

September 2, 2011

Mr. Jack M. Davis
Senior Vice President and Chief Nuclear Officer
Detroit Edison Company
Fermi 2 – 210 NOC
6400 North Dixie Highway
Newport, MI 48166

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION LETTER NO. 67 RELATED TO
SECTIONS 10.2.3 FOR THE FERMI 3 COMBINED LICENSE APPLICATION

Dear Mr. Davis:

By letter dated September 18, 2008, Detroit Edison Company (Detroit Edison) submitted for approval a combined license application pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR) Part 52. The U.S. Nuclear Regulatory Commission (NRC) staff is performing a detailed review of this application to enable the staff to reach a conclusion on the safety of the proposed application.

The NRC staff has identified that additional information is needed to continue portions of the review. The staff's request for additional information (RAI) is contained in the enclosure to this letter. To support the review schedule, you are requested to respond within 30 days of the date of this letter. If changes are needed to the safety analysis report, the staff requests that the RAI response include the proposed wording changes.

If you have any questions or comments concerning this matter, I can be reached at 301-415-3104 or by e-mail at michael.eudy@nrc.gov.

Sincerely,

/RA/

Michael Eudy, Project Manager
BWR Projects Branch
Division of New Reactor Licensing
Office of New Reactors

Docket Nos. 052-033

eRAI Tracking No. 6015

Enclosure:
Request for Additional Information

September 2, 2011

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Senior Vice President and Chief Nuclear Officer
Detroit Edison Company
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SECTIONS 10.2.3 FOR THE FERMI 3 COMBINED LICENSE APPLICATION

Dear Mr. Davis:

By letter dated September 18, 2008, Detroit Edison Company (Detroit Edison) submitted for approval a combined license application pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR) Part 52. The U.S. Nuclear Regulatory Commission (NRC) staff is performing a detailed review of this application to enable the staff to reach a conclusion on the safety of the proposed application.

The NRC staff has identified that additional information is needed to continue portions of the review. The staff's request for additional information (RAI) is contained in the enclosure to this letter. To support the review schedule, you are requested to respond within 30 days of the date of this letter. If changes are needed to the safety analysis report, the staff requests that the RAI response include the proposed wording changes.

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Enclosure:
Request for Additional Information

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DATE	8/25/11	8/25/11	8/25/11	8/31/11	8/31/11	09/01/11

***Approval captured electronically in the electronic RAI system.**

OFFICIAL RECORD COPY

Request for Additional Information No. 6015 Revision 3

Fermi Unit 3
Detroit Edison
Docket No. 52-033
SRP Section: 10.02.03 - Turbine Rotor Integrity
Application Section: 10.2.3

Question 10.02.03-17:

Based on the review of the GE material specification B50A373B12, the staff requests for the applicant to provide the following information:

1. Please specify what yield and tensile strength was used in the turbine missile probability analysis, GE-ST-56834, Revision 3. Note that this is a bounding analysis and should use the bounding material properties as stated in the ESBWR DCD, Section 10.2.3.8 and STD COL Item 10.2-2-A of the Fermi 3 COLA FSAR.
2. Table 4-1 of GE-ST-56834, Revision 3, has a maximum total bore stress that exceeds the minimum yield strength of the material in GE material specification B50A373B12. Please specify why this is acceptable.
3. Section 8 and 9 of GE-ST-56834, Revision 3, was revised to state that the analysis will be updated to reflect the actual (as-built) FATT values. This statement should be changed to specify "the actual (as-built) material properties" to be consistent with the ESBWR DCD, Section 10.2.3.8 and ITAAC Commitment 7 in Table 2.11.4-2 of Tier 1 to the ESBWR DCD. FATT is not the only material property used in the analysis. Please revise accordingly.

Question 10.02.03-18:

In a letter dated July 29, 2011, the response to RAI 10.02.03-14 states that the GE-ST-56834, Revision 3, provides an analysis of a flaw growing radially inward from the bore (of a bored rotor) using stresses in Table 4-1 of GE-ST-56834, Revision 3. The staff requests for the applicant to provide the following information:

1. Please specify how this applies to the solid (non-bored) rotor, in that an embedded flaw propagates to the surface generating a missile.
2. In addition, Tables 4-1 and 4-3 only provide the rotor stress for normal speed. Please provide and use the rotor stresses for design overspeed in the analysis as stated in ESBWR DCD Sections 10.2.3.4 and 10.2.3.8 and SRP 3.5.1.3.

Question 10.02.03-19:

Revision 3 to GE ST-56834/P included a new subsection, 10.1.1, "In-service Rotor Inspections," which provides the GE recommendations for performing regular inservice inspections of both the HP and LP rotors, including rotor dovetail inspections per Section 10.1.2. In addition, Section 10.2 was revised in Revision 3 to GE ST-56834/P to include testing of extraction non-return valves. These inspections and tests are not included in the ESBWR DCD, which the Fermi 3 COLA FSAR uses to describe the plant-specific turbine inservice inspection and testing program. Therefore, the staff requests that the applicant provide the following:

1. Confirm that the 12-year inspection interval specified in Section 10.1 applies to the inspections in Section 10.1.1 of GE ST-56834/P.
2. Include the rotor dovetail inspections and the extraction non-return valve testing in the Fermi 3 COLA FSAR as part of the applicant's inservice inspection and testing program to satisfy the manufacturer's inspection and maintenance recommendations as required by ESBWR DCD COL 10.2-1-A.