

December 9, 2010

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. 49 RELATED TO  
THE SRP SECTIONS 2.3.1, 2.3.3, 2.3.5 AND 13.6.6 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 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 301-415-8148 or by e-mail at [jerry.hale@nrc.gov](mailto:jerry.hale@nrc.gov).

Sincerely,

*/RA/*

Jerry Hale, Project Manager  
BWR Projects Branch  
Division of New Reactor Licensing  
Office of New Reactors

Docket Nos. 052-033

eRAI Tracking Nos. 5268, 5269, 5272 and 5275

Enclosure:  
Request for Additional Information

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Request for Additional Information

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NAME	C. Erlanger	D. Brown	M. Carpentier	J. Hale
DATE	11/23/10	11/19/10	12/2/10	12/9/10

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

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## Request for Additional Information No. 5268

SRP Section: 02.03.01 - Regional Climatology  
Application Section: FSAR Section 2.3.1

02.03.01-18

This question is related to the applicant's response to RAI 02.03.01-9 and its incorporation into Revision 2 of the Fermi 3 FSAR.

The last paragraph of Revision 2 to Fermi 3 FSAR Section 2.3.1.3.4.3, "Maximum Roof Load," states that the ESBWR Site Design Parameter extreme winter precipitation event maximum roof snow load is 163.5 psf. The FSAR derives the 163.5 psf value by summing the roof load resulting from the normal winter precipitation event (38.5 psf) and the extreme winter precipitation event (125 psf) values listed in ESBWR DCD Tier 2, Table 3G.1-2. This summation conflicts with the GEH response to RAI 2.3-4 S05 dated May 11, 2009 (ML091320434), which states that the 125 psf extreme live loads for roofs includes the contribution of 38.5 psf from the normal winter precipitation event. Similarly, footnote 5 to ESBWR DCD Tier 2, Table 2.0.1, states the maximum ground snow load for the extreme winter precipitation event (162 psf) includes the contribution from the normal winter precipitation event (50 psf). Please address this apparent contradiction in defining the ESBWR extreme winter precipitation event roof load.

The staff notes that GEH derived its 125 psf extreme winter precipitation event roof snow load by assuming that water from the extreme liquid winter precipitation event will not accumulate above the height of the 2 ft parapet if the roof scuppers and drains are assumed to be clogged. To facilitate a direct comparison with site parameters that are intended to represent ground loads, GEH converted the 125 psf extreme winter precipitation event roof load to an equivalent extreme winter precipitation event ground snow load of 162 psf using guidance provided in ISG-7.

02.03.01-19

Attachment 1 to the applicant's letter NRC3-10-0049 dated November 9, 2010 (ML103140612) submitted proposed changes to the Fermi 3 COL FSAR in response to anticipated changes to ESBWR DCD Revision 8. GEH added three new site parameters related to the ESBWR control room habitability area (CRHA) heat-up analysis in Revision 8 to DCD Tier 2, Table 2.0-1. Insert 2 in Attachment 1 to NRC3-10-0049 proposes changes to the FSAR in response to the three new CRHA heat-up analysis site parameters.

The following questions relate to the contents of Insert 2 in Attachment 1 to NRC3-10-0049:

- a. Staff requests the applicant use the term "Fermi site characteristics" instead of "Fermi site parameters" when referring to the site-specific CRHA values. Pursuant to 10 CFR 52.1(a), *site parameters* are the postulated features of an assumed site that are specified in a standard design certification whereas *site characteristics* are the actual features of a site that are specified in a COL FSAR.

- b. Staff requests the applicant more precisely describe the methodology used in determining the CRHA site characteristic values in accordance with the definitions presented in Revision 8 to ESBWR DCD Tier 2, Appendix 3H, Section 3H.3.2.1.

Request for Additional Information No. 5269

SRP Section: 02.03.03 - Onsite Meteorological Measurements Programs  
Application Section: FSAR 1.9; FSAR 2.3.3

02.03.03-9

This question is related to the applicant's response to RAI 02.03.03-8. The staff finds the applicant's response to RAI 02.03.03-8 incomplete.

The response to RAI 02.03.03-8 states that the new meteorological tower that will be erected to support the pre-operational and operational meteorological monitoring program (i.e., the monitoring program to be used during plant construction and operation) will meet the guidance in Revision 1 to RG 1.23 (March 2007). Correspondingly, the response to RAI 02.03.03-8 proposes a revision to FSAR Table 1.9-202 which states the meteorological monitoring program for pre-operational and operational phases complies with Revision 1 to RG 1.23.

In contrast, Revision 2 to FSAR Section 2.3.3.2.2 states the new meteorological tower will use meteorological instrumentation that matches the manufacturer and model numbers used on the current tower and FSAR Table 2.3-289 provides the accuracies for each meteorological sensor located on the current meteorological tower. Revision 2 to FSAR Table 2.3-289 shows that the system accuracy for the differential temperature instrumentation is  $\pm 0.15$  °C which exceeds the Revision 1 to RG 1.23 (March 2007) specified accuracy of  $\pm 0.1$  °C.

Please justify why the differential temperature instrumentation accuracy for the new meteorological tower that will be erected to support the pre-operational and operational meteorological monitoring program will exceed the Revision 1 to RG 1.23 (March 2007) criterion of  $\pm 0.1$  °C.

## Request for Additional Information No. 5272

SRP Section: 02.03.05 - Long-Term Atmospheric Dispersion Estimates for Routine Releases  
Application Section: FSAR Appendix 2B

02.03.05-5

This RAI focuses on information contained in FSAR Revision 2, Appendix 2B. Note that this appendix is not listed in the FSAR Table of Contents and therefore has not been previously reviewed by the staff.

Table 2B-201 in FSAR Revision 2, Appendix 2B, provides gaseous effluent release pathway information for each of the three ventilation stacks. The ventilation stack parameter values presented in FSAR Table 2B-201 reflect the values presented in Revision 6 to ESBWR DCD Tier 2, Table 2B-1. Several of these parameter values (i.e., stack inside diameter, height of building above grade, and building dimensions for the reactor/fuel building stack and radwaste building stack) were revised in Revision 7 to ESBWR DCD Tier 2, Table 2B-1. However, the applicant's letter NRC3-10-0049 dated November 9, 2010 (ML103140612), which was submitted to identify proposed changes to the Fermi 3 COL FSAR to reflect ESBWR DCD Revision 7 and anticipated changes of ESBWR DCD Revision 8, did not identify these changes in FSAR Table 2B-201 ventilation stack parameter values.

Please revise the FSAR as stated below, or justify why these revisions are not necessary.

- a. Revise Table 2B-201 in FSAR Appendix 2B to reflect the gaseous effluent release pathway information presented in Revision 8 to the ESBWR DCD.
- b. Indicate in FSAR Appendix 2B any assumptions used to deriving the Fermi 3 long-term dispersion site characteristic values that differ from the information presented in the revised FSAR Table 2B-201 (e.g., the building area for the reactor/fuel building stack and turbine building stack releases was set to zero to neglect the building wake credit).

**Request for Additional Information No. 5275**

SRP Section: 13.06.06 - Cyber Security  
Application Section: CSP

13.06.06-3

Please see ML103270097, forwarded separately.