August 7, 2006

Mr. Donald K. Cobb
Assistant Vice President - Nuclear Generation
Detroit Edison Company
6400 North Dixie Highway
Newport, MI 48166

SUBJECT: FERMI 2 - ISSUANCE OF AMENDMENT RE: PRIMARY CONTAINMENT ISOLATION INSTRUMENTATION (TAC NO. MC9690)

Dear Mr. Cobb:

The Commission has issued the enclosed Amendment No. 173 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 January 31, 2006, as supplemented by letter dated July 12, 2006. The January 31, 2006, application superceded in its entirety a previous submittal by the licensee dated March 17, 2005.

The amendment changes the TSs to address issues related to an inconsistency that was inadvertently introduced during conversion to improved TSs when “1 per room” replaced “2” as the required channels per trip system for the Reactor Water Cleanup (RWCU) System Area Ventilation Differential Temperature – High containment isolation function.

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/

David H. Jaffe, Senior Project Manager
Plant Licensing Branch III-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-341

Enclosures:
1. Amendment No. 173 to NPF-43
2. Safety Evaluation

cc w/encls: See next page

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NAME	DJaffe:***ca***	DClarke	AHowe	TKobetz	MLemoncelli	MMurphy
DATE	8/2/06	8/2/06	7/26/06	7/25/06	7/31/06	8/7/06

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DETROIT EDISON COMPANY

DOCKET NO. 50-341

FERMI 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 173
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 January 31, 2006, as supplemented by letter dated July 12, 2006, 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. 173, and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the license. The licensee 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 90 days.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Martin C. Murphy, Acting Chief
Plant Licensing Branch III-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical Specifications

Date of Issuance: August 7, 2006

ATTACHMENT TO LICENSE AMENDMENT NO. 173

FACILITY OPERATING LICENSE NO. NPF-43

DOCKET NO. 50-341

Replace the following pages of the Facility Operating License and 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	INSERT
License Page 3	License Page 3
3.3-50	3.3-50
3.3-53	3.3-53
3.3-58	3.3-58

(4) DECo, pursuant to the Act and 10 CFR Parts 30, 40 and 70, to receive, possess, and use at any time any byproduct, source and special nuclear material such as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required;

(5) DECo, pursuant to the Act and 10 CFR Parts 30, 40 and 70, to receive, possess, and use in amounts as required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components; and

(6) DECo, pursuant to the Act and 10 CFR Parts 30, 40 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.

C. This license shall be deemed to contain and is subject to the conditions specified in the Commission's regulations set forth in 10 CFR Chapter I and is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:

(1) Maximum Power Level

DECo is authorized to operate the facility at reactor core power levels not in excess of 3430 megawatts thermal (100% power) in accordance with conditions specified herein and in Attachment 1 to this license. The items identified in Attachment 1 to this license shall be completed as specified. Attachment 1 is hereby incorporated into this license.

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A as revised through Amendment 173 and the Environmental Protection Plan contained in Appendix B, are hereby incorporated into this license. DECo shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

(3) Antitrust Conditions

DECo shall abide by the agreements and interpretations between it and the Department of Justice relating to Article I, Paragraph 3 of the Electric Power Pool Agreement between Detroit Edison Company and

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 173 FACILITY OPERATING LICENSE NO. NPF-43

DETROIT EDISON COMPANY

FERMI 2

DOCKET NO. 50-341

1.0 INTRODUCTION

By letter to the Nuclear Regulatory Commission (NRC), dated January 31, 2006 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML060380522), as supplemented by letter dated July 12, 2006 (ADAMS Accession No. ML062000313), the Detroit Edison Company (the licensee) requested changes to the technical specifications (TSs) for Fermi 2. The January 31, 2006, application superceded in its entirety a previous application submitted by the licensee dated March 17, 2005 (ADAMS Accession No. ML050960314). The proposed changes to the TSs address issues related to an inconsistency that was inadvertently introduced during conversion to improved technical specifications (ITSs) when "1 per room" replaced "2" as the required channels per trip system for the reactor water cleanup (RWCU) area ventilation differential temperature – high isolation function. The proposed changes would revise TS 3.3.6.1, "Primary Containment Isolation Instrumentation"; Table 3.3.6.1-1, Function 5, "Reactor Water Cleanup (RWCU) System Isolation"; and Item c, "Area Ventilation Differential Temperature - High." Specifically, Function 5.c would be revised so that the specified value for the required number of channels is consistent with the actual number of channels physically installed while ensuring that during surveillance testing and normal operation, there will always be at least one instrument monitoring for a small leak in all RWCU locations. Additionally, the proposed change would allow an inoperable RWCU Area Ventilation Differential Temperature - High instrument a completion time of 24 hours in accordance with Condition A of TS 3.3.6.1.

Specifically, the licensee proposed the following changes:

(1) Modify TS Table 3.3.6.1-1, Function 5.c, RWCU Area Ventilation Differential Temperature - High by deleting the "1 per room" in the "Required Channels per Trip System" and replacing it with footnote "(d)" for the Required Channels Per Trip System. Footnote (d) to TS Table 3.3.6.1-1, would state: "For Function 5.c, Reactor Water Cleanup (RWCU) System Isolation, Area Ventilation Differential Temperature - High, the required channels is 1 per room."

(2) Add a note to Condition B of TS 3.3.6.1 which would state, "With a Table 3.3.6.1-1 Function 5.c channel inoperable, isolation capability is considered maintained provided Function 5.b is OPERABLE in the affected room."

(3) Modify Surveillance Requirements Note 2 for Primary Containment Isolation Instrumentation. A new Note 2.b would address RWCU components for Function 5, stating, "6 hours for Function 5 (other than non-redundant circuitry of Function 5.a) provided the associated Function maintains isolation capability", and would contain a new additional statement, "6 hours for Function 5.c provided Function 5.b is OPERABLE in the affected room." Existing Note 2.b would be redesignated as Note 2.c and the text referring to Function 5 would be deleted. Existing Note 2.c would be redesignated as Note 2.d.

The supplement dated July 12, 2006, provided additional information that clarified the application, did not expand the scope of the application as originally noticed, and did not change the NRC staff's original proposed no significant hazards consideration determination as published in the *Federal Register* on March 14, 2006 (71 FR 13171).

2.0 REGULATORY EVALUATION

The proposed TS changes were reviewed using the guidance in Revision 3 of NUREG-1433, "Standard Technical Specifications General Electric Plants, [Boiling-Water Reactor] BWR/4" and the current design and licensing basis for the Fermi 2 RWCU system isolation instrumentation.

3.0 BACKGROUND

The RWCU system removes water from the reactor recirculation system for decontamination by a demineralizer system and then returns the water to the reactor through the feedwater system. The major RWCU system equipment is located within the secondary containment and external to the primary containment. Because the system processes high energy and high activity coolant, the system components are located in shielded, separated rooms or areas. The RWCU system suction piping has an inboard and outboard primary containment isolation valve, and the return piping has a motor-operated primary containment isolation valve, and check valves.

Fermi 2 has diversity in its RWCU temperature isolation instrumentation in that Area Ventilation Differential Temperature - High and the RWCU Area Temperature - High monitor for a small leak in the same rooms. The reliability of the RWCU system isolation function remains high even in the presence of single or multiple failures of differential temperature channels because of diversity of the leakage detection system for the RWCU A Pump Room, RWCU B Pump Room, RWCU Phase Separator Room, and RWCU Heat Exchanger Room. A steam leak will cause a coincident trip of both the differential and ambient temperature channels in RWCU A Pump Room, RWCU B Pump Room, RWCU Phase Separator Room, and RWCU Heat Exchanger Room.

The NRC has previously reviewed and accepted the Fermi 2 design for the RWCU Area Ventilation Differential Temperature - High isolation Function, which was described in a License Amendment Request dated December 22, 1988, subsequently issued to Fermi 2 as License Amendment No. 41, dated September 7, 1989 (ADAMS Accession No. ML020700512). License Amendment No. 41 revised the RWCU Area Temperature - High isolation instrumentation (currently Function 5.b. in TS Table 3.3.6.1-1) by adding a second instrument to all areas monitored. This plant modification provided redundancy for the RWCU Area

Temperature - High isolation Function in order that it could be used as isolation for a RWCU High Energy Line Break scenario. Prior to this, the RWCU Area Temperature - High isolation Function was one instrument per area, similar to the RWCU Area Ventilation Differential Temperature - High instruments.

4.0 TECHNICAL EVALUATION

The licensee's proposed changes and NRC staff's evaluation of these changes are discussed below.

4.1 TS Table 3.3.6.1-1, Function 5.c and Note (d)

The NRC staff evaluated the licensee's proposal to change TS Table 3.3.6.1-1, Function 5.c by deleting the required channels per trip system (currently "1 per room") and substituting a footnote (d), which would state as follows: For Function 5.c, Reactor Water Cleanup (RWCU) System Isolation, Area Differential Temperature - High, the required channels is 1 per room.

The Fermi 2 RWCU Area Ventilation Differential Temperature - High channels (Function 5.c in TS Table 3.3.6.1-1) are located in four rooms with one channel in each room. RWCU Area Ventilation Differential Temperature - High has two trip systems: (1) Two rooms are part of the inboard isolation logic, and (2) two rooms are part of the outboard isolation logic. A high differential temperature in a single room will cause its respective isolation valve to close; therefore, the Fermi 2 RWCU Area Ventilation Differential Temperature - High instrumentation is non-redundant at the channel level due to having one channel per room.

With regard to the current TS, the required channels per trip system (currently "1 per room") for the RWCU Area Ventilation Differential Temperature - High is incorrect because Fermi 2 has two trip systems for RWCU Area Ventilation Differential Temperature - High; therefore, specifying "1 per room" per trip system incorrectly indicates there are two channels in each room. The licensee's proposed footnote specifies the "required channels" as 1 per room and is consistent with the Fermi 2 design. On this basis, the NRC staff finds that the proposed change, the substitution of footnote (d) for the existing TS requirement, is acceptable.

4.2 Addition of Note to Condition B of TS 3.3.6.1

The NRC staff evaluated the licensee's proposal to add a note to Condition B of TS 3.3.6.1 which states "With a Table 3.3.6.1-1 Function 5.c [RWCU System Isolation, Area Ventilation Differential Temperature - High] channel inoperable, isolation capability is considered maintained provided Function 5.b [RWCU System Isolation, Area Temperature - High] is OPERABLE in the affected room."

TS 3.3.6.1, Action A, states that with one or more channels inoperable, place the channel in trip within 24 hours. TS 3.3.6.1, Action B, states that with one or more automatic Functions with isolation capability not maintained, restore isolation capability within 1 hour. Because Fermi 2 has only one differential temperature channel per room, if this channel becomes inoperable, TS 3.3.6.1, both Condition A and Condition B (with a 1-hour completion time) must be entered because the Function 5.c automatic isolation capability is not maintained. The licensee's application proposes to add a note to Condition B of TS 3.3.6.1 which states "With a Table 3.3.6.1-1 Function 5.c channel inoperable, isolation capability is considered maintained

provided Function 5.b is OPERABLE in the affected room." This note would allow Fermi 2 to only enter TS 3.3.6.1, Condition A (with a 24-hour completion time) provided the licensee satisfies the additional compensatory measure of maintaining both channels of Function 5.b, RWCU System Isolation, Area Temperature - High, operable. The NRC staff has evaluated the licensee's technical justification for this TS note, which allows crediting Function 5.b to maintain isolation capability.

One portion of the automatic isolation of the RWCU system is safety-related while another portion is non-safety-related. To meet the safety-related requirements for primary containment isolation, the two RWCU suction isolation valves and one RWCU return isolation valve are closed on a signal from the primary containment isolation system, which is triggered by reactor water level.

Additional automatic isolation capability is provided as non-safety-related, and serves to limit RWCU system leakage of radioactive reactor coolant outside the primary containment. This in turn limits local contamination, and high radiation and high temperature environments in equipment areas. These include isolations on Differential Flow - High, Area Temperature - High, and Area Ventilation Differential Temperature - High.

Fermi 2 has diversity in its RWCU temperature isolation instrumentation in that Area Ventilation Differential Temperature - High and the RWCU Area Temperature - High monitor for a small leak in the same rooms. Unlike the Area Ventilation Differential Temperature - High instrumentation, RWCU Area Temperature - High instrumentation is redundant with two independent channels in each room for the two RWCU isolation trip systems. The differential and ambient temperature channels have the same leakage detection capability. TS Bases 3.3.6.1 states that the Area and Area Ventilation Differential Temperature - High allowable setpoint values are set low enough to detect a leak equivalent to 25 gallons per minute. On this basis, the NRC staff finds that the proposed change, to add a note to Condition B of TS 3.3.6.1, is acceptable.

4.3 Surveillance Requirements Note 2 for Primary Containment Isolation Instrumentation

TS 3.3.6.1 Surveillance Requirement Note 2.b currently reads, "When a channel is placed in an inoperable status solely for performance of required Surveillances, entry into associated Conditions and Required Actions may be delayed for up to: 6 hours for Functions 1, 2, 5 (other than non-redundant circuitry of Function 5.a), and 6, provided the associated Function maintains isolation capability." The new Note 2.b would continue to address RWCU components for Function 5 (other than non-redundant circuitry of Function 5.a), and would contain a new statement, "6 hours for Function 5.c provided Function 5.b is OPERABLE in the affected room." The existing Note 2.b would be redesignated as Note 2.c and would continue to provide 6 hours for surveillance testing for Functions 1, 2, and 6, provided the associated Function maintains isolation capability. This proposed change is in accordance with the addition of the note to Condition B of TS 3.3.6.1, which was found to be acceptable as described in Section 4.2, herein. Accordingly, these proposed changes to Note 2 are acceptable. The final proposed change to Note 2, the redesignation of Note 2.c as Note 2.d, does not affect the Surveillance Requirements. The proposed change is administrative in nature and is acceptable.

5.0 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.

6.0 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 and changes surveillance requirements. The NRC 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 (71 FR 13171; March 14, 2006). 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.

7.0 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: D. Beaulieu
D. Jaffe

Date: August 7, 2006

Fermi 2

cc:

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