April 11, 1991

Docket No. 50-341

Mr. William S. Orser
Senior Vice President - Nuclear
Operations
Detroit Edison Company
6400 North Dixie Highway
Newport, Michigan 48166

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Dear Mr. Orser:

SUBJECT: AMENDMENT NO. 66 TO FACILITY OPERATING LICENSE NO. NPF-43: (TAC NO. 77689)

The Commission has issued the enclosed Amendment No. 66 to Facility Operating License No. NPF-43 for the Fermi-2 facility. This amendment consists of changes to the Plant Technical Specifications (TS) in response to your letter dated August 1, 1990.

The amendment revises the Technical Specification description of control rod assemblies to address the use of hafnium as a neutron absorber material.

A copy of the Safety Evaluation supporting this amendment is also enclosed. Notice of Issuance will be included in the Commission's biweekly Federal Register notice.

Sincerely,

/s/
John F. Stang, Project Manager
Project Directorate III-1
Division of Reactor Projects III/IV/V
Office of Nuclear Reactor Regulation

Enclosures:
1. Amendment No. 66 to NPF-43
2. Safety Evaluation

cc w/enclosures:
See next page

LA/PD31:DRP345	PM/PD31:DRP345	D/PD31:DRP345	NRR/SRXB	OGC
PShuttleworth	JStang	LMarsh	RJones	
3/18/91	3/18/91	4/1/91	3/18/91	3/21/91

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555

April 11, 1991

Docket No. 50-341

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Senior Vice President - Nuclear
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John F. Stang

John F. Stang, Project Manager
Project Directorate III-1
Division of Reactor Projects III/IV/V
Office of Nuclear Reactor Regulation

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2. Safety Evaluation

cc w/enclosures:
See next page

Mr. William Orser
Detroit Edison Company

Fermi-2 Facility

cc:
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Newport, Michigan 48166

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

DETROIT EDISON COMPANY

FERMI-2

DOCKET NO. 50-341

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 66
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 1, 1990, 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. 66, 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 the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

L B Marsh

L. B. Marsh, Director
Project Directorate III-1
Division of Reactor Projects III/IV/V
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: April 11, 1991

ATTACHMENT TO LICENSE AMENDMENT NO. 66

FACILITY OPERATING LICENSE NO. NPF-43

DOCKET NO. 50-341

Replace the following pages of the Appendix "A" Technical Specifications with the attached pages. The revised pages are identified by Amendment number and contain a vertical line indicating the area of change. The corresponding overleaf pages are also provided to maintain document completeness.

REMOVE	INSERT
5-5	5-5

5.3 REACTOR CORE

FUEL ASSEMBLIES

5.3.1 The reactor core shall contain 764 fuel assemblies which are limited to those fuel assemblies that have been analyzed with NRC approved codes and methods and have been shown to comply with all of the criteria in the latest approved version of GESTAR-II.

CONTROL ROD ASSEMBLIES

5.3.2 The reactor shall contain 185 cruciform shaped control rod assemblies. The control material shall be boron carbide powder, B_4C, and/or hafnium metal surrounded by a cruciform shaped stainless steel sheath. The control rod assemblies shall be full length.

5.4 REACTOR COOLANT SYSTEM

DESIGN PRESSURE AND TEMPERATURE

5.4.1 The reactor coolant system is designed and shall be maintained:

a. In accordance with the code requirements specified in Section 5.2 of the FSAR, with allowance for normal degradation pursuant to the applicable Surveillance Requirements,

b. For a pressure of:

   1. 1250 psig on the suction side of the recirculation pump.
   2. 1500 psig from the recirculation pump discharge to the outlet side of the discharge shutoff valve.
   3. 1500 psig from the discharge shutoff valve to the jet pumps:

c. For a temperature of 575°F.

VOLUME

5.4.2 The total water and steam volume of the reactor vessel and recirculation system is approximately 22,034 cubic feet at a nominal steam dome saturation temperature of 540°F.

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 66 TO FACILITY OPERATING LICENSE NO. NPF-43

DETROIT EDISON COMPANY

FERMI-2

DOCKET NO. 50-341

1.0 INTRODUCTION

By letter dated August 1, 1990, the Detroit Edison Company (DECo or the licensee) requested an amendment to the Technical Specifications (TS) appended to Facility Operating License No. NPF-43 for Fermi-2. The proposed amendment changes the description of control rod assemblies to address the use of hafnium as a neutron absorber material.

2.0 EVALUATION

The licensee intends to replace 165 control rods at Fermi-2 in the upcoming refueling outage scheduled to begin in April 1991. DECo intends to use two new General Electric (GE) control rod designs which incorporate many enhancements. The new control rods will be interchangeable with the existing control assemblies and compatible with the existing hardware. The use of the new control rods has been reviewed and approved by the NRC staff in the following references:

1. GE Topical Report, NEDO-22290-A, "Safety Evaluation Of The GE Hybrid I Control Rod Assembly," September 1983

2. GE Topical Report NEDE-22290-A, Supplement 1, "Safety Evaluation Of The GE Electric Hybrid I Control Rod Assembly For The BWR 4/5 Lattice," July 1985

3. GE Topical Report NEDE-22290-A, Supplement 2, "Safety Evaluation Of the GE Advanced Longer Life Control Rod Assembly," August 1985

4. GE Topical Report NEDE-22290-P-A, Supplement 3, "Safety Evaluation of the GE Duralife 230 Control Rod Assembly," May 1988

The proposed TS change has been worded to address the use of hafnium as an absorber material in the Fermi-2 control rods. The current TS describe the design of the control rods as containing only boron carbide as the absorber material. The use of hafnium does not significantly change the neutronic or mechanical characteristics of the control rods. The new design of the control rods has many advantages over the existing control rods such as increased neutron absorber material, improved resistance to intergranular stress corrosion cracking, elimination of structural crevices, lighter coupling/velocity limiter, and reduction of cobalt-bearing material.

Based on the above, the staff finds the use of previously approved control rods using hafnium acceptable at Fermi-2. Therefore, the staff finds the proposed change to the TS to be acceptable.

3.0 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.

4.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The NRC staff has determined that this amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents which 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 this amendment involves no significant hazards consideration and there has been no public comment on such finding (56 FR 6872). Accordingly, this 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 this amendment.

5.0 CONCLUSION

We have 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 this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: John Stang

Date: April 11, 1991