

July 5, 2000

Mr. William T. O'Connor, Jr.
Vice President
Nuclear Generation
Detroit Edison Company
6400 North Dixie Highway
Newport, MI 48166

SUBJECT: FERMI 2 - COMPLETION OF LICENSING ACTION FOR GENERIC LETTER (GL) 88-20, SUPPLEMENT 4, "INDIVIDUAL PLANT EXAMINATION OF EXTERNAL EVENTS (IPEEE) FOR SEVERE ACCIDENT VULNERABILITIES," DATED JUNE 28, 1991 (TAC NO. M83621)

Dear Mr. Gipson:

The NRC staff issued GL 88-20, Supplement 4, on June 28, 1991, to all holders of operating licenses for nuclear power reactors. GL 88-20, Supplement 4, requested addressees to perform IPEEEs to identify plant-specific vulnerabilities to severe accidents and to report the results to the Commission along with any licensee-determined improvements and corrective actions. You responded in letters dated December 20, 1991, June 6, 1994, February 9 and December 14, 1995, March 29, 1996, January 21, April 2, and November 20, 1998, and July 22, 1999. The results of the NRC staff's review of your responses to GL 88-20, Supplement 4, follow.

The NRC staff performed a screening review of your submittal which examined the IPEEE results for their "completeness and reasonableness" considering the design and operation of the plant. On the basis of this review and further review by a senior review board (SRB), the staff concluded that the aspects of seismic; fires; and high winds, floods, and other external events (HFOs) were adequately addressed. The SRB was comprised of staff with probabilistic risk assessment expertise in external events from the Office of Nuclear Regulatory Research (RES), the Office of Nuclear Reactor Regulation, and Sandia National Laboratories, consultants to RES. The staff's review findings are summarized in the enclosed safety evaluation (SE), and the details of the contractor's and staff's findings appear in the technical evaluation reports which are attached to the SE.

Fermi 2 is a 0.3g focused-scope plant per NUREG-1407, "Procedural and Submittal Guidance for the Individual Plant Examination of External Events (IPEEE) for Severe Accident Vulnerabilities," published in June 1991. The licensee conducted seismic walkdowns using the Electric Power Research Institute (EPRI) seismic margin methodology (SMM) walkdown procedures in order to evaluate component anchorage capability and potential spatial interactions. The licensee used EPRI's fire-induced vulnerability evaluation (FIVE) methodology and performed an extensive walkdown of the plant to address Fire Risk Scoping Study (FRSS) issues. The total core damage frequency (CDF) from all fire-induced scenarios was about $3.2E-5$ /reactor-year (RY). Other external events (e.g., high winds, flooding, and others) are considered by the licensee to be insignificant contributors to severe accidents at the Fermi site.

The licensee estimated a CDF due to internal events of about $5.7E-6$ /RY, including internal flooding.

The licensee did not provide a definition of a severe accident vulnerability. However, as discussed in the enclosed SE, the licensee proposed a number of plant-specific improvements in the seismic and fire areas at Fermi 2.

The licensee has addressed Unresolved Safety Issue (USI) A-45, "Shutdown Decay Heat Removal Requirements," and generic safety issues (GSIs)-57, "Effects of Fire Protection System Actuation on Safety-Related Equipment," GSI-103, "Design for Probable Maximum Precipitation (PMP)," and the Sandia Fire Risk Scoping Study (FRSS) issues which were explicitly requested in Supplement 4 to GL 88-20 and its associated guidance in NUREG-1407.

Based on its review of the IPEEE submittals, the staff concludes that the licensee's IPEEE process is capable of identifying the most likely severe accidents and severe accident vulnerabilities and, therefore, the Fermi IPEEE has met the intent of Supplement 4 to GL 88-20.

In addition, the licensee's IPEEE submittal contains some specific information that addresses the external event aspects of certain generic safety issues (GSI-147, "Fire-Induced Alternate Shutdown/Control Room Panel Interactions," GSI-148, "Smoke Control and Manual Fire-Fighting Effectiveness," and GSI-172, "Multiple System Responses Program" (MSRP)). The specific information associated with each of these issues is identified and discussed in the enclosed SE. Based on its review of the information contained in the submittal, the staff concludes that the licensee's process is capable of identifying potential vulnerabilities associated with GSI-147, GSI-148, and GSI-172 (MSRP) issues. Because no vulnerabilities associated with the external events aspects of these issues were identified at Fermi 2, the staff considers these issues resolved for Fermi 2.

Sincerely,
/RA/

Andrew J. Kugler, Project Manager, Section 1
Project Directorate III
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-341

Enclosure: Safety Evaluation Report

cc w/encls: See next page

The licensee estimated a CDF due to internal events of about 5.7E-6/Ry, including internal flooding.

The licensee did not provide a definition of a severe accident vulnerability. However, as discussed in the enclosed SE, the licensee proposed a number of plant-specific improvements in the seismic and fire areas at Fermi 2.

The licensee has addressed Unresolved Safety Issue (USI) A-45, "Shutdown Decay Heat Removal Requirements," and generic safety issues (GSIs)-57, "Effects of Fire Protection System Actuation on Safety-Related Equipment," GSI-103, "Design for Probable Maximum Precipitation (PMP)," and the Sandia Fire Risk Scoping Study (FRSS) issues which were explicitly requested in Supplement 4 to GL 88-20 and its associated guidance in NUREG-1407.

Based on its review of the IPEEE submittals, the staff concludes that the licensee's IPEEE process is capable of identifying the most likely severe accidents and severe accident vulnerabilities and, therefore, the Fermi IPEEE has met the intent of Supplement 4 to GL 88-20.

In addition, the licensee's IPEEE submittal contains some specific information that addresses the external event aspects of certain generic safety issues (GSI-147, "Fire-Induced Alternate Shutdown/Control Room Panel Interactions," GSI-148, "Smoke Control and Manual Fire-Fighting Effectiveness," and GSI-172, "Multiple System Responses Program" (MSRP)). The specific information associated with each of these issues is identified and discussed in the enclosed SE. Based on its review of the information contained in the submittal, the staff concludes that the licensee's process is capable of identifying potential vulnerabilities associated with GSI-147, GSI-148, and GSI-172 (MSRP) issues. Because no vulnerabilities associated with the external events aspects of these issues were identified at Fermi 2, the staff considers these issues resolved for Fermi 2.

Sincerely,
/RA/
 Andrew J. Kugler, Project Manager, Section 1
 Project Directorate III
 Division of Licensing Project Management
 Office of Nuclear Reactor Regulation

Docket No. 50-341

Enclosure: Safety Evaluation Report

cc w/encls: See next page

DISTRIBUTION

PUBLIC PDIII-1 Reading OGC ACRS
 CCraig ARubin, RES AKugler EChow, RES
 RBouling DCoe MRing, RGN-III *Provided SE by memo

OFFICE	PDIII-1/PM	PDIII-1/LA	RES/DRAA*	PDIII-1/SC
NAME	AKugler	RBouling	TKing	BAW for CCraig
DATE	7/3/00	7/3/00	04/18/00	7/3/00

Fermi 2

cc:

John Flynn, Esquire
Senior Attorney
Detroit Edison Company
2000 Second Avenue
Detroit, MI 48226

Drinking Water and Radiological
Protection Division
Michigan Department of
Environmental Quality
3423 N. Martin Luther King Jr Blvd
P. O. Box 30630 CPH Mailroom
Lansing, MI 48909-8130

U.S. Nuclear Regulatory Commission
Resident Inspector's Office
6450 W. Dixie Highway
Newport, MI 48166

Monroe County Emergency Management
Division
963 South Raisinville
Monroe, MI 48161

Regional Administrator, Region III
U.S. Nuclear Regulatory Commission
801 Warrenville Road
Lisle, IL 60532-4351

Norman K. Peterson
Director, Nuclear Licensing
Detroit Edison Company
Fermi 2 - 280 TAC
6400 North Dixie Highway
Newport, MI 48166

November 1999