August 10, 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. 40 RELATED TO THE SRP SECTIONS 2.4.13, 2.5.4, 3.2.1, 3.2.2 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 45 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 301-415-4093 or by e-mail at adrian.muniz@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. 4905, 4920, 4927, 4929, and 4936

Enclosure:
Request for Additional Information

August 10, 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. 40 RELATED TO THE SRP SECTIONS 2.4.13, 2.5.4, 3.2.1, 3.2.2 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 45 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.

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. 4905, 4920, 4927, 4929, and 4936
Enclosure:
Request for Additional Information
Distribution:
PUBLIC NGE 1/2 R/F SGreen, NRO AMuniz, NRO
MCarpentier, OGC RidsNroDsraSbpb RidsNroDnrlNge2 C.Cook, NRO
C.Erlanger, NSIR J.Dixon-Herrity, NRO

ADAMS Accession No. ML102220142 NRO-002

| OFFICE | NSIR | NRO/RGS1 | NRO/EMB2 | OGC | NGE1/PM |
|---|---|---|---|---|---|
| NAME | C.Erlanger | C.Cook | J.Dixon-Herrity | M. Carpentier | JHale |
| DATE | 7/20/10 | 7/20/10 | 7/28/10 | 7/29/10 | 8/2/10 |

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

**OFFICIAL RECORD COPY**

**Request for Additional Information No. 4905**

Fermi Unit 3
Detroit Edison
Docket No. 52-033
SRP Section: 02.05.04 - Stability of Subsurface Materials and Foundations
Application Section: 2.5.4

02.05.04-35

ESBWR DCD information item COL 2.0-29-A requires the COL applicant to address “localized liquefaction potential under other than Seismic Category I structures” (ESBWR DCD Tier 2, Chapter 2, table 2.0-2). However, in FSAR Section 2.5.4.8 “Liquefaction Potential”, you did not provide any information about the localized liquefaction potential under other than Seismic Category I structures. Please provide this evaluation in the FSAR. If the soils under other than Seismic Category I structures are susceptible to liquefaction, please assess the potential safety implications, especially for those buildings that are adjacent to Seismic Category I structures in accordance with 10 CFR100.23.

**Request for Additional Information No. 4920**

Fermi Unit 3
Detroit Edison
Docket No. 52-033
SRP Section: 13.06.06 - Cyber Security (Future SRP Section)
Application Section: CSP

13.06.06-1

Definitions for use in Part 73 are contained in 10 CFR 73.2.. A glossary was not provided in the Fermi 3 cyber security plan. However in Section 1, Introduction, of the Fermi 3 cyber security plan, reference is made to the glossary in NEI 08-09, Revision 6. Does DTE intend to incorporate by reference the glossary in NEI 08-09 Revision 6 Appendix B?

13.06.06-2

Licensees are required to implement security controls to protect the digital assets within the scope of 10 CFR 73.54 from cyber attacks by 10 CFR 73.54(c)(1). In the Fermi 3 Cyber Security Plan, Section 4.2 Cyber Security Controls, states "The Technical, Operational and Management Cyber Security Controls described in Appendices D and E of NEI 08-09 Revision 6, are evaluated and dispositioned based on site specific conditions during the establishment of risk baselines, during on-going programs, and during oversight activities." Does DTE intend to incorporate by reference all the security controls in NEI 08-09 Revision 6 Appendices D and E?

**Request for Additional Information No. 4927**

Fermi Unit 3
Detroit Edison
Docket No. 52-033
SRP Section: 03.02.01 - Seismic Classification
Application Section: 3.2

03.02.01-1

FSAR Subsection 3.2 does not identify any departures or supplements relative to seismic classification identified in the ESBWR DCD and conformance with RG 1.29 Revision 4, but FSAR Table 1.9-202 identifies an exception to Revision 4, dated March 2007 and implements Revision 3 rather than Revision 4. RG 1.206 Part C.III.1 subsection C.I.1.9.1 states that, for site-specific portions of the facility design that are not included in the referenced certified design, a COL applicant should address conformance with regulatory guides in effect 6 months before the submittal date of the COL application. Explain and justify why the seismic classification of site-specific SSCs are based on RG 1.29 Revision 3 rather than the current Revision 4.

03.02.01-2

DCD and COLA Section 1 identify certain site-specific SSCs that are outside the scope of the DCD and the COL applicant is expected to provide site-specific information. FSAR 3.2 identifies only limited site-specific systems. FSAR Table 1.9-203 states there are no safety-related or RTNSS SSCs not included in the DCD, but it is not clear if there are any unique plant-specific nonsafety-related SSCs that are considered important to safety and are not addressed in the DCD that are to be evaluated in the FSAR. For example, plant specific features, such as the fiberglass service water piping that appears to be considered site-specific, is not seismically classified or addressed in FSAR Section 3.2. The non-safety-related RTNSS C service water system piping is classified in the DCD as non-seismic and based on DCD 19A.8.3, RTNSS Criterion C components are not required to function in order to avoid core damage following a seismic event. However, RTNSS Criterion C SSCs are to be designed to seismic standards of the IBC and should be designed to be highly reliable. Staff is concerned that the structural integrity of buried fiberglass piping may not be as reliable as steel pipe after a seismic event and should be evaluated for seismic adequacy or the consequences of a catastrophic failure caused by a seismic event. Clarify if there are any unique site-specific SSCs outside the scope of the DCD that are not addressed in FSAR subsection 3.2.1 and are to be seismically evaluated in the COLA. If so, the applicant is requested to identify and justify the seismic classification of such SSCs.

**Request for Additional Information No. 4929**

Fermi Unit 3
Detroit Edison
Docket No. 52-033
SRP Section: 03.02.02 - System Quality Group Classification
Application Section: 3.2

03.02.02-1

FSAR Subsection 3.2 does not identify any departures or supplements relative to quality group classification identified in the ESBWR DCD and conformance with RG 1.26 Revision 4, but FSAR Table 1.9-202 identifies an exception to Revision 4, dated March 2007, and Revision 3 is implemented rather than Revision 4. RG 1.206 Part C.III.1 subsection C.I.1.9.1 states that, for site-specific portions of the facility design that are not included in the referenced certified design, a COL applicant should address conformance with regulatory guides in effect 6 months before the submittal date of the COL application. Explain and justify why the quality group classification of any site-specific SSCs are based on RG 1.26 Revision 3 rather than the current Revision 4.

03.02.02-2

SRM dated July 21, 1993, concerning SECY-93-087 identified that the staff will review passive plant design applications using the newest codes and standards endorsed by the NRC and unapproved revisions to the codes will be reviewed on a case by case basis. RG 1.206 Part C.III identifies that COL applicants that reference a certified design do not need to include additional information on codes and standards. However, if the applicant deviates from the DCD or there are site-specific SSCs, codes and standards would be expected to be identified. Editions of various codes and standards are referenced in FSAR Table 1.9-204, but it is not clear if the list of codes and standards applies only to site-specific SSCs or if the list is a comprehensive list. For example, the ASME B31.1 Code and supplemental standards used for the plant-specific fiberglass pressure pipe and the applicable editions are not referenced in FSAR Table 1.9-204. Clarify which editions of codes and standards apply to any site-specific SSCs, such as fiberglass piping, and if those editions are NRC endorsed or need to be reviewed on a case by case basis.

03.02.02-3

General Design Criterion 1 identifies, in part, that structures systems and components important to safety shall be designed, fabricated, erected and tested to quality standards commensurate with the importance of the safety functions to be performed. Where generally recognized codes and standards are used, they shall be supplemented or modified as necessary to assure a quality product in keeping with the required safety function. RG 1.206 Part C.III subsection C.I.3.2.2 states that the COL applicant is to identify those fluid systems or portions that are important to safety and outside the scope of the certified design, as well as the applicable codes and standards for each pressure-retaining component. SRP 3.2.2 also specifically states that the staff reviews quality standards including application of the QA program and codes and standards applicability. Supplemental quality standards and QA program applicable to passive SSCs used in nonsafety-related RTNSS systems that may be important to safety are not clearly defined in subsection 3.2 of the COL application for site-specific SSCs. Clarify in FSAR 3.2 or include a pointer to another FSAR chapter to define what

supplemental quality standards are applied to non-safety-related site-specific SSCs that are important to safety to ensure that all SSCs important to safety are designed, fabricated, erected, and tested to quality standards commensurate with the safety function to be performed. For example, FSAR subsection 9.2.1.5 identifies that fiberglass pressure pipe that meets ASME B31.1 and other supplemental standards will be applied, but it is not obvious which supplemental quality standards apply to site-specific SSCs, such as fiberglass piping, in either the DCD 3.2 tables or FSAR Section 3.2.

**Request for Additional Information No. 4936**

Fermi Unit 3
Detroit Edison
Docket No. 52-033
SRP Section: 02.04.13 - Accidental Releases of Radioactive Liquid Effluents in Ground and Surface Waters
Application Section: 2.4.13

02.04.13-11

The applicant responded to RAI Letter No. 28 dated May 7, 2010, that included a description of revisions to the RESRAD-OFFSITE computer model setup and the results of subsequent simulations. The applicant provided computer model input files for four contaminant transport scenarios: 1) transport through the rock fill with a receptor at Lake Erie; 2) transport through the rock fill with a receptor at a groundwater well; 3) transport through the Bass Islands aquifer with a receptor at Lake Erie; and 4) transport through the Bass Islands aquifer with a receptor at a groundwater well. Included in the revised RESRAD-OFFSITE analyses was a correction for the volume of initial source liquid released, and a description of a simulated rapid, below-grade tank release to the aquifer through a very high (525,600/yr) user-specified leach rate.

Inspection of the RESRAD-OFFSITE output ("SUMMARY.REP") files for each of the scenarios indicates that the computer code found the user-specified leach rate (525,600/yr) incompatible with the combination of input parameters. Finding the incompatible leach rate, the computer code calculated a consistent and significantly smaller rate value of 1.8/yr. The result is a modeling analysis that is adding contaminants to the aquifer at a much lesser rate than intended. In addition, the selection of the "Do Not Disperse Vertically" user-controlled option results in clean water infiltrating along the contaminant flowpath. Clean infiltration in this case causes the plume to be driven downward and may not be entirely intercepted by the receptor given the "Depth of Aquifer Contributing" input value.

The applicant should revise the analyses performed by configuring RESRAD-OFFSITE input parameters to use the maximum leach rate permitted by the computer code and carefully selecting input values to avoid clean infiltration along contaminant flowpaths.