



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

May 21, 2015

Mr. Vito Kaminskas
Site Vice President - Nuclear Generation
DTE Electric Company
Fermi 2 - 280 OBA
6400 North Dixie Highway
Newport, MI 48166

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION FOR THE REVIEW OF THE
FERMI 2 LICENSE RENEWAL APPLICATION – SET 35 (TAC NO. MF4222)

Dear Mr. Kaminskas:

By letter dated April 24, 2014, DTE Electric Company (DTE or the applicant) submitted an application pursuant to Title 10 of the *Code of Federal Regulations* Part 54, to renew the operating license NPF-43 for Fermi 2, for review by the U.S. Nuclear Regulatory Commission (NRC or the staff). The staff is reviewing the information contained in the license renewal application and has identified, in the enclosure, areas where additional information is needed to complete the review.

This request for additional information was discussed with Ms. Lynne Goodman, and a mutually agreeable date for the response is within 30 days from the date of this letter. If you have any questions, please contact me at 301-415-3301 or e-mail Daneira.Melendez-Colon@nrc.gov.

Sincerely,

/RA/

Daneira Meléndez-Colón, Project Manager
Projects Branch 1
Division of License Renewal
Office of Nuclear Reactor Regulation

Docket No. 50-341

Enclosure:
Request for Additional Information

cc : Listserv

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**FERMI 2
LICENSE RENEWAL APPLICATION
REQUEST FOR ADDITIONAL INFORMATION SET 35
(TAC NO. MF4222)**

RAI 4.3.3-1a

Background:

By letter dated January 14, 2015, the staff issued Request for Additional Information (RAI) 4.3.3-1 requesting that the applicant:

- (1) Provide the methodology being used to identify plant-specific component locations in the reactor coolant pressure boundary that are more limiting than the components identified in NUREG/CR-6260.
- (2) Provide the technical basis used to determine that the methodology used to identify the plant-specific component locations are bounding.

In its response dated February 12, 2015, the applicant stated that:

- (1) Electric Power Research Institute (EPRI) Technical Report 1024995, "Environmentally Assisted Fatigue Screening, Process and Technical Basis for Identifying EAF Limiting Locations," is the methodology that will be used to identify plant-specific component locations that are more limiting than the locations identified in NUREG/CR-6260.
- (2) EPRI Technical Report 1024995, Section 3, provides the technical basis for the methodology to identify the limiting plant-specific component locations.

Section 3 of EPRI Technical Report 1024995 states: "The reader is reminded that this report is NOT provided as a Quality Assured document. Application of the processes described will require appropriate review and quality dedication on a site-specific basis."

Section 4 of EPRI Technical Report 1024995 contains a subsection entitled "Guidelines for Reducing the Number of Sentinel Locations." This subsection provides possible criteria that could be used to make judgements regarding the reduction of sentinel locations. Section 6 also states that analysis beyond the scope of the screening process presented may be applied to further reduce the number of sentinel locations.

Issue:

EPRI Technical Report 1024995 has not been submitted to the NRC for approval and has not been endorsed by the NRC. Additionally, EPRI Technical Report 1024995 is not a Quality Assured document and its application requires plant-specific review. The criteria used to reduce the number of sentinel locations are not clearly defined. The applicant has not demonstrated

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that its application of the screening methodology will be done in a manner that conservatively evaluates environmentally assisted fatigue (EAF) effects, with the same degree of analytical rigor for all locations, to identify the bounding locations.

The staff lacks sufficient information to evaluate the effects of the reactor coolant environment on component fatigue life during the period of extended operation. It is unclear to the staff if the plant-specific implementation of the generic procedures in EPRI Technical Report 1024995 will identify the most limiting plant-specific locations.

Request:

- (1) Describe and justify the site-specific review that was conducted to determine that the application of the screening processes being utilized is appropriate for identifying the EAF limiting locations.
- (2) Select a number of representative systems and provide the evaluation of the EAF analysis, ranking of sentinel locations, and selection of limiting sentinel locations. The systems should be selected so that they demonstrate the adequacy of the methodology to identify the limiting plant-specific component locations. Consideration should be given to the thermal zones, materials, transients, and complexity of the systems selected. The systems selected should demonstrate that the methodology conservatively evaluates EAF effects, with the same degree of analytical rigor for all locations, to identify the bounding locations.
- (3) Describe and justify any engineering judgement, plant-specific assumptions, and plant-specific criteria used in the EAF analysis or screening process. This should include the systematic process used to eliminate sentinel locations as limiting and examples showing how the process was implemented.