

NRR-PMDAPEm Resource

From: Rankin, Jennivine
Sent: Wednesday, September 03, 2014 4:06 PM
To: Alan I Hassoun (hassouna@dteenergy.com)
Subject: FERMI 2 - Request for Additional Information regarding the License Amendment Request to Revise Technical Specification Surveillance Requirements for Direct Current Batteries (MF4002)
Attachments: RAI.docx

Mr. Hassoun,

By letter dated April 23, 2014 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML14113A445) as supplemented by letter dated June 19, 2014 (ADAMS Accession Number ML14170B201), DTE Electric Company (the licensee) requested a revision to the Operating License for the Fermi 2 facility. The proposed change would modify the existing Technical Specification (TS) Surveillance Requirements associated with TS 3.8.4, "DC Sources – Operating" and TS 3.8.6, "Battery Cell Parameters."

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 information (RAI) was transmitted on August 28, 2014, and a clarification call was held on September 3, 2014. As agreed upon following the clarification call, please submit responses to the attached RAIs by October 17, 2014. Please treat this e-mail as formal transmittal of the RAIs.

Thanks,
Jennie

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

Hearing Identifier: NRR_PMDA
Email Number: 1544

Mail Envelope Properties (Jennivine.Rankin@nrc.gov20140903160500)

Subject: FERM1 2 - Request for Additional Information regarding the License Amendment
Request to Revise Technical Specification Surveillance Requirements for Direct Current Batteries
(MF4002)

Sent Date: 9/3/2014 4:05:46 PM

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From: Rankin, Jennivine

Created By: Jennivine.Rankin@nrc.gov

Recipients:

"Alan I Hassoun (hassouna@dteenergy.com)" <hassouna@dteenergy.com>

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Options

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REQUEST FOR ADDITIONAL INFORMATION
REVISION TO TECHNICAL SPECIFICATION SURVEILLANCE REQUIREMENTS
FOR DIRECT CURRENT BATTERIES
FERMI 2
DTE ELECTRIC COMPANY
DOCKET NO. 50-341

By letter dated April 23, 2014 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML14113A445) and supplemented by letter dated June 19, 2014 (ADAMS Accession Number ML14170B201), DTE Electric Company (the licensee) requested a revision to the Operating License for the Fermi 2 facility. The proposed change would modify the existing Technical Specification (TS) Surveillance Requirements associated with TS 3.8.4, "DC Sources – Operating" and TS 3.8.6, "Battery Cell Parameters." 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.

1. Page 7 in Enclosure 1 of the LAR dated April 23, 2014, states the following:

Screening design bases accident (DBA) scenarios as stipulated in the Fermi 2 UFSAR and selecting those scenarios that potentially give rise to limiting DC [direct current] loadings. The selection is then used to review the loads and determine the bounding loading scenarios to be used in the computer modeling.

Describe the loading scenarios chosen in the computer modeling, including the calculated minimum required battery terminal voltage and the bounding volt per cell value for each scenario. Also, please identify the most limiting voltage required at the component level and the corresponding voltage at the battery to meet the worst-case design basis loading requirements.

2. Page 8 in Enclosure 1 of the LAR dated April 23, 2014, states the following:

Design Basis Calculation (Reference 6.2) demonstrates acceptable results using a 70 degree Fahrenheit electrolyte temperature.

Please provide a summary of the calculations including the assumptions and supportive documentation to show that the safety related batteries at 70 degree Fahrenheit continue to support operability of all safety related equipment.

3. Page 9 in Enclosure 1 of the LAR dated April 23, 2014, states the following:

Based on the design age of the batteries, several years remain before any battery reaches its 85% of expected life.

For all four 130 VDC [volts direct current] batteries, the surveillance results verified that battery capacity is >100% of the manufacturer's rating with no degradation.

Please provide the battery capacity margin data based on the most recent TS surveillance test. What is the expected life of the four batteries and when will they reach 85% of expected life?

4. Page 9 and 10 of the LAR dated April 23, 2014, indicates that aging factor applied to 2B-2 battery is 1.18. The aging factor applied to the other batteries is 1.25. Explain why the proposed capacity and frequency specified for 2B-2 battery in TS SR 3.8.4.8 is conservative.
5. Please provide a summary of the calculation including assumptions that determined the total connection resistance allowable value of 2700 micro ohm will provide the minimum required voltages with some margins to support safety related equipment in performing their intended safety functions.