

June 25, 2008

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: FERMIS 2 - ISSUANCE OF AMENDMENT RE: DELETE THE NOTE  
ASSOCIATED WITH THE PERFORMANCE OF CHANNEL CALIBRATION FOR  
PRIMARY CONTAINMENT HIGH RANGE RADIATION MONITOR IN  
TECHNICAL SPECIFICATION 3.3.3.1 SURVEILLANCE REQUIREMENT  
(TAC NO. MD6076)

Dear Mr. Davis:

The Commission has issued the enclosed Amendment No. 180 to Facility Operating License No. NPF-43 for the Fermi 2 facility. The amendment consists of changes to the Technical Specifications in response to your application dated July 12, 2007, as supplemented by letter dated September 21, 2007.

The amendment revises Surveillance Requirement 3.3.3.1.2 in Technical Specification 3.3.3.1, "Post Accident Monitoring (PAM) Instrumentation." Specifically, the amendment deletes the note which excludes radiation detectors from calibration requirements.

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/

Justin C. Poole, 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. 180 to NPF-43
2. Safety Evaluation

cc w/encls: See next page

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DATE	06 / 17 /08	06 / 17 /08	06 / 24 /08	6/10/08	06 / 25 /08

OFFICIAL RECORD COPY

DETROIT EDISON COMPANY

DOCKET NO. 50-341

FERMI 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No.180

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 July 12, 2007, as supplemented by letter dated September 21, 2007, 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. 180, 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/ PTam for

Lois M. James, Chief  
Plant Licensing Branch III-1  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Attachment: Changes to the Facility Operating License  
and Technical Specifications

Date of Issuance: June 25, 2008

ATTACHMENT TO LICENSE AMENDMENT NO. 180

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

License Page 3  
3.3-26

INSERT

License Page 3  
3.3-26

- (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 No. 180 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.180 FACILITY OPERATING LICENSE NO. NPF-43  
DETROIT EDISON COMPANY  
FERMI 2  
DOCKET NO. 50-341

## 1.0 INTRODUCTION

By application dated July 12, 2007 (Agencywide Documents and Management System (ADAMS) Accession No. ML071990098), as supplemented by letter dated September 21, 2007 (ADAMS Accession No. ML072750667), the Detroit Edison Company (DECo or the licensee) requested an amendment to revise the Technical Specifications (TSs) for Fermi 2. The amendment would revise Surveillance Requirement (SR) 3.3.3.1.2 in TS 3.3.3.1, "Post Accident Monitoring (PAM) Instrumentation." Specifically, the amendment deletes the note which excludes radiation detectors from calibration requirements.

The licensee's supplement dated September 21, 2007, was considered along with the application, in the Nuclear Regulatory Commission (NRC) staff's proposed no significant hazards consideration determination as published in the *Federal Register* on November 6, 2007 (72 FR 62687).

## 2.0 REGULATORY EVALUATION

The NRC staff used the following regulatory basis for its evaluation of the licensee's amendment request:

- Title 10 of the *Code of Federal Regulations* 10 CFR 50.36(d)(3), requires that TS SRs assure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the limiting conditions for operation will be met.
- Regulatory Guide (RG) 1.97, "Instrumentation For Light-Water-Cooled Nuclear Power Plants to Assess Plant and Environs Conditions During and Following an Accident," Rev. 2, December 1980, describes a method acceptable to the NRC staff for complying with the Commission's regulations to provide instrumentation for monitoring plant variables and systems during and after an accident.
- NUREG-0737, "Clarification of TMI Action Plan Requirements," November 1980, requires a single point in-situ calibration that exposes the radiation detectors to a known source of radiation in the equivalent dose rate range of 1 Roentgens per hour (R/hr) to 10 R/hr:

In containment radiation-level monitors with a maximum range of  $10^8$  rad/hr shall be installed. A minimum of two such monitors that are physically separated shall be provided. Monitors shall be developed and qualified to function in an accident environment.

## 3.0 TECHNICAL EVALUATION

The NRC staff reviewed the following proposed changes:

The deletion of the note in SR 3.3.3.1.2 that states "Radiation detectors are excluded" from channel calibration.

### 3.1 Background

The primary purpose of the PAM instrumentation is to display plant variables that provide information required by the control room operators during accident situations. This information allows the operator to take the necessary manual actions when no automatic control is provided and when safety systems are required to accomplish their safety functions for Design-Basis Events. The operability of the accident monitoring instrumentation in TS 3.3.3.1 ensures that there is sufficient information available on selected plant parameters to monitor and assess plant status behavior following an accident.

TS 3.3.3.1, "PAM Instrumentation," includes a SR to perform PAM instrumentation channel calibration as a complete check of the instrument loop, including the sensor. The calibration verifies that the channel responds to the measured parameter with the necessary range and accuracy.

The current calibration requirement for the Primary Containment High Range Radiation Monitor excludes radiation detectors from channel calibration in SR 3.3.3.1.2.

Based on a recent evaluation, the licensee determined that radiation detectors are required to be included in the current channel calibration of Primary Containment High Range Radiation Monitor in SR 3.3.3.1.2. Therefore, in this license amendment request, the licensee proposes to delete the note excluding radiation detectors from channel calibration requirement in SR 3.3.3.1.2. The licensee will also add information to TS Bases SR 3.3.3.1.2 to describe monitor calibration and the single point in-situ calibration requirement for the detectors.

### 3.2 Safety Analysis

NUREG-0737 states in part, "In containment radiation-level monitors with a maximum range of  $10^8$  rad/hr shall be installed. A minimum of two such monitors that are physically separated shall be provided. Monitors shall be developed and qualified to function in an accident environment."

TS Table 3.3.3.1-1 lists two Primary Containment High Range Radiation Monitor channels, which consist of two redundant sensors, monitors and indicators. The radiation detector is a General Atomic Model RD-23 detector which uses a gamma-ray ionization chamber with an internal U-234 source. An increasing rate of gamma rays increases the rate of ionization with proportional increases in the signal current output. The detector has a nominal range from  $10^0$  to  $10^8$  R/hr as required by NUREG-0737.

The SR for performing channel calibration of PAM instrumentation is based on the recommendations of RG 1.97. Deleting the SR note excluding radiation detectors from channel calibration requirement in TS 3.3.3.1 supports the design and qualification of the primary



containment high range radiation monitor per NUREG-0737, Table II.F.1-3 requirements. This change in the primary containment high range radiation monitor calibration ensures the capability and reliability of the monitor during and following an accident. In addition, this change does not change the licensee's commitment to RG 1.97. Therefore, the NRC staff found the proposed revision to delete the note in SR 3.3.3.1.2, "Radiation detectors are excluded" from channel calibration acceptable.

As part of the application for amendment, the licensee provided draft TS Bases pages which the licensee will incorporate into the licensee-controlled TS Bases document. The NRC staff has no objection to the proposed changes.

#### 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 or changes the 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 (72 FR 62687). 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: Pong Chung, NRR

Date: June 25, 2008

Fermi 2

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