Docket No. 50-341 April 22, 1992

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. 81 TO FACILITY OPERATING LICENSE NO. NPF-43 (TAC NO.M77679)

The Commission has issued the enclosed Amendment No. 81 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 September 11, 1990.

The proposed Technical Specification (TS) revises Section 3/4.7.2 to provide clarification of those redundant components that constitute an OPERABLE Control Room Emergency Filtration System subsystem and the actions required in the event that one or both subsystems are inoperable. Additionally, changes to the Surveillance Requirements were requested to revise the listing of actuation signals for the system and to minimize unnecessary run time for the recirculation and emergency makeup air filter train.

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,

NRC FILE CENTER COPY

Original signed by
Timothy G. Colburn, Sr. Project Manager
Project Directorate III-1
Division of Reactor Projects III/IV/V
Office of Nuclear Reactor Regulation

Enclosures:
1. Amendment No. 81 to NPF-43
2. Safety Evaluation

cc w/enclosures:
See next page

*SEE PREVIOUS CONCURRENCE

NO TECHNICAL OBJECTIONS. OTSB MUST DETERMINE POLICY ISSUE, OK - plant-specific

OFFICE	LA:PD3-1*	PE:PD3-1*	PM:PD3-1	BC:SPLB	BC:OTSB
NAME	MShuttleworth	CCarpenter: jkd	TColburn	CMcCracken	CGrimes
DATE	3/12/92	3/12/92	3/17/92	3/18/92	3/25/92

OFFICE	OGC	D:PD3-1			
NAME		LMarsh			
DATE	3/30/92	4/9/92	/ /	/ /	/ /

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DATED: April 22, 1992

AMENDMENT NO. 81 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
M. Shuttleworth
T. Colburn
C.Carpenter
OGC-WF
D. Hagan, 3302 MNBB
G. Hill (4), P-137
Wanda Jones, MNBB-7103
C. Grimes, 11/F/23
C. McCracken, 8/D/1
ACRS (10)
GPA/PA
OC/LFMB
W. Shafer, R-III

cc: Plant Service list

Mr. William Orser
Detroit Edison Company

Fermi-2 Facility

cc:

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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. 81
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 September 11, 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. 81 , 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.

FOR THE NUCLEAR REGULATORY COMMISSION

Timothy G. Colburn 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: April 22, 1992

ATTACHMENT TO LICENSE AMENDMENT NO. 81

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	INSERT
3/4 7-8	3/4 7-8
----	3/4 7-8a
3/4 7-9	3/4 7-9
3/4 7-10	3/4 7-10

3/4.7.2 CONTROL ROOM EMERGENCY FILTRATION SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.2 The control room emergency filtration system shall be OPERABLE with the system composed of:

a. Two OPERABLE redundant subsystems, each consisting of:
   1. An emergency makeup inlet air heater
   2. An emergency recirculation fan
   3. A return fan
   4. A supply fan
   5. A chiller unit
   6. Dampers required to support system operation

b. An OPERABLE flow path capable of:
   1. Recirculating control room air through the emergency recirculation air filter train.

   2. Supplying emergency makeup air from the north and south emergency intakes to the control room through the emergency makeup air filter train.**

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, 3, 4, 5, and *

ACTION:

a. With the control room air temperature greater than 95°F but less than 105°F, restore the control room air temperature to less than or equal to 95°F within 12 hours or go to a 4 hour operating shift. With the control room air temperature greater than or equal to 105°F, be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

b. In OPERATIONAL CONDITION 1, 2, or 3:

   1. With the above required flow path and/or both required redundant subsystems inoperable, be in at least HOT SHUTDOWN within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.#

   2. With one of the above required redundant subsystems inoperable, restore the inoperable subsystem to OPERABLE status within 7 days or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

*When irradiated fuel is being handled in the secondary containment.
**Not applicable in the chlorine mode of operation.
#This ACTION may be delayed for 6 hours to perform Surveillance Requirement 4.7.2.c due to painting, fire, or chemical release in any ventilation zone communicating with the system or to perform Surveillance Requirement 4.7.2.d.

LIMITING CONDITION FOR OPERATION (Continued)

ACTION (Continued)

c. In OPERATIONAL CONDITION 4, 5 or *:

1. With one of the required redundant subsystems inoperable, restore the inoperable component(s) to OPERABLE status within 7 days. Otherwise, either:

   (a) Initiate and maintain operation of the control room emergency filtration system in the recirculation mode of operation, or

   (b) Declare the control room emergency filtration system inoperable.

2. With the control room emergency filtration system inoperable, suspend CORE ALTERATIONS, handling of irradiated fuel in the secondary containment and operations with a potential for draining the reactor vessel.

d. The provisions of Specification 3.0.3 are not applicable in Operational Condition *.

*When irradiated fuel is being handled in the secondary containment.

SURVEILLANCE REQUIREMENTS

4.7.2 The control room emergency filtration system shall be demonstrated OPERABLE:

a. At least once per 12 hours by verifying that the control room air temperature is less than or equal to 95°F.

b. At least once per 31 days by:

1. Initiating fan operation from the control room with each subsystem, establishing flow for at least 15 minutes through the HEPA filters and charcoal adsorbers.

2. Verifying flow through the HEPA filters and charcoal adsorbers for at least 10 hours with the associated emergency makeup inlet air heater OPERABLE. The subsystem used to establish the 10 hours of flow through the HEPA filters and charcoal adsorbers shall be staggered such that each subsystem is utilized at least once per 62 days.

c. At least once per 18 months or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, or (2) following painting, fire, or chemical release in any ventilation zone communicating with the system by:

1. Verifying that the system satisfies the in-place penetration testing acceptance criteria of less than 1.0% and uses the test procedure guidance in Regulatory Positions C.5.a, C.5.c, and C.5.d of Regulatory Guide 1.52, Revision 2, March 1978, while operating the system at a flow rate of 1800 cfm ± 10% through the makeup filter and 3000 cfm ± 10% through the recirculation filter.

2. Verifying within 31 days after removal that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, meets the laboratory testing criteria of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 2, March 1978, for a methyl iodide penetration of less than 1.0%; and

3. Verifying a system flow rate of 3000 cfm ± 10% during system operation when tested in accordance with ANSI N510-1980.

d. After every 720 hours of charcoal adsorber operation by verifying within 31 days after removal that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, meets the laboratory testing criteria of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 2, March 1978, for a methyl iodide penetration of less than 1.0%.

SURVEILLANCE REQUIREMENTS (Continued)

e. At least once per 18 months by:

1. Verifying that the pressure drop across the recirculation train and across the makeup train combined HEPA filters and charcoal adsorber banks is less than 8 inches and 6 inches water gauge respectively while operating the system at a flow rate of 3000 cfm ± 10% through the recirculation filter train and 1800 cfm ± 10% through the makeup filter train.

2. Verifying that the system will automatically switch to the recirculation mode of operation on each of the below actuation test signals and verifying that on any one of the below recirculation mode actuation test signals, the system automatically switches to the recirculation mode of operation, the isolation valves close within 5 seconds and the control room is maintained at a positive pressure of at least 0.125 inch water gauge relative to the outside atmosphere during system operation at a flow rate less than or equal to 1800 cfm through the emergency makeup air filter:

   a) Control center inlet radiation monitor.
   b) Fuel pool ventilation exhaust radiation monitor.
   c) Low reactor water level.
   d) High drywell pressure.

3. Verifying that on the chlorine mode actuation signal, the system automatically switches to the chlorine mode of operation, the isolation valves close within 4 seconds, and a minimum of 1200 cfm emergency recirculation is established.

4. Verifying that each of the emergency makeup inlet air heaters dissipate 12.0 ± 2.0 kW when tested in accordance with ANSI N510-1980.

f. After each complete or partial replacement of a train HEPA filter bank by verifying that the train HEPA filter bank satisfies the inplace penetration and bypass leakage testing acceptance criteria of less than 1.0% in accordance with ANSI N510-1980 while operating the system at a flow rate of 1800 cfm ± 10% for the makeup train and 3000 cfm ± 10% for the recirculation train.

g. After each complete or partial replacement of a train charcoal adsorber bank by verifying that the train charcoal adsorber bank satisfies the inplace penetration and bypass leakage testing acceptance criteria of less than 1.0% in accordance with ANSI N510-1980 for a halogenated hydrocarbon refrigerant test gas while operating the system at a flow rate of 1800 cfm ± 10% for the makeup train and 3000 cfm ± 10% for the recirculation train.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 81 TO FACILITY OPERATING LICENSE NO. NPF-43

DETROIT EDISON COMPANY

FERMI-2

DOCKET NO. 50-341

1.0 INTRODUCTION

By letter dated September 11, 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 licensee also provided additional information by letters dated November 11 and 14, 1991. This additional information was for clarification only and did not modify the proposed TS or the conclusions reached in the staff's no significant hazards consideration determination (56 FR 15640). The proposed amendment revises TS Section 3/4.7.2 to provide clarification of those redundant components that constitute an OPERABLE Control Room Emergency Filtration System subsystem and the actions required in the event that one or both subsystems are inoperable. Additionally, changes to the Surveillance Requirements were requested to revise the listing of actuation signals for the system and to minimize unnecessary run time for the recirculation and emergency makeup air filter train.

The Fermi-2 control room emergency filtration system (CREFS) differs from a typical CREFS design upon which the Standard Technical Specifications (STS) are based. The Fermi-2 CREFS is not completely broken up into two redundant subsystems each capable of performing its design function. The Fermi-2 CREFS is configured into two subsystems of redundant components which are capable of establishing the required flow path through non-redundant duct work and air filter trains. Therefore, DECo has proposed the subject TS change to provide clarification of those redundant components which constitute an operable CREFS subsystem and the actions required in the event that one or both subsystems or the non-redundant duct work and/or air filter trains are inoperable. The proposed changes are summarized as follows:

(1) Revision of the Limiting Condition for Operation (LCO) to better reflect the system configuration in regards to redundant and non-redundant components.

(2) Revision of action requirements to correspond with the LCO changes of (1) above and to accommodate surveillance activities which may be required during power operation.

(3) Revision of the monthly system operation surveillance to eliminate unnecessary operation of the system filter trains.

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(4) Revision of the surveillance requirement for system actuation instrumentation to delete the reactor building ventilation exhaust radiation monitor from the listing of actuation signals for the CREFS.

2.0 EVALUATION

Proposed Change Number 1

Revision of the LCO to better reflect the CREFS configuration with respect to redundant and non-redundant components.

The LCO in the current TS Section 3.7.2 describes the system requirements in a manner which does not clearly show the system configuration. The proposed TS change recommends an LCO that lists the redundant subsystems more completely. The proposed LCO adds chiller units and dampers required to support system operation as required TS equipment. In addition, a description of the flow paths capable of supplying emergency makeup air to the control room and recirculating control room air through the emergency recirculation air filter train is added to the proposed LCO.

The revised CREFS LCO will provide a clearer understanding and a more consistent application of the TS requirements. This will reduce the chance of misinterpretation and misapplication of the requirements of the TS and thus enhance safety during plant operation.

The staff has reviewed the proposed change and concurs with the licensee's rationale for the change and finds the proposed TS acceptable.

Proposed Change Number 2

Revision of action requirements to correspond with the LCO of Proposed Change 1 above and to accommodate surveillance activities which may be required during power operation.

This change is limited to ACTION Statements b. and c. of the LCO of TS Section 3.7.2. In both cases, the nomenclature is editorially modified to be consistent with the proposed changes to the LCO. The allowed times to take the required actions have not been changed. In addition, a new provision is proposed to be added to ACTION Statement b.1, which addresses the inoperability of non-redundant equipment while in Operational Conditions 1, 2 or 3. Currently, the TS would require the plant to be in Hot Shutdown within six hours should the non-redundant duct work become inoperable. The proposed TS would allow a delay of six hours for the purpose of performing surveillances which may be required for power operation.

In their November 11, 1991 letter, the licensee indicated that the proposed delay would be limited to the performance of TS 4.7.2.c due to painting, fire, or chemical release in any ventilation zone communicating with the CREFS or to perform TS 4.7.2.d. Technical Specification 4.7.2.d requires a charcoal sample be taken following every 720 hours of charcoal adsorber operation. If unusual periods of filter operation occur, performance of TS 4.7.2.d could be

required during plant operation. This provision is expected to be used very infrequently. The licensee has further committed to submit a special report to the NRC within 30 days describing the circumstances of any use of this provision. This reporting requirement will be included in the plant administrative procedures for regulatory reporting requirements. It will also be included in the charcoal sampling procedure for the CREFS.

In summary the proposed change would:

- Eliminate the need to enter a Hot Shutdown action for an operability of a known, infrequent and limited duration.
- Provide the safety benefit of eliminating simultaneous evolutions and unnecessary plant thermal cycling.
- Reflect a Fermi-2 design difference from the design on which the Standard Technical Specifications were based.

Based on the above evaluation, the staff concurs with the licensee's rationale for the above proposed change to the action requirements and find the proposed change acceptable.

Proposed Change Number 3

Revision of the monthly system operation surveillance to eliminate unnecessary operation of the system filter trains.

Technical Specification 4.7.2.b Surveillance Requirement currently requires that the control room emergency filtration system shall be demonstrated OPERABLE at least once per 31 days on a staggered basis, by initiating fan operation from the control room, and establishing flow through the high-efficiency particulate air (HEPA) filters and charcoal absorbers, and verifying that the system operates for at least ten hours with the associated emergency makeup inlet air heater operable. As stated in the Bases of the TS, this ten-hour operation is to be continuous. Since there are two subsystems, each of which utilizes a shared recirculation and emergency makeup air train, this results in operating the filtration train twice monthly for ten hours each time for a total of 20 hours per 31 days. This requirement causes unnecessary filter train operation and a reduction in filter life. Regulatory Position C.4.d of Regulatory Guide 1.52, Revision 2, March 1978, requires that each Engineered Safety Feature (ESF) atmosphere cleanup train be operated at least ten hours per month with the heaters in service in order to reduce the build-up of moisture on the absorbers and HEPA filters.

The proposed TS change would revise the surveillance requirement to reduce the run time of 20 hours per 31 days, currently required by the TS, to ten hours per 31 days as recommended by Regulatory Guide 1.52. In addition, each redundant subsystem will be required to be started from the control room and operated for a minimum of 15 minutes. To assure that the testing is as uniform as possible, the subsystem used to satisfy the ten-hour run time requirement will be on a staggered basis such that each redundant subsystem is utilized for the ten-hour run at least every 62 days.

The staff has reviewed the proposed change and concurs with the licensee's rationale for the change and finds the proposed TS acceptable.

Proposed Change Number 4

Revision of the surveillance requirement system actuation instrumentation to delete the Reactor Building Ventilation Exhaust Radiation Monitor from the listing of actuation signals.

The licensee has proposed to delete the Reactor Building Ventilation Exhaust Radiation Monitor from the list of actuation signals listed in TS 4.7.2.e.2. In a previous application for amendment, DECo requested removal of the Turbine Building and Radwaste Ventilation Exhaust Radiation Monitors from the above TS list. This request was granted by the NRC staff in Amendment No. 7 to the Fermi-2 Operating License. In the supporting Safety Evaluation, the NRC staff concluded that:

> Signals from the control room outside air radiation monitors, as well as the reactor protection signals, are sufficient to initiate the control room emergency ventilation mode, such that the dose guidelines of General Design Criteria (GDC) 19 are met with respect to all design basis airborne radioactivity release accidents, including the [Loss-of-Coolant Accident] LOCA.

The staff further stated:

> The additional emergency ventilation signals, as listed in TS 3/4.7.2, are not necessary to meet GDC 19 requirements and, hence, represent signals of marginal importance.

With the Reactor Building Ventilation Radiation Monitor inoperable, the CREFS must be considered inoperable and the appropriate action taken. The resulting impact on plant operations is unwarranted since the CREFS can still perform its intended function and is not degraded with the Reactor Building Ventilation Radiation Monitor inoperable.

The Control Center Inlet Radiation Monitor and Fuel Pool Ventilation Exhaust Radiation Monitor signals remain as listed in the TS actuation signals as well as the High Drywell Pressure and Low Reactor Vessel Level Water Level signals. The Fuel Pool Ventilation Exhaust Radiation Monitor signal is retained to provide diversity to the Control Center Inlet Radiation Monitor signal for a Fuel Handling Accident scenario, since this scenario would not result in changes to reactor water level or drywell pressure.

The staff has reviewed the proposed change and concurs with the licensee's rationale for the change and finds the proposed TS acceptable.

Based on the above evaluations, the staff finds the proposed changes to the TS 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 the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and changes in surveillance requirements. The staff has determined that the 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 the amendment involves no significant hazards consideration and there has been no public comment on such finding (56 FR 15640). 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 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
Timothy Colburn

Date: April 22, 1992