

October 25, 2005

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

SUBJECT: FERM2 - ISSUANCE OF AMENDMENT RE: CONTROL ROD SCRAM TIME  
TESTING FREQUENCY (TAC NO. MC7256)

Dear Mr. O'Connor:

The Commission has issued the enclosed Amendment No. 167 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 May 27, 2005.

The amendment revised testing frequency for TS surveillance requirement (SR) 3.1.4, "Control Rod Scram Times." Specifically, the change revised the frequency for TS SR 3.1.4.2, "Control Rod Scram Time Testing," from "120 days cumulative operation in MODE 1," to "200 days cumulative operation in MODE 1."

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 P. Beaulieu, 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. 167 to NPF-43  
2. Safety Evaluation

cc w/encls: See next page

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**DISTRIBUTION:**

PUBLIC	OGC	PDIII-1 Reading	ACRS	LRaghavan
DBeaulieu	GHill(2)	DClarke	HNieh	EDuncan, RGN-III
DLPM DPR	TBoyce			

**ADAMS Accession Number: ML052570009 (Package)**

**NRR-058**

**ADAMS Accession Number: ML052570008 (Letter)**

**ADAMS Accession Number: ML052990018 (TS)**

**NRR-100**

OFFICE	CLIP/LPM	PDIII-1/PM	PDIII-1/LA	IROB/SC	PDIII-1/SC	OGC Nlo
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DATE	10/7/05	10/3/05	10/5/05		10/19/05	10/13/05

OFFICIAL RECORD COPY

**Not Required**

Fermi 2

cc:

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Ronald Gaston  
Manager, Nuclear Licensing  
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6400 North Dixie Highway  
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DETROIT EDISON COMPANY

DOCKET NO. 50-341

FERMI 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 167

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 May 27, 2005, 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. 167, 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 30 days. The licensee shall incorporate during the next periodic update into the Technical Specifications Bases the changes described in its application dated May 27, 2005.

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: October 23, 2005

ATTACHMENT TO LICENSE AMENDMENT NO. 167

FACILITY OPERATING LICENSE NO. NPF-43

DOCKET NO. 50-341

Replace the following page of the Appendix A Technical Specifications with the attached revised page. The revised page is identified by amendment number and contains a marginal line indicating the area of change.

REMOVE

3.1-13

INSERT

3.1-13

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 167 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, Commission) dated May 27, 2005 (Agencywide Documents Access and Management System Accession No. ML051540038), the Detroit Edison Company (DECo or the licensee) submitted a request for changes to the Fermi 2, Technical Specifications (TS). The proposed amendment would revise the TS testing frequency for the surveillance requirement (SR) in TS 3.1.4, "Control Rod Scram Times." Specifically, the proposed change would revise the frequency for SR 3.1.4.2, "Control Rod Scram Time Testing," from "120 days cumulative operation in MODE 1" to "200 days cumulative operation in MODE 1."

These changes are based on TS Task Force (TSTF) change traveler no. 460 (TSTF-460), Revision 0, that has been approved generically for the boiling-water reactor (BWR) Standard TS, NUREG-1433 (BWR/4) and NUREG-1434 (BWR/6), by revising the frequency of TS surveillance requirement (SR) 3.1.4.2 regarding control rod scram time testing from "120 days cumulative operation in MODE 1" to "200 days cumulative operation in MODE 1." A notice announcing the availability of this proposed TS change using the consolidated line item improvement process (CLIP) was published in the *Federal Register* on August 23, 2004 (69 FR 51864).

## 2.0 REGULATORY EVALUATION

The TS requirement governing the control rod scram time surveillance is intended to assure proper function of control rod insertion. Following each refueling outage, all control rod scram times are verified. In addition, periodically during power operation, a representative sample of control rods is selected to be inserted to verify the insertion speed. A representative sample is defined as a sample containing at least 10 percent of the total number of control rods. The current TS stipulates that no more than 20 percent of the control rods in this representative sample can be "slow" during the post outage testing. With more than 20 percent of the sample declared to be "slow" per the criteria in Table 3.1.4-1, additional control rods are tested until this 20 percent criterion (e.g., 20 percent of the entire sample size) is satisfied, or until the total number of "slow" control rods (throughout the core, from all surveillances) exceeds the Limiting Condition for Operation (LCO) limit. For planned testing, the control rods selected for the sample should be different for each test. The acceptance criterion for at-power surveillance

testing will be redefined from 20 percent to 7.5 percent and will be incorporated into the TS Bases in accordance with its Bases Control Program. This tightened acceptance criterion for at-power surveillance aligns with the TS 3.1.4 requirement for the total control rods allowed to have scram times exceeding the specified limit.

The proposed change does not affect any current operability requirements and the test frequency being revised is not specified in regulations. As a result, no regulatory requirements or criteria are affected.

### 3.0 TECHNICAL EVALUATION

#### 3.1 Statement of Proposed Changes

Fermi 2 TS SR 3.1.4.2 states "Verify, for a representative sample, each tested control rod scram time is within the limits of Table 3.1.4-1 with reactor steam dome pressure \$800 psig." TS SR 3.1.4.2 has a frequency of "120 days cumulative operation in MODE 1." The proposed change revises the frequency to "200 days cumulative operation in MODE 1." The TS Basis for TS SR 3.1.4.2 will be revised to reference the new frequency and to reduce the percentage of the tested rods which can be "slow" from 20 percent to 7.5 percent.

#### 3.2 Evaluation of Proposed Change

The control rod insertion (scram) time test results at Fermi 2 have shown the control rod scram rates to be highly reliable. The licensee stated in its submittal dated May 27, 2005, that it has performed a review of the SCRAM time test results from January 2000, to April 2005. This review determined that 2981 tests had been performed at Fermi 2. During this timeframe, one control rod has been declared "slow" as a result of the SCRAM time failing to meet the acceptance criteria in TS Table 3.1.4-1, a 0.03 percent failure rate. Fermi 2 plant converted to the Improved Standard Technical Specifications (NUREG-1433) on October 31, 1999. Prior to this, the TS required monitoring maximum individual control rod scram times (7 second requirement for inoperable rods), average scram times, and local scram times of a four control rod group, but not individual slow control rods. The extensive historical database substantiates the claim of high reliability of the Fermi 2 control rod drive system. The current TS SR 3.1.4.2 requires that a representative sample of control rods be tested every 120 days of cumulative operation in MODE 1.

The TS Bases for TS SR 3.1.4.2 states that a representative sample contains at least 10 percent of the control rods. The current TS Bases also indicates that the acceptance criteria showing that the sample remains representative is met if 20 percent or fewer of the control rods in the sample tested are found to be slow, per the criterion in TS Table 3.1.4-1. This acceptance criterion will be re-defined for at-power surveillance testing from 20 percent to 7.5 percent when the surveillance period is extended to 200 cumulative days of operation in Mode 1. This tightened acceptance criterion for at-power surveillance aligns with the TS 3.1.4 requirement for the total control rods allowed to have scram times exceeding the specified limit.

The licensee will incorporate the revised acceptance criterion value of 7.5 percent into the TS Bases in accordance with its Bases Control Program.



The NRC staff considers the extended surveillance interval to be justified by the demonstrated reliability of the control rod insertion system, based on historical control rod scram time test data, and by the more restrictive acceptance criterion for determining whether the sample of control rods tested remains representative. Further, the amendment does not change the LCO limits for the number and location of operable control rods that can be slow. Therefore, the NRC staff finds the proposed TS change acceptable.

#### 4.0 COMMITMENT

In its application dated May 27, 2005, the licensee made the following commitment:

Detroit Edison will incorporate the revised acceptance criterion value of 7.5 percent into the TS Bases for Fermi 2 in accordance with the Bases Control Program described in TS 5.5.10.

The NRC staff finds that reasonable controls for the implementation and for subsequent evaluation of proposed changes pertaining to the above regulatory commitment are provided by the licensee's administrative processes, including its commitment management program. Should the licensee choose to incorporate a regulatory commitment into the emergency plan, final safety analysis report, or other documents with established regulatory controls, the associated regulations would define the appropriate change-control and reporting requirements. The NRC staff has determined that the commitment does not warrant the creation of regulatory requirements which would require prior NRC approval of subsequent changes. The NRC staff has agreed that Nuclear Energy Institute 99-04, Revision 0, "Guidelines for Managing NRC Commitment Changes," provides reasonable guidance for the control of regulatory commitments made to the NRC staff (see Regulatory Issue Summary 2000-17, "Managing Regulatory Commitments Made by Power Reactor Licensees to the NRC Staff," dated September 21, 2000). The commitment should be controlled in accordance with the industry guidance or comparable criteria employed by a specific licensee. The NRC staff may choose to verify the implementation and maintenance of this commitment in a future inspection or audit.

#### 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 or 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 published July 19, 2005 (70 FR 41443). 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: B. Vaidya

Date: October 23, 2005