

June 28, 2002

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

SUBJECT: FERMI 2 - ISSUANCE OF AMENDMENT RE: REVISION TO CONTROL ROOM
EMERGENCY FILTRATION SYSTEM REQUIREMENTS (TAC NO. MB2832)

Dear Mr. O'Connor:

The Commission has issued the enclosed Amendment No. 149 to Facility Operating License No. NPF-43 for the Fermi 2 facility. The amendment consists of changes to the Technical Specifications (TSs) in response to your application dated August 24, 2001, as supplemented June 11, 2002.

The amendment revises the control room emergency filtration system requirements in TS 3.7.3, "Control Room Emergency Filtration (CREF) System," based on NRC-approved Industry/Technical Specification Task Force (TSTF) Standard Technical Specification Traveler TSTF-287, Revision 5, "Ventilation System Envelope Allowed Outage Times."

A copy of our safety evaluation is also enclosed. The Notice of Issuance will be included in the Commission's biweekly *Federal Register* notice.

Sincerely,

/RA/

Tae Kim, Senior Project Manager, Section 1
Project Directorate III
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-341

Enclosures: 1. Amendment No. 149 to NPF-43
2. Safety Evaluation

cc w/encls: See next page

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DISTRIBUTION

PUBLIC OGC CHarbuck
PDIII-1 Reading ACRS
LRaghavan WBeckner
TKim GHill(2)
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**No legal objection with changes
*Provided SE input by memo

ACCESSION NO.: ML021790681

OFFICE	PDIII-1/PM	PDIII-1/LA	TSS/SC*	OGC**	PDIII-1/SC
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DATE	06/28/02	06/28/02	06/26/02	06/28/02	06/28/02

OFFICIAL RECORD COPY

Fermi 2

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March 2002

DETROIT EDISON COMPANY

DOCKET NO. 50-341

FERMI 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 149
License No. NPF-43

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by the Detroit Edison Company (the licensee) dated August 24, 2001, as supplemented June 11, 2002, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and paragraph 2.C.(2) of Facility Operating License No. NPF-43 is hereby amended to read as follows:

Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 149 , and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the license. DECo shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of its date of issuance and shall be implemented within 60 days.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

L. Raghavan, Chief, Section 1
Project Directorate III
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical Specifications

Date of Issuance: June 28, 2002

ATTACHMENT TO LICENSE AMENDMENT NO. 149

FACILITY OPERATING LICENSE NO. NPF-43

DOCKET NO. 50-341

Replace the following pages of the Appendix A Technical Specifications with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

REMOVE

3.7-6
3.7-7
3.7-8
B 3.7.3-3
B 3.7.3-4
B 3.7.3-5
B 3.7.3-6
-

INSERT

3.7-6
3.7-7
3.7-8
B 3.7.3-3
B 3.7.3-4
B 3.7.3-5
B 3.7.3-6
B 3.7.3-6a

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 149 FACILITY OPERATING LICENSE NO. NPF-43

DETROIT EDISON COMPANY

FERMI 2

DOCKET NO. 50-341

1.0 INTRODUCTION

By application dated August 24, 2001, as supplemented June 11, 2002, the Detroit Edison Company (the licensee) requested changes to the Technical Specifications (TSs) for Fermi 2. The proposed changes would revise the control room emergency filtration (CREF) system requirements in TS 3.7.3, "Control Room Emergency Filtration (CREF) System," consistent with TSTF-287, Revision 5, "Ventilation System Envelope Allowed Outage Times." The licensee also proposed appropriate conforming changes to the associated TS Bases. The June 11, 2002, supplemental letter provided additional clarifying information that was within the scope of the original application and did not change the Nuclear Regulatory Commission (NRC) staff's initial proposed no significant hazards consideration determination.

2.0 BACKGROUND

The specified function of the CREF system is to automatically maintain a radiologically controlled environment in the control room (CR) from which Fermi 2 can be safely operated following a design-basis accident (DBA). General Design Criterion (GDC) 19 of 10 CFR Part 50, Appendix A, "General Design Criteria for Nuclear Power Plants," states in part:

Adequate radiation protection shall be provided to permit access and occupancy of the control room under accident conditions without personnel receiving radiation exposures in excess of 5 rem whole body, or its equivalent to any part of the body, for the duration of the accident.

The NRC's Standard Review Plan (SRP) Section 6.4 states that the thyroid equivalent exposure is 30 rem. The licensee's analysis of the radiological consequences of DBAs to CR personnel show compliance with GDC 19 dose criteria. The analysis assumes the functioning of the CREF subsystem, which requires an intact CR boundary.

The Fermi 2 current TS 3.7.3 Surveillance Requirement (SR), which is responsible for tests of the integrity of the CR boundary, requires a positive pressure limit to be satisfied with one ventilation train operating. While other SRs in the same TS require tests of the operability and function of the ventilation train, the pressure test ensures that the CR boundary leak tightness is adequate to meet the DBA analysis assumptions used to estimate potential postaccident CR personnel radiation doses. In its application, the licensee stated that according to the Fermi 2 UFSAR Chapter 15 safety analyses, without filtration by the CREF system, several DBAs could result in CR personnel exposures exceeding GDC 19 limits. These DBAs are (a) the control rod drop accident, (b) the loss-of-coolant accident, (c) the main steamline break, and (d) the fuel handling accident (FHA).

Current TS 3.7.3 specifies no explicit action requirements in the event the CR boundary pressure test SR is not met. As the condition of an inoperable CR boundary renders both CREF subsystems inoperable, the action requirements of current TS 3.7.3 would require entry into Limiting Condition for Operation (LCO) 3.0.3. However, this action does not provide sufficient time to effect repairs or corrective maintenance of the CR boundary before requiring a plant shutdown.

A utilities Owners Group (OG) recognized that the improved STS were inconsistent with regard to the remedial measures to be taken when breaching various ventilation controlled boundaries. For example, STS 3.6.4.1 for the secondary containment allows 24 hours to restore the secondary containment envelope to operable status before requiring an orderly shutdown from operating conditions. In response, the OG-established TSTF proposed a generic change to the STS to correct these inconsistencies. Specifically, the TSTF proposed changes to (1) revise the action requirements to allow 24 hours to restore an inoperable CR boundary to operable status and (2) add a note to the CREF ventilation system LCO to permit intermittent opening of the CR boundary under administrative control. This LCO note addresses routine operations such as normal entry and egress, and other minor evolutions that result in a short-term loss of CR boundary integrity. Included with the associated changes to the STS Bases is a reviewer's note for adopting the proposed action requirement for the condition of an inoperable CR boundary. According to this reviewer's note, approval of the 24-hour Completion Time to restore an inoperable CR boundary is contingent upon a commitment from the licensee to have written procedures available describing compensatory measures to be taken in the event of an intentional or unintentional entry into this condition. The proposed LCO note and action requirement were deemed acceptable because of (1) the small probability of a DBA requiring CR filtration occurring during the brief periods that the CR boundary would be intentionally open under administrative control and during the 24 hours allowed to restore the CR boundary to operable status, and (2) procedural requirements for compensatory measures, which are consistent with the intent of GDC 19, and administrative controls.

The NRC staff approved the OG-requested STS changes as TSTF-287, Revision 5. The changes were incorporated in Specification 3.7.4, "Main Control Room Environmental Control System," of NUREG-1433, "Standard Technical Specifications, General Electric Plants, BWR/4," Revision 2, dated October 10, 2001. The changes to Specification 3.7.4 are applicable to corresponding Fermi 2 TS 3.7.3.

In addition to the licensee's application, the NRC staff reviewed the proposed changes using other applicable regulatory guidance and docketed information including the following:

- Regulatory Guide 1.25 (Safety Guide 25), "Assumptions Used for Evaluating the Potential Radiological Consequences of a Fuel Handling Accident in the Fuel Handling and Storage Facility for Boiling and Pressurized Water Reactors," March 3, 1972 (for acceptable analysis assumptions);
- SRP Section 15.7.4, "Radiological Consequences of Fuel Handling Accidents;"
- SRP Section 6.4, "Control Room Habitability System;"
- The LCO description in 10 CFR 50.36(c)(2);
- Fermi 2 UFSAR Section 9.4.1, "Control Center Air Conditioning System;"
- The FHA analysis description in Fermi 2 UFSAR Section 15.7.4;

- The FHA CR dose analysis description in Fermi 2 UFSAR Section 15A.2; and
- The model TSs contained in the improved STS, NUREG-1433, Revision 2 (Specification 3.7.4).

3.0 EVALUATION

The licensee proposed the following changes with respect to Fermi 2 TS 3.7.3:

- Addition of a note to the LCO to allow the CR boundary to be opened intermittently under administrative control; and addition of corresponding Bases to establish the administrative controls that are required to minimize the consequences of the open boundary.
- Addition of a new action requirement, designated as Action B, to specify that 24 hours are allowed to restore an inoperable CR boundary to operable status; addition of corresponding Bases; and relabeling of existing Actions B through E as Actions C through F to support this change.
- Modification of existing Action D (relabelled as Action E) for the condition of two inoperable CREF subsystems in Mode 1, 2, or 3, to exclude entry into this condition when the subsystems are inoperable because of the degraded CR boundary; and appropriate changes to the Bases for Action E.

The LCO would be modified by adding a Note allowing the CR boundary to be opened intermittently under administrative controls. For entry and exit through doors, the administrative control of the opening would be performed by the person(s) entering or exiting the area. For other openings, these controls consist of stationing a dedicated individual at the opening who is in continuous communication with the CR. This individual will have a method to rapidly close the opening when a need for CR area isolation is indicated.

If the CR boundary is inoperable in Mode 1, 2, or 3 such that the CREF subsystems cannot establish or maintain the required pressure, action must be taken to restore an operable CR boundary within 24 hours. The 24-hour Completion Time is reasonable based on the low probability of a DBA occurring during this time period and the compensatory measures available to the operator to minimize the consequences of potential hazards.

The proposed Action B and revised Action E would allow 24 hours (during Mode 1, 2, or 3) to restore the capability to maintain CR boundary pressure before requiring the licensee to perform an orderly shutdown. The LCO note would allow intermittent opening of the CR boundary under administrative control, without requiring entry into new Action B. In its submittal, the licensee made a commitment consistent with the reviewer's note of TSTF-287 that during the period the CR boundary is inoperable, appropriate compensatory measures consistent with the intent of GDC 19 will be utilized to protect the CR operators from potential hazards such as radioactive contamination, toxic chemicals, smoke, temperature, and relative humidity and to ensure physical security. These preplanned measures will be available to address these concerns for intentional and unintentional entry into the condition. For example, when the control room boundary is opened for other than entry through doors, in addition to other necessary measures, there is an administrative requirement (as stated in Bases) to station a dedicated individual in the area who is in continuous contact with the CR to rapidly restore the boundary.

In addition to the licensee's commitment to establish and implement appropriate administrative controls and necessary compensatory measures, the proposed changes are acceptable because of the low probability of an event requiring an intact CR boundary during the 24-hour Completion Time associated with Action B.

Based on the low probability of a DBA occurring during the brief time allowed for the CR boundary to be inoperable, the availability of compensatory measures consistent with GDC 19 to minimize the consequences should a DBA occur, and conformance with TSTF-287, Revision 5, and the STS, the proposed TS changes are acceptable. The NRC staff does not object to the changes proposed to the TS Bases.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Michigan State official was notified of the proposed issuance of the amendment. The State official had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration and there has been no public comment on such finding (67 FR 36929). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

6.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: C. Harbuck

Date: June 28, 2002