November 24, 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. 17 RELATED TO THE SRP SECTIONS 2.5.1, 2.5.2 AND 2.5.4 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. Detroit Edison (DTE) requested 79 days to respond to these RAIs. Please note that a 79-day RAI response period may negatively affect the safety review schedule. 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

November 24, 2009

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Senior Vice President and Chief Nuclear Officer
Detroit Edison Company
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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. Detroit Edison (DTE) requested 79 days to respond to these RAIs. Please note that a 79-day RAI response period may negatively affect the safety review schedule. 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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Ilka T. Berrios, Project Manager
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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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NAME	IBerrios	CMunson	MCarpentier	TKevern
DATE	11/10/09	11/10/09	11/14/09	11/17/09

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

Request for Additional Information No. 4005 Revision 0

11/23/2009

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

02.05.04-28

FSAR Section 2.5.4.10.3.2 indicates that the Ostadan method is used to compute seismic soil pressure on building walls. FSAR figures 2.5.4-230 and 2.5.4-231 present “smooth” seismic earth pressure distributions for the entire height of the embedded portions of the R/FB and CB walls. A comparison of the aforementioned figures with Figure 2.5.4-202 indicates that the lower portions of both the reactor building and control building would be surrounded by lean concrete/bedrock rather than engineered granular backfill.

a) Please provide enough details on each step of the Ostadan method as applied to arrive at the seismic lateral earth pressures presented on FSAR figures 2.5.4-230 and 2.5.4-231. If the Ostadan method was simplified or modified in developing the seismic lateral earth pressures, please provide reasons for the changes.

b) Please provide an explanation on why the dynamic lateral earth pressures presented in FSAR figures 2.5.4-230 and 2.5.4-231 are appropriate for the R/FB and CB walls given the heterogeneous materials (granular fills, lean concrete, rock) surrounding those walls.

Request for Additional Information No. 4006 Revision 1

11/23/2009

Fermi Unit 3
Detroit Edison
Docket No. 52-033
SRP Section: 02.05.02 - Vibratory Ground Motion
Application Section: 2.5.2

02.05.02-9

FSAR Section 2.5.2.1.2 states that the Fermi 3 site experienced a Modified Mercalli Intensity (MMI) IV-V during the January 31, 1986 Lake County, Ohio earthquake (mb 5.0), and experienced an MMI III during the July 12, 1986, Anna seismic zone earthquake (mb 4.5). Please provide basic observation information related to the local MMI estimation and if available, seismic instrument recordings from those earthquakes at or near the site.

Request for Additional Information No. 4007 Revision 1

Fermi Unit 3
Detroit Edison
Docket No. 52-033
SRP Section: 02.05.01 - Basic Geologic and Seismic Information
Application Section: 2.5.1

02.05.01-29

During the visit to the Denniston Quarry as part of a November 2009, Fermi 3 COL site audit, the staff noted at least three zones of disrupted bedding exposed in the quarry walls. These disrupted zones suggest possible faulting of the Bass Islands Group that should be fully documented because they may affect the younger overlying Quaternary deposits at the quarry site. In one location, disrupted bedding exists beneath an interpreted karst feature (located near the top of the geologic section) suggesting that the karst development may be associated with faulting at depth. In a second quarry location, a zone of disrupted bedding exists with mostly undisturbed bedding on either side. This second zone appears to be at least seven to ten meters wide; contains disrupted bedding from the top to the bottom of the exposed wall; and is flanked by relatively undisturbed bedding on both sides. The third zone of possible disturbed bedding was visible in a distant wall and could be related to vertical offsets within the Bass Islands Group. In each of these zones, disturbed bedding within the Bass Islands Group could be associated with faulting, and this potential faulting may or may not affect the overlying Quaternary deposits. Please provide further evaluation of disturbed zones and apparent offset beds at the Denniston quarry including a determination of whether or not the disturbed bedding and apparent offsets are fault related. In addition, evaluate the overlying Quaternary units to determine if these younger deposits are deformed by the underlying structures. Document all evaluations including photographs and maps of the exposures and include information that establishes the ages of deformation, including a description of the oldest and youngest deformed strata.

02.05.01-30

FSAR Section 2.5.1.2.5 discusses the probability of karst features in the Fermi site location with respect to existing karst features in similar rock found in northwestern Ohio. The FSAR states that the probability for karst in the Fermi site location is low based on the fact that the Bass Islands Group is covered by more than 6m (20 ft) of till and lacustrine deposits. The FSAR references conclusions made by Davies et al in FSAR Reference 2.5.1-388 and also states that karst features within Silurian-age units in northwestern Ohio are “large enough to cause engineering problems.” Please provide additional justification for making the conclusion that the probability of karst in the Fermi site location is low and include a description of how the overlying sediments contribute to the formation of karst features at depth and any additional supporting information or references used in making the conclusion that the probability of karst is low due to the thickness of overlying deposits.