

November 19, 1991

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

Dear Mr. Orser:

SUBJECT: FERMI-2 - AMENDMENT NO. 76 TO FACILITY OPERATING LICENSE NO. NPF-43
(TAC NO. 81728)

The Commission has issued the enclosed Amendment No. 76 to Facility Operating License No. NPF-43 for the Fermi-2 facility. This amendment consists of changes to the Technical Specifications (TS) in response to your letter dated December 22, 1988. Amendment 41, issued September 7, 1989, addressed proposed changes to the TS in the DECo's December 22, 1988, application with the exception of the proposed changes to the reactor water cleanup system (RWCS). This amendment evaluates the proposed changes to the RWCS. This action completes TAC No. 81728.

The proposed changes to the TS would allow routine testing of the RWCS without necessitating removal of the RWCS from service.

A copy of the related Safety Evaluation and Notice of Issuance are also enclosed.

Sincerely,

Original signed by

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. 76 to NPF-43
2. Safety Evaluation
3. Notice

cc w/enclosures:
See next page

OFC	: LA: PDIII-1	: PM: PDIII-1	: SPLB	: OGC <i>GH</i>	: D: PDIII-1
NAME	: <i>esp</i> PShutteworth	: JStang: sw	: <i>CA</i> McCracken	: <i>HOLLON</i> LMarsh	: <i>Best</i> Marsh
DATE	: 10/31/91	: 10/31/91	: 11/1/91	: 11/12/91	: 11/19/91

OFFICIAL RECORD COPY
Document Name: FERMI AMENDMENT 81728

Mr. William Orser
Detroit Edison Company

Fermi-2 Facility

cc w/enclosures:
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U.S. Nuclear Regulatory Commission
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Ms. Lynne Goodman
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Detroit Edison Company
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Newport, Michigan 48166

DATED: November 19, 1991

AMENDMENT NO. 76 TO FACILITY OPERATING LICENSE NO. NPF-43-FERMI-2

Docket File

NRC & Local PDRs

PDIII-1 Reading

Fermi Plant File

B. Boger

J. Zwolinski

L. Marsh

P. Shuttleworth

J. Stang

OGC-WF

D. Hagan, 3302 MNBB

G. Hill (4), P-137

Wanda Jones, MNBB-7103

C. Grimes, 11/F/23

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B. Clayton, R-III

cc: Plant Service list

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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. 76
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 December 22, 1988, 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:

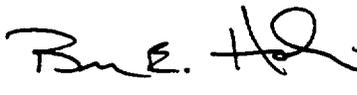
Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 76, 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.

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3. This license amendment is effective as of its date of issuance with full implementation within 30 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

 for

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: November 19, 1991

ATTACHMENT TO LICENSE AMENDMENT NO. 76

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.

REMOVE

3/4 3-12

3/4 3-14a

INSERT

3/4 3-12

3/4 3-14a

TABLE 3.3.2-1 (Continued)
ISOLATION ACTUATION INSTRUMENTATION

<u>TRIP FUNCTION</u>	<u>VALVE GROUPS OPERATED BY SIGNAL</u>	<u>MINIMUM OPERABLE CHANNELS PER TRIP SYSTEM(a)</u>	<u>APPLICABLE OPERATIONAL CONDITION</u>	<u>ACTION</u>
2. <u>REACTOR WATER CLEANUP SYSTEM ISOLATION</u>				
a. Δ Flow - High #	10, 11	1(h)	1, 2, 3	23
b. Heat Exchanger/Pump/High Energy Piping Area Temperature - High	10, 11	6	1, 2, 3	23
c. Heat Exchanger/Pump/Phase Separator Area Ventilation Δ Temp. - High	10, 11	2	1, 2, 3	23
d. SLCS Initiation	11	NA	1, 2, 3	23
e. Reactor Vessel Low Water Level - Level 2 (d)	10, 11	2	1, 2, 3	23
f. Deleted				
g. Manual Initiation	10, 11	1/valve	1, 2, 3	26
3. <u>REACTOR CORE ISOLATION COOLING SYSTEM ISOLATION</u>				
a. RCIC Steam Line Flow - High				
1. Differential Pressure	8	1	1, 2, 3	23
2. Time Delay	8	1	1, 2, 3	23
b. RCIC Steam Supply Pressure - Low	8, 9(f)	2	1, 2, 3	23
c. RCIC Turbine Exhaust Diaphragm Pressure - High	8	2	1, 2, 3	23
d. RCIC Equipment Room Temperature - High	8	1	1, 2, 3	23
e. Manual Initiation	8, 9	1/valve	1, 2, 3	26

FERMI - UNIT 2

3/4 3-12

Amendment No. 21, 41, 76

TABLE 3.3.2-1 (Continued)

ISOLATION ACTUATION INSTRUMENTATION

TABLE NOTATIONS (Continued)

- (f) Isolates with simultaneous RCIC Steam Supply Pressure-Low (Isolation Instrumentation) and Drywell Pressure-High (ECCS Actuation Instrumentation).
 - (g) Isolates with simultaneous HPCI Steam Supply Pressure-Low (Isolation Actuation Instrumentation) and Drywell Pressure-High (ECCS Actuation Instrumentation).
 - (h) This trip function is derived from three non-redundant flow transmitters and a non-redundant flow summer. Inoperability of the non-redundant circuitry causes the channels in both trip systems to be inoperable. The remainder of the circuit is redundant and can be considered on a per trip system basis. Both trip systems may be placed in an inoperable status for up to 2 hours for required surveillance of the non-redundant circuitry without taking the required ACTION provided that the remainder of the Reactor Water Cleanup System Isolation channels (except the SLCS Initiation) are OPERABLE.
 - (i) Secondary Containment Isolation Push-buttons.
 - (j) This pressure signal actuates Groups 2, 12, 13, 14, 15, 16, 17, 18, and ***.
- # With time delay of 45 seconds.
- ## These trip function(s) are common to the RPS trip function.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 76 TO FACILITY OPERATING LICENSE NO. NPF-43

DETROIT EDISON COMPANY

FERMI-2

DOCKET NO. 50-341

1.0 INTRODUCTION

By letter dated December 22, 1988, 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 would revise the TS by allowing routine TS surveillance testing of the reactor water cleanup system (RWCS) without necessitating removal of the RWCS from service.

2.0 EVALUATION

Currently, the TS indicates that there is one channel per trip system for the RWCS containment isolation instrumentation for the RWCS Differential Flow - High Trip Function. This does not accurately reflect that this trip function is accomplished by a combination of redundant and non-redundant components.

The RWCS Differential Flow - High Trip Function is accomplished by measuring flow into and out of the RWCS at three locations where the RWCS has an interface with other plant systems. These locations are:

- RWCS inlet from the Reactor Coolant System (RCS),
- RWCS outlet to the RCS, and
- RWCS outlet to the Main Condenser and/or Radioactive Waste System.

The flow at each location is measured by a single flow transmitter which is input to a single flow summer circuit. If the measured in-flow to the RWCS exceeds the measured out-flow by the specified setpoint, a trip signal is generated for two separate channels, each of which causes the closure of a RWCS inlet primary containment isolation valve. One channel closes the inboard valve and the other channel closes the outboard valve. Inoperability of a flow transmitter or of the summer circuit causes both channels to be inoperable. TS Action 23 requires the RWCS to be isolated within one hour if both channels are inoperable.

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Performance of a channel functional test is required by the TS for the RWCS Differential Flow - High Trip Function on a quarterly basis. This testing requires both channels for the trip function to be made inoperable since the testing affects the non-redundant equipment common to both channels. The one hour time allowed by Action 23 is insufficient to perform this testing, thus requiring the RWCS to be taken out of service each quarter.

This frequent requirement to remove the RWCS is detrimental in two ways. First, the RWCS components are subject to more frequent cycling both in system temperature and pressure. This increases the rate of cyclic fatigue, which will increase the probability of a system component failure and a possible radioactive release within the secondary containment.

Second, the frequent plant evolution increases the chance of plant transients. Improper operation of the system could adversely effect reactor water level and other parameters which are monitored for protective reasons and could lead to an undesirable transient.

The provisions proposed in the December 22, 1988, application to alleviate this situation are contained in a new table notation (h) which is applied to the Minimum Operable Channels per Trip System requirement for the RWCS Differential Flow - High trip function contained in TS Table 3.3.2-1, Isolation Actuation Instrumentation. The proposed note (h) reads:

- (h) This trip function is derived from three non-redundant flow transmitters and a non-redundant flow summer. Inoperability of the non-redundant circuitry causes the channels in both trip systems to be inoperable. The remainder of the circuit is redundant and can be considered on a per trip system basis. Both trip systems may be placed in an inoperable status for up to 2 hours for required surveillance of the non-redundant circuitry without taking the required ACTION provided that the remainder of the Reactor Water Cleanup System Isolation channels (except SLCS Initiation) are OPERABLE.

The proposed footnote provides additional information concerning the system design as far as the combination, for this trip function, of non-redundant and redundant equipment. This information adds clarity to the requirements. In this manner, the change promotes safety by adding assurance that incorrect action is not taken, particularly in the event that a non-redundant component is determined to be inoperable.

The proposed footnote also gives provisions that allows surveillance testing of the non-redundant circuitry without necessitating removal of the RWCS from service. The time allowed without taking the required TS action to isolate the RWCS is two hours. This is consistent with the time period allowed in table notation (a) of the same table. Note (a) applies to a similar situation for channels made inoperable for testing where other channels in the same trip system remain operable for the same trip function.

The proposed note (h) also requires that the remainder of the RWCS isolation instrumentation channels, except the Standby Liquid Control System (SLCS) initiation signal, be operable during the differential flow surveillance testing. The channels are:

Heat Exchanger/Pump/High Energy Piping Area Temperature - High,

Heat Exchanger/Pump/Phase Separator Area Ventilation Differential Temperature - High, and

Reactor Vessel Low Water Level - Level 2.

These signals provide both redundancy (in that both trip systems must be operable) and diversity (in three signal sources) to assure that a RWCS breach is detected and automatically isolated should such a breach occur during the proposed two hour period. The SLCS isolation signal is not associated with the containment isolation function and therefore it is not necessary to include it in this provision.

Based upon the above, the proposed changes to the TS to allow for RWCS Differential Flow - High Surveillance Testing are 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

Pursuant to 10 CFR 51.21, 51.32 and 51.35, an environmental assessment and finding of no significant impact has been prepared published in the Federal Register on August 31, 1989 (54 FR 36071).

Accordingly, based upon the environmental assessment, the Commission has determined that issuance of this amendment will not have a significant effect on the quality of the human environment.

5.0 CONCLUSION

The staff 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: John Stang, PDIII-1/NRR

Date: November 19, 1991

UNITED STATES NUCLEAR REGULATORY COMMISSIONDETROIT EDISON COMPANYFERMI-2DOCKET NO. 50-341NOTICE OF ISSUANCE OF AMENDMENT TOFACILITY OPERATING LICENSE

The U.S. Nuclear Regulatory Commission (Commission) has issued Amendment No. 76 to Facility Operating License No. NPF-43 issued to Detroit Edition Company, which revised the Technical Specifications for operation of Fermi-2, located in Monroe County, Michigan.

The amendment is effective as of the date of issuance.

The amendment revised the Technical Specification (TS) allowing routine surveillance testing of the Reactor Water Cleanup System (RWCS) without necessitating removal of the RWCS from service.

The application for the amendment complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations. The Commission has made appropriate findings as required by the Act and the Commission's rule and regulations in 10 CFR Chapter I, which are set forth in the license amendment.

Notice of Consideration of Issuance of Amendment and Opportunity for Hearing in connection with this action was published in the FEDERAL REGISTER on June 20, 1989 (54 FR 26866). No request for a hearing or petition for leave to intervene was filed following this notice.

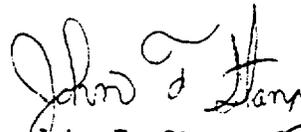
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The Commission has prepared an Environmental Assessment related to the action and has determined not to prepare an environmental impact statement. Based upon the environmental assessment, the Commission has concluded that the issuance of this amendment will not have a significant effect on the quality of the human environment.

For further details with respect to the action see (1) the application for amendment dated December 22, 1988, (2) Amendment No. 76 to License No. NPF-43, and (3) the Commission's related Safety Evaluation and Environmental Assessment. All of these items are available for public inspection at the Commission's Public Document Room, 1717 H Street NW, and at the Monroe County Library System 3700 South Luster Road, Monroe, Michigan 48161. A copy of items (2) and (3) may be obtained upon request addressed to the U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Director, Division of Reactor Projects III/IV/V.

Dated at Rockville, Maryland this 19th day of November 1991.

FOR THE NUCLEAR REGULATORY COMMISSION



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