December 8, 2009

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. 19 RELATED TO THE SRP SECTIONS 2.4.2, 2.4.3, 2.4.5, 2.4.6 AND 2.4.13 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 301-415-3179 or by e-mail at ilka.berrios@nrc.gov .

Sincerely,

/RA/

Ilka T. Berrios, Project Manager
ESBWR/ABWR Projects Branch 1
Division of New Reactor Licensing
Office of New Reactors

Docket Nos. 052-033

eRAI Tracking Nos. 4005, 4006 and 4007

Enclosure:
Request for Additional Information

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Senior Vice President and Chief Nuclear Officer
Detroit Edison Company
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Enclosure:
Request for Additional Information

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DATE	11/24/09	11/23/09	11/28/09	11/30/09

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

Request for Additional Information No. 4068
Fermi Unit 3
Detroit Edison
Docket No. 52-033
SRP Section: 02.04.02 - Floods
Application Section: 02.04.02

02.04.02-4

To meet the requirements of 100.20(c) and 52.79(a)(1)(iii) and to support the staff's review of the application, the staff requests additional information concerning the erosion protection measures to be used for the slopes of the Fermi 3 elevated area. The staff requests the following:

1. calculations of the potential maximum velocity of runoff from the 8 percent slopes during the PMP at the site

2. detailed information on specific erosion protection measures designed to resist erosion under the maximum predicted water velocities.

Request for Additional Information No. 4069

Fermi Unit 3
Detroit Edison
Docket No. 52-033
SRP Section: 02.04.03 - Probable Maximum Flood (PMF) on Streams and Rivers
Application Section: 02.04.03

02.04.03-2

In accordance with 100.20(c) and 52.79(a)(1)(iii) and to support the staff's review of the application, the NRC staff requests that the applicant provide rationale for choosing the 100-year surge as predicted by the USACE for flooding Alternative I rather than using the maximum recorded seiche at the site of 6.3 ft. The ANSI/ANS-2.8-1992 guidelines indicate that the Alternative I should include the "surge and seiche resulting from the worst regional hurricane or windstorm."

02.04.03-3

The staff has reviewed FSAR Section 2.4.3.6, Coincident Wind and Wave Activity. In accordance with 100.20(c) and 52.79(a)(1)(iii), the NRC staff requests that the applicant provide additional information on wind-wave activity coincident with a flood under Alternatives I and II. According to section of 9.2.3.2 of ANSI/ANS-2.8-1992, all alternatives need to be evaluated with wind-wave activity. The applicant should provide the details on determination of critical wind direction and speed, calculation of possible wind-wave activities, and evaluation of potential impacts of wind wave run-up on the plant safety design.

Request for Additional Information No. 4073

Fermi Unit 3
Detroit Edison
Docket No. 52-033
SRP Section: 02.04.05 - Probable Maximum Surge and Seiche Flooding
Application Section: 02.04.05

02.04.05-5

To meet the requirements of 10 CFR Part 52 and 10 CFR Part 100 and to support the staff's review of the application, the staff requests that applicant provide an evaluation to justify or an analysis to demonstrate that the surge calculated for moving squall line does not result in the most severe flood condition in this area.

02.04.05-6

To meet the requirements of 10 CFR Part 52 and 10 CFR Part 100 and to support the staff's review of the application, the staff requests that the applicant provide the following:
(1) descriptions of the limitations of the Bretschneider method used for calculating wind setup under the PMWS, (2) rationale of choosing the Bretschneider method as a conservative approach to predict the probable maximum surge for Lake Erie compared to other commonly used methods, (3) details on the derivation of the key parameters of fetch length and water depth used in the Bretschneider method, and (4) a table of results presented in applicant's calculation package.

02.04.05-7

To meet the requirements of 10 CFR Part 52 and 10 CFR Part 100 and to support the staff's review of the application, the staff requests that the applicant provide a map showing the distribution of wave height overlain on the contours of the bathymetric map of Lake Erie. According to section of 7.3.5 of ANSI/ANS-2.8-1992, "Results of the computation of the probable maximum surge hydrograph in graphical presentation" should be addressed.

02.04.05-8

To meet the requirements of 10 CFR Part 52, and 10 CFR Part 100 and to support the staff's review of the application, the staff requests that the applicant provide the following:

1. Revise FSAR Table 2.4-224, Breaking Wave Heights, to show correct and consistent values of wave height in meter and feet, respectively, and

2. Use graphs to illustrate the shore profile (from STWAVE point to the Fermi 3 safety structure), wave characteristics across the shore (maximum still water level, wave length, wave height, breaking wave, run-up, etc.), their relationship, and quantitative information that supports conclusion of no impact to Fermi 3 safety structures.

Request for Additional Information No. 4074

Fermi Unit 3
Detroit Edison
Docket No. 52-033
SRP Section: 02.04.06 - Probable Maximum Tsunami Flooding
Application Section: 02.04.06

02.04.06-1

To meet the requirements of 10 CFR Part 52, and 10 CFR Part 100 and to support the staff's review of the application, the staff requests that the applicant conduct a thorough search for historical tsunamis in the area. Based on the search results, the applicant should provide an analysis to evaluate whether a tsunami may occur in the area and its potential impacts, if any. NRC staff has conducted an initial search and found two historical events: one in the northern end of Lake Erie and the other near the Detroit River.

Request for Additional Information No. 4075

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: 02.04.13

02.04.13-9

To meet the requirements of 10 CFR 100.20(c) and 10 CFR 52.79(a)(1)(iii), and to support the staff's review of the application, the staff requests additional information related to the RESRAD-OFFSITE simulations as follows:

1. The RESRAD-OFFSITE simulation as performed by the Applicant assumes that the contaminants are present initially (i.e. immediately after the release) in a volume of contaminated soil 56 m^2 by 2 m deep. The rates at which contaminants leach from the soil are not explicitly specified in the model input, so that the model uses the supplied K_d values to calculate leaching rates. For radionuclides with large K_d values (e.g. Co-60), this means that very little of the contamination would be leached from the soil and enter the groundwater. Please either provide a justification for the modeling approach that was used, or else perform and discuss RESRAD-OFFSITE simulations in which the contaminants enter the groundwater without delay, for example by specifying the rate of leaching from contaminated soil.

2. Please provide additional information regarding the well pumping rate used in the simulation. The value of about 5,000 m^3/yr is based on an agricultural scenario, and appears to be unreasonably large for a residential well. Either provide an explanation for the choice of this rate, or else provide and discuss a simulation that uses a more reasonable pumping rate consistent with a residential well.

3. Please provide additional information, in "risk-informed" terms, regarding the uncertainty in the estimates of radionuclide concentrations at the receptor points. This might for example include sensitivity and/or uncertainty analyses.