

March 29, 1988

Docket No. 50-341

Mr. B. Ralph Sylvia
Group Vice President - Nuclear
Operations
Detroit Edison Company
6400 North Dixie Highway
Newport, Michigan 48166

DISTRIBUTION

Docket File
NRC & Local PDRs
PD31 Plant Gray
GHolahan
TQuay
RIngram
OGC
DHagan

JPartlow
TBarnhart (4)
Wanda Jones
EButcher
ACRS (10)
GPA/PA
ARM/LFMB
EJordan

Dear Mr. Sylvia:

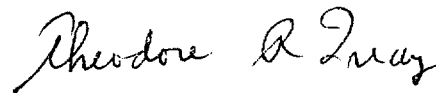
SUBJECT: AMENDMENT NO. 17 TO FACILITY OPERATING LICENSE NO. NPF-43
(TAC NO. 67052)

The Commission has issued the enclosed Amendment No. 17 to Facility Operating License No. NPF-43 for the Fermi-2 facility. This amendment consists of changes to the Plant Technical Specifications in response to your letter dated January 29, 1988.

The amendment modifies the Fermi-2 Technical Specifications to add isolation valves for the primary containment radiation monitor.

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

Sincerely,



Theodore R. Quay, Project Manager
Project Directorate III-1
Division of Reactor Projects - III, IV, V
& Special Projects

Enclosures:

1. Amendment No. 17 to NPF-43
2. Safety Evaluation

cc w/enclosure:

See next page

See Previous Concurrence*

LA/PD31:DRSP*

RIngram

3/9/88

PM/PD31:DRSP*

TQuay:

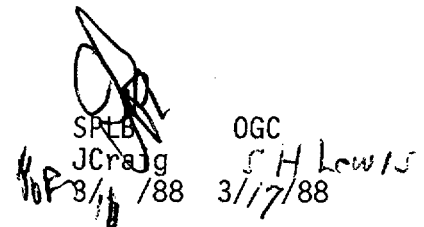
3/9/88

D/PD31:DRSP*

MVirgilio

3/9/88

OFFICIAL RECORD COPY



SPED
JCraig
3/11/88
OGC
S H Lewis
3/17/88

Docket No. 50-341

Mr. B. Ralph Sylvia
Group Vice President - Nuclear
Operations
Detroit Edison Company
6400 North Dixie Highway
Newport, Michigan 48166

Dear Mr. Sylvia:


SUBJECT: AMENDMENT NO. TO FACILITY OPERATING LICENSE NO. NPF-43
(TAC NO. 67052)

The Commission has issued the enclosed Amendment No. to Facility Operating License No. NPF-43 for the Fermi-2 facility. This amendment consists of changes to the Plant Technical Specifications in response to your letter dated January 29, 1988.

The amendment modifies the Fermi-2 Technical Specifications to add isolation valves for the primary containment radiation monitor.

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

Sincerely,



Theodore R. Quay, Project Manager
Project Directorate III-1
Division of Reactor Projects - III, IV, V
& Special Projects

Enclosures:

1. Amendment No. to NPF-43
2. Safety Evaluation

cc w/enclosure:

See next page

LA/PD31:DRSP
RIngram
3/9/88

PM/PD31:DRSP
TQuay:
3/9/88

DPD31:DRSP
MVirgilio
3/9/88

OGC

/ /88

OFFICIAL RECORD COPY



UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D. C. 20555

March 29, 1988

Docket No. 50-341

Mr. B. Ralph Sylvia
Group Vice President - Nuclear
Operations
Detroit Edison Company
6400 North Dixie Highway
Newport, Michigan 48166

Dear Mr. Sylvia:

SUBJECT: AMENDMENT NO. 17 TO FACILITY OPERATING LICENSE NO. NPF-43
(TAC NO. 67052)

The Commission has issued the enclosed Amendment No. 17 to Facility Operating License No. NPF-43 for the Fermi-2 facility. This amendment consists of changes to the Plant Technical Specifications in response to your letter dated January 29, 1988.

The amendment modifies the Fermi-2 Technical Specifications to add isolation valves for the primary containment radiation monitor.

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

Sincerely,

A handwritten signature in cursive script that reads "Theodore R. Quay".

Theodore R. Quay, Project Manager
Project Directorate III-1
Division of Reactor Projects - III, IV, V
& Special Projects

Enclosures:

1. Amendment No. 17 to NPF-43
2. Safety Evaluation

cc w/enclosure:
See next page

Mr. B. Ralph Sylvia
Detroit Edison Company

Fermi-2 Facility

cc:

Mr. Ronald C. Callen
Adv. Planning Review Section
Michigan Public Service Commission
6545 Mercantile Way
P. O. Box 30221
Lansing, Michigan 48909

Ms. Lynn Goodman
Supervisor - Licensing
Detroit Edison Company
Fermi Unit 2
6400 North Dixie Highway
Newport, Michigan 48166

John Flynn, Esq.
Senior Attorney
Detroit Edison Company
2000 Second Avenue
Detroit, Michigan 48226

Nuclear Facilities and Environmental
Monitoring Section Office
Division of Radiological Health
P. O. Box 30035
Lansing, Michigan 48909

Mr. Thomas Randazzo
Director, Regulatory Affairs
Detroit Edison Company
Fermi Unit 2
6400 North Dixie Highway
Newport, Michigan 48166

Mr. Walt Rogers
U.S. Nuclear Regulatory Commission
Resident Inspector's Office
6450 W. Dixie Highway
Newport, Michigan 48166

Monroe County Office of Civil
Preparedness
963 South Raisinville
Monroe, Michigan 48161

Regional Administrator, Region III
U.S. Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, Illinois 60137



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

DETROIT EDISON COMPANY
WOLVERINE POWER SUPPLY COOPERATIVE, INCORPORATED

DOCKET NO. 50-341

FERMI-2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 17
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 January 29, 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 the Facility Operating License No. NPF-43 is hereby amended to read as follows:

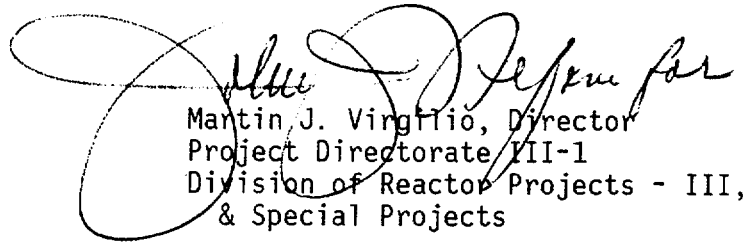
Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 17, 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.

8804080160 880329
PDR ADOCK 05000341
PDR

3. This license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Martin J. Virgilio, Director
Project Directorate III-1
Division of Reactor Projects - III, IV, V
& Special Projects

Attachment:
Changes to the Technical
Specifications

Date of Issuance: March 29, 1988

ATTACHMENT TO LICENSE AMENDMENT NO. 17

FACILITY OPERATING LICENSE NO. NPF-43

DOCKET NO. 50-341

Replace the following pages of the Appendix "A" Technical Specifications with the enclosed 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

3/4 6-27
3/4 6-27a
3/4 6-46

INSERT

3/4 6-27
3/4 6-27a
3/4 6-46

TABLE 3.6.3-1 (Continued)
PRIMARY CONTAINMENT ISOLATION VALVES

VALVE FUNCTION AND NUMBER	MAXIMUM ISOLATION TIME (Seconds)
A. <u>Automatic Isolation Valves</u> ^(a) (Continued)	
14. <u>Group 14 - Drywell and Suppression Pool Ventilation System (Continued)</u>	
Suppression Pool N ₂ and Air Purge Inlet Isolation Valves	
T48-F404	5
T48-F405	5
T48-F409	5
15. <u>Group 15 - Traversing In-core Probe (TIP) System</u>	
Tip System Ball Valves C51-F002 A, B, C, D and E	NA
16. <u>Group 16 - Nitrogen Inerting System</u>	
N ₂ Pressure Control Isolation Valves	
Inboard: T48-F455	60
Outboard: T48-F453	60
T48-F454	60
T48-F456	60
T48-F457	60
T48-F458	60
17. <u>Group 17 - Recirculation Pump System and Primary Containment Radiation Monitoring System</u>	
Recirculation Pumps Seal Purge Isolation Valves	
Inboard: B31-F014A	5
B31-F014B	5
Outboard: B31-F016A	5
B31-F016B	5
Primary Containment Gaseous Radioactivity Monitor Isolation Valves	
Inboard: T50-F450	60
T50-F451	60
Outboard: T50-F455	60
T50-F456	60

TABLE 3.6.3-1 (Continued)PRIMARY CONTAINMENT ISOLATION VALVES

<u>VALVE FUNCTION AND NUMBER</u>		<u>MAXIMUM ISOLATION TIME (Seconds)</u>
A. <u>Automatic Isolation Valves</u> ^(a) (Continued)		
18. <u>Group 18 - Primary Containment Pneumatic Supply System</u>		
N ₂ to Drywell Isolation Valves		
Inboard: T49-F601		60
T49-F602		60
Outboard: T49-F465		60
T49-F468		60

TABLE 3.6.3-1 (Continued)

PRIMARY CONTAINMENT ISOLATION VALVES

TABLE NOTATIONS (Continued)

8. Group 8 - Reactor Core Isolation Cooling (RCIC) System
RCIC Steam Line Flow - High
RCIC Steam Supply Pressure - Low
RCIC Turbine Exhaust Diaphragm Pressure - High
RCIC Equipment Room Temperature - High
9. Group 9 - Reactor Core Isolation Cooling (RCIC) Vacuum Breakers
Drywell Pressure - High with simultaneous RCIC
Steam Supply Pressure - Low
10. Group 10 - Reactor Water Cleanup (RWCU) System (Inboard)
RWCU Differential Flow - High
RWCU Area Temperature - High
RWCU Area Ventilation Differential Temperature - High
Reactor Vessel Low Water Level - Level 2
NRHX Outlet Temperature - High
11. Group 11 - Reactor Water Cleanup (RWCU) System (Outboard)
SLCS Initiation (not a containment isolation signal)
RWCU Differential Flow - High
RWCU Area Temperature - High
RWCU Area Ventilation Differential Temperature - High
Reactor Vessel Low Water Level - Level 2
NRHX Outlet Temperature - High
12. Group 12 - Torus Water Management System (TWMS)
Reactor Vessel Low Water Level - Level 2
Drywell Pressure - High
13. Group 13 - Drywell Sumps
Reactor Vessel Low Water Level - Level 3
Drywell Pressure - High
14. Group 14 - Drywell and Suppression Pool Ventilation System
Reactor Vessel Low Water Level - Level 2
Drywell Pressure - High
Fuel Pool Ventilation Exhaust Radiation - High
15. Group 15 - Traversing In-Core (TIP) System
Reactor Vessel Low Water Level - Level 3
Drywell Pressure - High

TABLE 3.6.3-1 (Continued)

PRIMARY CONTAINMENT ISOLATION VALVES

TABLE NOTATIONS (Continued)

8. Group 8 - Reactor Core Isolation Cooling (RCIC) System
RCIC Steam Line Flow - High
RCIC Steam Supply Pressure - Low
RCIC Turbine Exhaust Diaphragm Pressure - High
RCIC Equipment Room Temperature - High
9. Group 9 - Reactor Core Isolation Cooling (RCIC) Vacuum Breakers
Drywell Pressure - High with simultaneous RCIC
Steam Supply Pressure - Low
10. Group 10 - Reactor Water Cleanup (RWCU) System (Inboard)
RWCU Differential Flow - High
RWCU Area Temperature - High
RWCU Area Ventilation Differential Temperature - High
Reactor Vessel Low Water Level - Level 2
NRHX Outlet Temperature - High
11. Group 11 - Reactor Water Cleanup (RWCU) System (Outboard)
SLCS Initiation (not a containment isolation signal)
RWCU Differential Flow - High
RWCU Area Temperature - High
RWCU Area Ventilation Differential Temperature - High
Reactor Vessel Low Water Level - Level 2
NRHX Outlet Temperature - High
12. Group 12 - Torus Water Management System (TWMS)
Reactor Vessel Low Water Level - Level 2
Drywell Pressure - High
13. Group 13 - Drywell Sumps
Reactor Vessel Low Water Level - Level 3
Drywell Pressure - High
14. Group 14 - Drywell and Suppression Pool Ventilation System
Reactor Vessel Low Water Level - Level 2
Drywell Pressure - High
Fuel Pool Ventilation Exhaust Radiation - High
15. Group 15 - Traversing In-Core (TIP) System
Reactor Vessel Low Water Level - Level 3
Drywell Pressure - High

TABLE 3.6.3-1 (Continued)
PRIMARY CONTAINMENT ISOLATION VALVES

<u>VALVE FUNCTION AND NUMBER</u>	<u>MAXIMUM ISOLATION TIME (Seconds)</u>
B. <u>Remote-Manual Isolation Valves</u>^(e)	NA
1. <u>Main Steam Isolation Valves (MSIV) Leakage Control Valves</u> B21-F434	NA
2. <u>RHR Shutdown Cooling Suction Inboard Isolation Valve Bypass Valve</u> ^(q) E11-F608	NA
3. <u>LPCI Inboard Isolation Valves</u> ^(f) Loop A: E11-F015A E11-F610A Loop B: E11-F015B E11-F610B	NA
4. <u>RHR Pumps Recirculation Motor Operated Valves</u> ^{(b)(g)} Pumps A/C: E11-F007A Pumps B/D: E11-F007B	NA
5. <u>Warmup and Flush Line Isolation Valve</u> ^(b) E11-F026B	NA
6. <u>Reactor Protection System Instrumentation Isolation Valves</u> Division I: E11-F412 E11-F413 Division II: E11-F414 E11-F415	NA
7. <u>RHR Pump Torus Suction Isolation Valves</u> ^(b) Pump A: E11-F004A Pump B: E11-F004B Pump C: E11-F004C Pump D: E11-F004D	NA



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
SUPPORTING AMENDMENT NO. 17 TO FACILITY OPERATING LICENSE NO. NPF-43
DETROIT EDISON COMPANY
WOLVERINE POWER SUPPLY COOPERATIVE, INCORPORATED
FERMI-2
DOCKET NO. 50-341

1.0 INTRODUCTION

By letter dated January 29, 1988, the Detroit Edison Company (DECo or the licensee) requested amendment to the Technical Specifications appended to Facility Operating License No. NPF-43 for Fermi-2. The proposed amendment would modify the Technical Specifications to add two sets of automatic containment isolation valves for the primary containment radiation monitor (PCRM).

2.0 BACKGROUND

The Fermi-2 Containment Leakage Detection System includes a PCRM configured in parallel with the Drywell Hydrogen/Oxygen Sampling System panel. Both systems normally operate during reactor operation and sample the drywell atmosphere from five zones through containment penetrations. The initial isolation design for the PCRM and the Drywell Hydrogen/Oxygen Sampling System is described in Section 6.2.4 of the Fermi-2 Updated Safety Analysis Report. Containment isolation requirements of 10 CFR Part 50, Appendix A, General Design Criterion (GDC) 56, were achieved using a single remote manual isolation valve and a closed piping system outside the containment, instead of one automatic isolation valve inside and one automatic isolation valve outside containment. As stated in Section 6.2.4 of the Commission's Safety Evaluation Report for Fermi-2 (NUREG-0798), this design is acceptable. The design intent was that the PCRM would operate following a loss-of-coolant accident (LOCA) and that the PCRM would be in compliance with the closed system requirements approved as an alternative to GDC 56.

In January 1984, DECo determined that the PCRM did not meet the closed system design requirements for a containment design pressure of 56 psig. Seismic and material certifications provided by the PCRM vendor also were found to be deficient. Two actions were taken by DECo as a result of these findings: (1) the PCRM was reclassified as nonessential following a LOCA and, as such, should be isolated automatically upon receipt of a LOCA signal (the Drywell Hydrogen/Oxygen Sampling panel retained its essential classification); and (2) one automatic isolation valve and one local manual valve were added to each of two branch lines to the PCRM to provide isolation of the reclassified nonessential PCRM. The automatic isolation valve was designed to close on a high drywell pressure signal from the Reactor Protection System.

Following this modification, the configuration provided two barriers in the event of a LOCA, one barrier consisting of the automatic isolation valve and the second barrier was the remote manual isolation valve. DECo later discovered that the use of a remote manual isolation valve as a barrier for a nonessential system (such as the current PCRM design) is not an acceptable alternative to the requirements of GDC 56. By letter dated October 27, 1987, as supplemented by letters dated October 29 and November 2, 1987, DECo requested a temporary exemption from the requirements of GDC 56 of Appendix A to 10 CFR Part 50 until such time as it could complete modifications to the PCRM by providing two barriers, each consisting of two sets of automatic containment isolation valves to meet fully GDC 56 requirements (scheduled to be complete prior to startup from a planned local leak rate test in March 1988).

By letter dated January 29, 1988, DECo submitted proposed Technical Specification changes to upgrade the PCRM isolation design to meet GDC 56.

3.0 EVALUATION

The PCRM is considered as a system important to safety, is one of three systems which is used during normal operation to detect drywell primary system leakage, and is required by Technical Specifications to be operable. The system was originally considered as a closed system. However, a detailed evaluation by DECo showed that the system did not meet all the requirements of a closed system. As a result, valves F450 and F451, along with local manual valves, were added to the system in 1984. Also, at that time, the system was recognized as a non-essential system.

The inlet tap-off line, after the change, consisted of a local manual valve (F063), the added automatic valve (F450), a system isolation valve (F040) located on the skid of the radiation monitor, and the radiation monitor. The system valve is considered as non-safety related, however, it is an automatic valve receiving a high drywell pressure signal. The purpose of this valve is to protect the radiation monitor from excess pressure. The return tap-off has a similar valve arrangement consisting of a manual valve (F064) and automatic valves F451 and F046. Both the inlet and return lines are 3/4" in diameter.

By letters dated October 27, 29, and November 2, 1987, DECo submitted a request for a temporary exemption from the provisions of GDC 56. The exemption request concerned the isolation provisions for the PCRM. The deviations included the lack of a second automatic valve and diversity of isolation signals on the existing automatic valve. By letter dated November 13, 1987, the Commission granted the temporary exemption request.

The exemption permitted postponement of full compliance with GDC 56 for the PCRM isolation until startup following the planned local leak rate testing in March 1988.

By letter dated January 29, 1988, DECo submitted proposed Technical Specification changes to upgrade the PCRM isolation design to meet GDC 56. The proposed Technical Specification changes would modify Technical Specification 3/4.6.3, "Primary Containment Isolation Valves," Table 3.6.3-1, to denote four automatic isolation valves for the PCRM System. The four valves (T50-F450, T50-F451, T50-F455 and T50-456) would provide automatic isolation on both high drywell pressure and low reactor vessel water level (level 2).

The NRC staff has reviewed DECo's proposed changes and finds that the changes would bring the PCRM isolation provisions into compliance with GDC 56. The changes would provide for diverse signals (high drywell pressure or low reactor water level) and provide redundant automatic isolation valves supplied by different essential electrical divisions. Therefore, the staff finds the proposed changes bring the PCRM design into full compliance with GDC 56 and the proposed TS changes are acceptable.

4.0 ENVIRONMENTAL CONSIDERATION

This amendment involves a change in the installation and use of a facility component located within the restricted area as defined in 10 CFR Part 20. We have 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. 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, and (2) such activities will be conducted in compliance with the Commission's regulations and 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 Contributors: T. Quay
J. Kudrick

Dated: March 29, 1988