pumps from overheating when they are operating and the associated injection valves are not fully open. This protective function automatically signals opening or closing of the valves in the minimum flow bypass lines for the core spray (CS) and low pressure coolant injection (LPCI) pumps.

TSTF-542 states that overall successful reactor pressure vessel water inventory control is based, in part, on the capability of an operable ECCS pump to inject water as needed to make up the inventory.

The presence or absence of a requirement in a current TS is not in and of itself justification for the proposed TS. Since the proposed TS changes omit the equivalent of the TSTF-542 instrumentation requirements for both CS and LPCI pump discharge flow-low (bypass) from the proposed TSs, please describe how there is reasonable assurance that an ECCS pump required by Fermi 2 TS 3.3.5.3 will operate as expected (e.g., the bypass line will not lessen expected discharge flow, and said pump will not overheat when the associated injection valve is not fully open).

RAI EICB - 2:

In Enclosure 1 of the LAR, page 3, item 3, you proposed the following variation:

The required channels per function in Fermi 2 TS Table 3.3.5.1-1, Function 1.d, "Manual Initiation" of the Core Spray system and 2.h, "Manual Initiation" of the LPCI system, are modified by a footnote stating, "Individual Component Controls." The footnote is retained for the manual initiation functions of Core Spray System and LPCI system in the proposed TS Table 3.3.5.3-1, RPV Water Inventory Control Instrumentation as footnote (c) consistent with the current Fermi 2 TS requirements.

The TS bases provided with the LAR, page 3.3.5.3-3, section 1.b, 2b. "Manual Initiation", states that the manual initiation channel provides initiation capability by means of individual component controls. The staff interprets this as a CS or LPCI subsystem can be started by manipulating the buttons that control each individual pump and valve. However, the second sentence in that section states that there is one manual initiation channel for each of the CS and LPCI subsystems (i.e., four for CS and four for LPCI).

The design of manual initiation for the CS and LPCI subsystems is unclear to the staff. Does Fermi 2 have the capability to actuate an entire subsystem of CS or LPCI by pressing one or two buttons, or must each subsystem's components be actuated individually? Please provide the initiation process for the CS and LPCI.