UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

September 14, 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: FERMI 2 – REQUEST FOR ADDITIONAL INFORMATION FOR LICENSE AMENDMENT REQUEST TO REVISE THE CORE SPRAY FLOW REQUIREMENTS (TAC NO. ME3011)

Dear Mr. Davis:

On January 4, 2010 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML100050046), Detroit Edison Company (DECO, the licensee) submitted a License Amendment Request (LAR) to revise the Core Spray Flow Requirement of Technical Specification Surveillance Requirements (SR) 3.5.1.8 and SR 3.5.2.6. On July 21, 2010, the Nuclear Regulatory Commission staff sent a request for additional information (RAI) on the subject LAR in an e-mail (ADAMS Accession No. ML102040293).

The subject RAI was further discussed with your staff in a subsequent teleconference on August 18, 2010. There were six questions in the original request which were discussed and a general consensus was reached with your staff to eliminate question number five from the original request. Enclosed is the revised list of requested information. Please provide your response within 30 days of the receipt of this letter.

If you have any questions regarding this matter, I may be reached at 301-415-8371.

Sincerely,

Chawla

Mahesh Chawla, Project Manager
Plant Licensing Branch III-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-341

Enclosure: As stated

cc w/encl: Distribution via Listserv

REQUEST FOR ADDITIONAL INFORMATION

FOR

LICENSE AMENDMENT REQUEST TO MODIFY CORE SPRAY FLOW REQUIREMENTS

DETROIT EDISON COMPANY

FERMI 2

DOCKET NO. 50-341

By letter to the U.S. Nuclear Regulatory Commission dated January 4, 2010, Detroit Edison requested an amendment to the Fermi 2 Operating License. The licensee proposed to modify Technical Specifications (TSs) Surveillance Requirements (SRs) 3.5.1.8 and 3.5.2.6 related to Core Spray Flow Requirements. The intent is to reduce the flow requirement from 6350 gallons per minute (gpm) to 5725 gpm. The staff reviewed the Emergency Core Cooling System (ECCS) analyses pertinent to the Fermi-2 reanalysis. The following Request for Information is listed below based on this review.

1. The Core Spray (CS) pump surveillance requirement is being reduced from 6350 gpm to the ECCS analysis assumption of 5725 gpm per division (2 pumps) corresponding to a reactor pressure of 100 psig. Please confirm that this surveillance flow requirement accounts for the maximum error on RCS pressure and flow. That is, please show that the maximum error on pressure and flow was assumed in developing the head flow curve for the CS pumps assumed in the ECCS analyses. Please identify the error on pressure and flow and show the head vs. flow curve for the CS pumps assumed in the ECCS analyses.

2. Please explain why smaller Appendix K breaks in the range 0.1 to 0.05 $ft^2$ do not cause higher peak cladding temperatures since the smaller breaks would delay low pressure core spray and produce a longer period of core uncover and heat-up that could potentially produce a more limiting break. Were breaks in the range 0.2 to 0.05 $ft^2$ evaluated? Please explain.

3. Please identify the limiting axial power shape for the limiting Appendix K small-break loss-of-coolant accident (SBLOCA) and verify that top peaked axial power profiles were evaluated for the limiting SBLOCA.

4. Please confirm that the limiting SBLOCA hot rod heat-up analysis showed cooling from bottom up re-flood and that top down ECCS core spray injection did not terminate the clad heat-up for the hot rod.

5. The licensee states in section 4 of the amendment request that the analysis to demonstrate the adequacy of 5725 gpm took into account instrument uncertainty and emergency diesel generator (EDG) under-frequency. This implies that the potential operation of the EDG at the lowest allowable frequency will result in adequate flow to satisfy Appendix K safety analyses. The paragraph titled "EDG Connected Loads" indicates that the current EDG loading evaluation is bounding for the proposed change. The loading impact on the EDG

operating at lower frequency has not been discussed. The EDG allowable frequency range per TS SR 3.8.1.2 is 2.0 percent of 60 Hertz. The allowable voltage range is ≥3873V and ≤4580V. Describe the consequences on EDG loading if the EDG operates at the extremes of the voltage and frequency range during emergency operation.

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**/RA/**
Mahesh Chawla, Project Manager
Plant Licensing Branch III-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-341

Enclosure: As stated

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