

Mr. Douglas R. Gipson
 Senior Vice President
 Nuclear Generation
 Detroit Edison Company
 6400 North Dixie Highway
 Newport, MI 48166

September 21, 1998

SUBJECT: FERMI 2 - ISSUANCE OF AMENDMENT RE: TECHNICAL SPECIFICATION
 SAFETY LIMIT MINIMUM CRITICAL POWER RATIO (TAC NO. MA2003)

Dear Mr. Gipson:

The Commission has issued the enclosed Amendment No. 129 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 June 5, 1998 (NRC-98-0067), as supplemented August 24, 1998.

The amendment revises TS 2.1.2, "Thermal Power, High Pressure and High Flow," by changing the values for the safety limit minimum critical power ratio from 1.09 to 1.11 for two recirculation loop operation and from 1.11 to 1.13 for single recirculation loop operation for Cycle 7. The amendment also revises the footnote to TS 2.1.2 to indicate that these revised values are applicable for Cycle 7 operation only.

Because full implementation of this amendment may not take place until the fall of 1998, until full implementation Detroit Edison should submit two sets of TS pages for any pages affected in future amendments by the issuance of this amendment. The TS pages should reflect the conditions before and after full implementation of this amendment so that the correct TS pages may be issued in any future amendments. The NRC also requests that you submit a letter informing the staff when this amendment is fully implemented.

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,

ORIGINAL SIGNED BY

Andrew J. Kugler, Project Manager
 Project Directorate III-1
 Division of Reactor Projects - III/IV
 Office of Nuclear Reactor Regulation

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Docket No. 50-341

Enclosures: 1. Amendment No. 129 to NPF-43
 2. Safety Evaluation

cc w/encl: See next page

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Mr. Douglas R. Gipson
Detroit Edison Company

Fermi 2

cc:

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DATED: September 21, 1998

AMENDMENT NO. 129 TO FACILITY OPERATING LICENSE NO. NPF-43 - FERMI 2

Docket File (50-341)

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

DETROIT EDISON COMPANY

DOCKET NO. 50-341

FERMI 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 129
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 June 5, 1998 (NRC-98-0067), as supplemented August 24, 1998, 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.

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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. 129 , 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 with full implementation prior to restart from the sixth refueling outage.

FOR THE NUCLEAR REGULATORY COMMISSION



Andrew J. Kugler, Project Manager
Project Directorate III-1
Division of Reactor Projects - III/IV
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical
Specifications

Date of Issuance: September 21, 1998

ATTACHMENT TO LICENSE AMENDMENT NO. 129

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 vertical lines indicating the area of change.

REMOVE

2-1
2-2

INSERT

2-1
2-2*

*Overleaf page provided to maintain document completeness. No changes contained on this page.

2.0 SAFETY LIMITS AND LIMITING SAFETY SYSTEM SETTINGS

2.1 SAFETY LIMITS

THERMAL POWER, Low Pressure or Low Flow

2.1.1 THERMAL POWER shall not exceed 25% of RATED THERMAL POWER with the reactor vessel steam dome pressure less than 785 psig or core flow less than 10% of rated flow.

APPLICABILITY: OPERATIONAL CONDITIONS 1 and 2.

ACTION:

With THERMAL POWER exceeding 25% of RATED THERMAL POWER and the reactor vessel steam dome pressure less than 785 psig or core flow less than 10% of rated flow, be in at least HOT SHUTDOWN within 2 hours and comply with the requirements of Specification 6.7.1.

THERMAL POWER, High Pressure and High Flow*

2.1.2 The MINIMUM CRITICAL POWER RATIO (MCPR) shall not be less than the Safety Limit MCPR of 1.11 for two recirculation loop operation and shall not be less than the Safety Limit MCPR of 1.13 for single loop operation with the reactor vessel steam dome pressure greater than 785 psig and core flow greater than 10% of rated flow.

APPLICABILITY: OPERATIONAL CONDITIONS 1 and 2.

ACTION:

With MCPR less than the Safety Limit MCPR of 1.11 for two recirculation loop operation or less than the Safety Limit MCPR of 1.13 for single loop operation and with the reactor vessel steam dome pressure greater than 785 psig and core flow greater than 10% of rated flow, be in at least HOT SHUTDOWN within 2 hours and comply with the requirements of Specification 6.7.1.

REACTOR COOLANT SYSTEM PRESSURE

2.1.3 The reactor coolant system pressure, as measured in the reactor vessel steam dome, shall not exceed 1325 psig.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, 3 and 4.

ACTION:

With the reactor coolant system pressure, as measured in the reactor vessel steam dome, above 1325 psig, be in at least HOT SHUTDOWN with reactor coolant system pressure less than or equal to 1325 psig within 2 hours and comply with the requirements of Specification 6.7.1.

* MCPR values in Technical Specification 2.1.2 are applicable for Cycle 7 operation only.

SAFETY LIMITS AND LIMITING SAFETY SYSTEM SETTINGS

SAFETY LIMITS (Continued)

REACTOR VESSEL WATER LEVEL

2.1.4 The reactor vessel water level shall be above the top of the active irradiated fuel.

APPLICABILITY: OPERATIONAL CONDITIONS 3, 4 and 5

ACTION:

With the reactor vessel water level at or below the top of the active irradiated fuel, manually initiate the ECCS to restore the water level, after depressurizing the reactor vessel, if required. Comply with the requirements of Specification 6.7.1.



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 129 FACILITY OPERATING LICENSE NO. NPF-43

DETROIT EDISON COMPANY

FERMI 2

DOCKET NO. 50-341

1.0 INTRODUCTION

By letter dated June 5, 1998 (NRC-98-0067), as supplemented August 24, 1998, the Detroit Edison Company (DECo or the licensee) requested an amendment to the Technical Specifications (TSs) appended to Facility Operating License No. NPF-43 for Fermi 2. The proposed amendment would revise TS 2.1.2, "Thermal Power, High Pressure and High Flow," by changing the values for the safety limit minimum critical power ratio (MCPR) from 1.09 to 1.11 for two recirculation loop operation and from 1.11 to 1.13 for single recirculation loop operation for Cycle 7. The amendment would also revise the footnote to TS 2.1.2 to indicate that these revised values are applicable for Cycle 7 operation only. The August 24, 1998, letter provided clarifying information that was within the scope of the original *Federal Register* notice and did not change the staff's initial proposed no significant hazards considerations determination.

The safety limit MCPR is set such that no mechanistic fuel damage is calculated to occur if the limit is not violated. This limit is applicable when the reactor steam dome pressure is greater than 785 psig and core is flow greater than 10 percent of rated flow. The licensee has proposed changes to the safety limit MCPR based on the cycle-specific core reload analyses for Cycle 7.

2.0 EVALUATION

The licensee proposed to change the safety limit MCPR from 1.09 to 1.11 for two recirculation loop operation and from 1.11 to 1.13 for single loop operation. The licensee described the methodology to calculate the new safety limit MCPR values for the TSs in its submittals. The Cycle 7 safety limit MCPR analysis was performed by the General Electric Company (GE) using the plant- and cycle-specific fuel and core parameters, NRC-approved methodologies (including GESTAR-II (NEDE-24011-P-A-13, proprietary information, not publicly available), Sections 1.15 and 1.25), a revised R-factor methodology described in NEDE-32505P, "R-Factor Calculation Method for GE11, GE12 and GE13 Fuel," November 1995 (proprietary information, not publicly available), and proposed Amendment 25 to GESTAR II (proprietary information, not publicly available). The revised R-factor calculation method uses the same NRC-approved equation stated in GESTAR except for adding the correction factors and substituting rod-integrated powers for the lattice peaking factors to account for the effects of the part-length rod design. The proposed Amendment 25 to GESTAR II on cycle-specific safety limit MCPR provides for cycle-specific safety limit MCPs that replace the former generic, bounding safety limit MCPR.

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The Cycle 7 core will contain 764 GE-11 fuel assemblies, 220 of which will be fresh fuel assemblies.

The staff has reviewed the following: (1) the R-factor calculation method for GE11 fuel, (2) the clarification of the .02 increase of the proposed safety limit MCPR for the Cycle 7 operation provided in the August 24, 1998, letter, and (3) the relevant information provided in the proposed Amendment 25 to GESTAR II, NEDE-24011 (which is under NRC staff review).

Based on its review, the staff finds that the Cycle 7 safety limit MCPR analysis for Fermi 2 using a revised R-factor calculation method in conjunction with the approved methodologies will ensure that 99.9 percent of the fuel rods in the core will not experience boiling transition. Therefore, the staff concludes that the analysis supporting the safety limit MCPR values of 1.11 for two recirculation loop operation and 1.13 for single loop operation for Fermi 2 Cycle 7 operation is acceptable since it was based on NRC-approved methodologies and Fermi 2 cycle-specific inputs and the fuel bundles in the core for Cycle 7 operation. The proposed change from Cycle 6 to Cycle 7 in the footnote is also acceptable to reflect the applicability of the proposed TS changes to the upcoming Cycle 7 operation.

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 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 (63 FR 35988). 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.

5.0 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: Tai Huang

Date: September 21, 1998