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DTE Energy



10 CFR 52.3

October 27, 2008
NRC3-08-0005

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington D C 20555-0001

References: Letter from Jack M. Davis (Detroit Edison) to USNRC, "Detroit Edison Company Submittal of Application for a Combined License for Fermi 3 (NRC Project No. 757)", NRC3-08-0003, dated September 18, 2008

Subject: Detroit Edison Company Submittal of Responses to NRC Acceptance Review Questions (NRC Project No. 757)

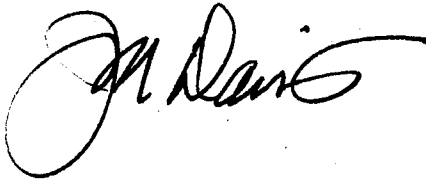
In the referenced letter, the Detroit Edison Company submitted an application for a combined license (COLA) for Fermi 3. As part of the Acceptance Review, the NRC staff raised questions relating to the content of Part 2 of the COLA, Final Safety Analysis Report (FSAR) Sections 2.5.2 and 2.5.4. The specific questions were provided to Detroit Edison in a telephone conversation on October 10, 2008.

The information provided in Attachment 1 to this letter addresses the NRC staff's questions relative to the content of these sections. Applicable changes to FSAR Sections 2.5.2 and 2.5.4 will be incorporated into Submission 2 of the Fermi 3 COLA, currently scheduled for February 2009.

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If you have any questions, or need additional information, please contact Mr. Peter W. Smith at (313)235-3341.

Sincerely,

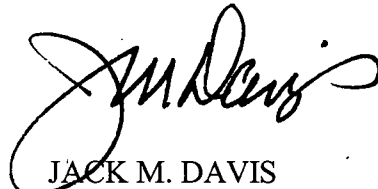
A handwritten signature in black ink, appearing to read "J. Davis", with a large, stylized loop at the beginning.

Jack M. Davis
Senior Vice President and Chief Nuclear Officer
Detroit Edison Company

Attachments: 1) Detroit Edison Response to NRC Acceptance Review Questions

cc: NRC Fermi 3 Project Manager
Fermi 2 Resident Inspector
NRC Region III Regional Administrator
NRC Region II Regional Administrator
Supervisor, Electric Operators, Michigan Public Service Commission

I, Jack M. Davis, do hereby affirm that the foregoing statements are based on facts and circumstances which are true and accurate to the best of my knowledge and belief.



JACK M. DAVIS
Senior Vice President
and Chief Nuclear Officer

On this 27th day of October, 2008 before me personally appeared Jack M. Davis, being first duly sworn and says that he executed the foregoing as his free act and deed.

CYNTHIA A. WISNIEWSKI
NOTARY PUBLIC, STATE OF MI
COUNTY OF WAYNE
MY COMMISSION EXPIRES Mar 01, 2010
ACTING IN COUNTY OF MI

Notary Public

**ATTACHMENT 1 TO
NRC3-08-0005**

DETROIT EDISON RESPONSE TO NRC ACCEPTANCE REVIEW QUESTIONS

NRC Question:

The proposed construction scheme incorporates a boundary wall around the power block that is not explained and described.

Detroit Edison Response:

As discussed in a telephone conference on Friday, October 10, 2008, the NRC requested additional information regarding the boundary wall to assess potential impacts the reinforced concrete diaphragm wall could have on Seismic Category I structures. As discussed in FSAR Section 2.5.4.5, the wall would be installed through the soil down into the bedrock. In both the soil and the bedrock, the reinforced concrete diaphragm wall will act to exclude water from the excavation. Additionally, within the soil, the reinforced concrete diaphragm wall will provide excavation support.

The reinforced concrete diaphragm wall will act as the perimeter of the soil excavation and will provide vertical support for the portion of the excavation within the soil. Structural design of the concrete diaphragm wall will be in accordance with ACI 318. The reinforced concrete diaphragm wall will be reinforced to resist lateral forces applied by the soils.

The location of the concrete diaphragm wall is included on FSAR Figures 2.5.4-201 through 2.5.4-204. These figures are intended to indicate the presence of the wall, but are not intended to establish distances between the wall and Seismic Category I structures. Considerations that will be taken into account regarding the distance between the wall and the Seismic Category I structures include the following:

- During design, the deflection of the concrete diaphragm wall will be estimated. The wall will be aligned to prevent the deflected wall from encroaching on the limits of Seismic Category I structures plus any construction limits.
- The wall will be aligned to allow sufficient space for placement of backfill outside the Seismic Category I structures.
- The wall will be aligned to allow sufficient space for performing inspections of the outside of the structures, as required, during construction.
- The distance from the Seismic Category I structures to the diaphragm wall will be established to provide sufficient space to facilitate erection of structures. Considerations for construction would include providing sufficient space for personnel and equipment.

Per the DCD, all the Seismic Category I structures are designed to resist all static and dynamic soil and bedrock loads assuming the concrete diaphragm wall is not present. There are no impacts to the completed Seismic Category I structures due to the presence of the concrete diaphragm wall for the following reasons:

- The wall does not impact the foundation input response spectra (FIRS).
- The diaphragm wall will be supported on both sides when structures are completed, as backfill will be placed in the gap between the structure and the wall; therefore, the diaphragm wall will not be able to fail such that it could adversely impact the Seismic Category I structures.

NRC Question:

Properties/Details concerning the lean concrete beneath the Fire Water Complex (FWC).

Detroit Edison Response:

Minimum static and dynamic engineering properties of lean concrete are discussed in FSAR Sections 2.5.4.10.2 and 2.5.2.5.1.2, respectively. The concrete will be proportioned, tested, and the placement controlled in accordance with ACI 349 (Reference 1). Additionally, to ensure that the properties are well understood, dynamic testing will be performed on the concrete in accordance with the following:

- Shear wave velocity in accordance with Reference 2, ASTM D2845.
- Modulus reduction and damping ratio curves using Resonant Column and Torsional Shear (RCTS) Testing.

References:

1. American Concrete Institute, "Code Requirements for Nuclear Safety-Related Concrete Structures and Commentary," ACI 349-06.
2. ASTM D2845 - 08, Standard Test Method for Laboratory Determination of Pulse Velocities and Ultrasonic Elastic Constants of Rock, ASTM International, July 2008.

NRC Question:

Settlement monitoring plan is not included.

Detroit Edison Response:

As discussed in Section 2.5.4.10.2, settlement for Fermi 3 is predicted to be well within the design limits in the ESBWR DCD. Settlement is expected to occur during the construction phases of the project instead of during post construction because the Seismic Category I structures are founded on bedrock, which will compress elastically as the loads are applied. To confirm the settlement predictions for Fermi 3, the following monitoring plan will be implemented:

- Establish benchmarks at the corners of each Fermi 3 Seismic Category I structure as soon as foundation mats are constructed.
- During construction, the elevations of the benchmarks will be measured periodically.
- Post construction elevations of the benchmarks will be measured periodically until the change in settlement is negligible based on actual measurements.