

December 15, 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:

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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. 29 TO FACILITY OPERATING LICENSE NO. NPF-43: TECHNICAL SPECIFICATION CHANGES FOR THE LPCI SWING BUS (TAC NO. 67097)

The Commission has issued the enclosed Amendment No.29 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 26, 1988 (NRC-87-0202).

The amendment revises the Fermi-2 Technical Specifications to clarify the limiting condition for operation of the 480v MCC 72CF swing bus.

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,

Original signed by

John Stang, Project Manager  
Project Directorate III-1  
Division of Reactor Projects - III,  
IV, V & Special Projects

Enclosures:

1. Amendment No.29 to NPF-43
2. Safety Evaluation

cc w/enclosures:  
See next page

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UNITED STATES  
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D. C. 20555

December 15, 1988

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Operations  
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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,

A handwritten signature in black ink, appearing to read "John Stang", is written over the typed name.

John Stang, Project Manager  
Project Directorate III-1  
Division of Reactor Projects - III,  
IV, V & Special Projects

Enclosures:

1. Amendment No. 29 to NPF-43
2. Safety Evaluation

cc w/enclosures:  
See next page

Mr. B. Ralph Sylvia  
Detroit Edison Company

Fermi-2 Facility

cc:

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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. 29  
License No. NPF-43

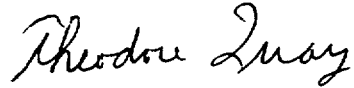
1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by the Detroit Edison Company (the licensee) dated January 26, 1988 (NRC-87-0202), complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's 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. , 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

A handwritten signature in cursive script, reading "Theodore Quay".

Theodore Quay, Acting Director  
Project Directorate III-1  
Division of Reactor Projects - III,  
IV, V & Special Projects

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: December 15, 1988

ATTACHMENT TO LICENSE AMENDMENT NO. 29

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

3/4 8-14

-

3/4 8-15

-

INSERT

3/4 8-14

3/4 8-14a

3/4 8-15

3/4 8-15a

## ELECTRICAL POWER SYSTEMS

### 3/4.8.4 ELECTRICAL EQUIPMENT PROTECTIVE DEVICES

#### A.C. CIRCUITS INSIDE PRIMARY CONTAINMENT

#### LIMITING CONDITION FOR OPERATION

---

3.8.4.1 At least the following A.C. circuits inside primary containment shall be deenergized\*:

- |    |                 |  |
|----|-----------------|--|
| a. | Circuit Number  | 6 in panel 72B-2D                          |
| b. | Circuit Numbers | 1, 2, 3, 4, 5, 15, 16, 17, 18 in panel R1R |
| c. | Circuit Number  | 5 in panel H11-P907B                       |
| d. | Circuit Number  | 4 in panel H21-P552                        |
| e. | Circuit Number  | 1 in panel H11-P901                        |
| f. | Circuit Number  | 1 in panel H11-P906C                       |

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, and 3.

#### ACTION:

With any of the above required circuits energized, open the associated circuit breaker(s) in the specified panel(s) within 1 hour.

#### SURVEILLANCE REQUIREMENTS

---

4.8.4.1 Each of the above required A.C. circuits shall be determined to be deenergized at least once per 24 hours\*\* by verifying that the associated circuit breakers are in the off position.

---

\*Except during entry into the drywell.

\*\*Except at least once per 31 days if locked, sealed, or otherwise secured in the tripped condition.

## ELECTRICAL POWER SYSTEMS

### D.C. SOURCES - SHUTDOWN

#### LIMITING CONDITION FOR OPERATION

---

3.8.2.2 As a minimum, Division I or Division II of the D.C. electrical power sources system shall be OPERABLE with:

- a. Division I, consisting of:
  - 1. 130 VDC Battery 2A-1.
  - 2. 130 VDC Battery 2A-2.
  - 3. Two 130 VDC full capacity chargers.
- b. Division II, consisting of:
  - 1. 130 VDC Battery 2B-1.
  - 2. 130 VDC Battery 2B-2.
  - 3. Two 130 VDC full capacity chargers.

APPLICABILITY: OPERATIONAL CONDITIONS 4, 5, and \*.

#### ACTION:

- a. With both of the above required Division I and Division II battery and/or charger D.C. electrical power sources inoperable, suspend CORE ALTERATIONS, handling of irradiated fuel in the secondary containment, and operations with a potential for draining the reactor vessel.
- b. The provisions of Specification 3.0.3 are not applicable.

#### SURVEILLANCE REQUIREMENTS

---

4.8.2.2 At least the above required battery and charger shall be demonstrated OPERABLE per Surveillance Requirement 4.8.2.1.

---

\*When handling irradiated fuel in the secondary containment.



## ELECTRICAL POWER SYSTEMS

### 3/4.8.3 ONSITE POWER DISTRIBUTION SYSTEMS

#### DISTRIBUTION - OPERATING

#### LIMITING CONDITION FOR OPERATION

---

3.8.3.1 The following power distribution system divisions and busses shall be energized with tie breakers open between redundant busses within the unit:

- a. A.C. power distribution:
  1. Division I, consisting of:
    - a) 4160V RHR Complex Busses 11EA and 12EB.
    - b) 4160V Reactor Building Busses 64B and 64C.
    - c) 480V RHR Complex Busses 72EA and 72EB.
    - d) 480V Reactor Building Busses 72B and 72C.
    - e) 120V Division I I&C Power Supply Unit, MPU 1.
  2. Division II, consisting of:
    - a) 4160V RHR Complex Busses 13EC and 14ED.
    - b) 4160V Reactor Building Busses 65E and 65F.
    - c) 480V RHR Complex Busses 72EC and 72ED.
    - d) 480V Reactor Building Busses 72E and 72F.
    - e) 120V Division II I&C Power Supply Unit, MPU 2.
  3. Swing Bus, consisting of:
    - a) 480V MCC 72CF.
- b. D.C. power distribution:
  1. Division I, consisting of:
    - a) 130-volt D.C. Distribution Cabinet 2PA-2.
    - b) 260-volt D.C. MCC 2PA-1.
  2. Division II, consisting of:
    - a) 130-volt D.C. Distribution Cabinet 2PB-2.
    - b) 260-volt D.C. MCC 2PB-1.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, and 3.

#### ACTION:

- a. With one of the above required A.C. distribution system divisions not energized, reenergize the division within 8 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.
- b. With one of the above required D.C. distribution system divisions not energized, reenergize the division within 2 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.
- c. With the swing bus not energized or the swing bus automatic throwover scheme inoperable, declare both low pressure coolant injection (LPCI) system subsystems inoperable and take the ACTION required by Specification 3.5.1.

## ELECTRICAL POWER SYSTEMS

### SURVEILLANCE REQUIREMENTS

---

4.8.3.1.1 Each of the above required power distribution system divisions and swing bus shall be determined energized at least once per 7 days by verifying correct breaker alignment and voltage on the busses/cabinets.

4.8.3.1.2 The A.C. power distribution system swing bus automatic throwover scheme shall be demonstrated OPERABLE at least once per 31 days by manually opening position 3C bus 72C and verifying that the automatic transfer scheme operates.

## ELECTRICAL POWER SYSTEMS

### DISTRIBUTION - SHUTDOWN

#### LIMITING CONDITION FOR OPERATION

---

3.8.3.2 As a minimum, Division I or Division II of the power distribution system shall be energized and the swing bus fed from the energized division with:

- a. A.C. power distribution:
  1. Division I, consisting of:
    - a) 4160V RHR Complex Busses 11EA and 12EB.
    - b) 4160V Reactor Building Busses 64B and 64C.
    - c) 480V RHR Complex Busses 72EA and 72EB.
    - d) 480V Reactor Building Busses 72B and 72C.
    - e) 120V Division I I&C Power Supply Unit, MPU 1.
  2. Division II, consisting of:
    - a) 4160V RHR Complex Busses 13EC and 14ED.
    - b) 4160V Reactor Building Busses 65E and 65F.
    - c) 480V RHR Complex Busses 72EC and 72ED.
    - d) 480V Reactor Building Busses 72E and 72F.
    - e) 120V Division II I&C Power Supply Unit, MPU 2.
  3. Swing Bus, consisting of:
    - a) 480V MCC 72CF.
- b. D.C. power distribution:
  1. Division I, consisting of:
    - a) 130-volt D.C. Distribution Cabinet 2PA-2.
    - b) 260-volt D.C. MCC 2PA-1,
  2. Division II, consisting of:
    - a) 130-volt D.C. Distribution Cabinet 2PB-2.
    - b) 260-volt D.C. MCC 2PB-1.

APPLICABILITY: OPERATIONAL CONDITIONS 4, 5, and \*.

#### ACTION:

- a. With less than Division I or Division II of the above required A.C. distribution system energized, suspend CORE ALTERATIONS, handling of irradiated fuel in the secondary containment and operations with a potential for draining the reactor vessel.
- b. With less than Division I or Division II of the above required D.C. distribution system energized, suspend CORE ALTERATIONS, handling of irradiated fuel in the secondary containment and operations with a potential for draining the reactor vessel.
- c. With the swing bus not energized, declare both low pressure coolant injection (LPCI) system subsystems inoperable and take the ACTION required by Specification 3.5.2.
- d. The provisions of Specification 3.0.3 are not applicable.

---

\*When handling irradiated fuel in the secondary containment.

## ELECTRICAL POWER SYSTEMS

### SURVEILLANCE REQUIREMENTS

---

4.8.3.2.1 At least the above required power distribution system divisions and the swing bus shall be determined energized at least once per 7 days by verifying correct breaker alignment and voltage on the busses/cabinets.

4.8.3.2.2 The A.C. power distribution system swing bus automatic throwover scheme shall be demonstrated OPERABLE at least once per 31 days by manually opening position 3C bus 72C and verifying that the automatic transfer scheme operates.

## ELECTRICAL POWER SYSTEMS

### 3/4.8.4 ELECTRICAL EQUIPMENT PROTECTIVE DEVICES

#### A.C. CIRCUITS INSIDE PRIMARY CONTAINMENT

##### LIMITING CONDITION FOR OPERATION

---

3.8.4.1 At least the following A.C. circuits inside primary containment shall be deenergized\*:

- |    |                 |  |
|----|-----------------|--|
| a. | Circuit Number  | 6 in panel 72B-2D                          |
| b. | Circuit Numbers | 1, 2, 3, 4, 5, 15, 16, 17, 18 in panel R1R |
| c. | Circuit Number  | 5 in panel H11-P907B                       |
| d. | Circuit Number  | 4 in panel H21-P552                        |
| e. | Circuit Number  | 1 in panel H11-P901                        |
| f. | Circuit Number  | 1 in panel H11-P906C                       |

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, and 3.

##### ACTION:

With any of the above required circuits energized, open the associated circuit breaker(s) in the specified panel(s) within 1 hour.

##### SURVEILLANCE REQUIREMENTS

---

4.8.4.1 Each of the above required A.C. circuits shall be determined to be deenergized at least once per 24 hours\*\* by verifying that the associated circuit breakers are in the off position.

---

\*Except during entry into the drywell.

\*\*Except at least once per 31 days if locked, sealed, or otherwise secured in the tripped condition.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
SUPPORTING AMENDMENT NO. 29 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 26, 1988 (NRC-87-0202), 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 3/4.8.3.1, "Onsite Power Distribution System - Operating" and 3/4.8.3.2, "Onsite Power Distribution Systems - Shutdown" to clarify the Limiting Condition for Operation (LCO) and surveillance requirements of the 480v MCC 72CF swing bus.

2.0 EVALUATION

The current LCO for TSs 3/4.8.3.1 and 3/4.8.3.2 does not specifically denote the 480v MCC 72CF swing bus which is tested in the corresponding surveillance requirements. DECo has proposed revisions to the TSs to: (1) add clarifying statements to specifically denote the operability requirements of the swing bus; and (2) include additional surveillances that are not presently included in the TSs to ensure swing bus operability.

DECo identified several editorial inconsistencies with TSs 3/4.8.3.1 and 3/4.8.3.2 during a review of these TSs prior to implementing a modification to correct a design deficiency. Surveillance Requirements 4.8.3.1.2 and 4.8.3.2.2 had been used to demonstrate the swing bus automatic throwover. DECo noticed, however, that the current LCO for these TSs described only the Division I and Division II alternating current (a.c.) power and the direct current (d.c.) power distribution systems without mention of the swing bus, which powers the Low Pressure Coolant Injection (LPCI) system loop selection/injection valves. This 480v MCC 72CF swing bus is the only transfer bus utilized at Fermi-2 to support emergency core cooling system equipment and the only power bus that interfaces with both Engineered Safety Feature power sources. The swing bus is normally energized from Division I and is energized from Division II upon loss of its normal feed. The two divisions of LPCI would be non-functional without the swing bus energized to provide a.c. power to the LPCI system loop selection/injection valves. DECo stated that the operability of the swing bus always had been an implicit requirement of TSs 3/4.8.3.1 and 3/4.8.3.2. Several clarifications

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have been proposed to the LCO and ACTION statements to explicitly denote swing bus operability and correct the existing inconsistency between the surveillance requirement and LCO.

The ACTION requirements proposed for de-energization of the swing bus or inoperability of the swing bus automatic throwover scheme would follow the appropriate ACTION requirements specified for inoperability of both LPCI trains. Specifically, in operational conditions 1, 2 and 3, the operation of both LPCI trains are potentially compromised by inoperability of the swing bus and the appropriate action from TS 3.5.1 is taken, requiring placing the plant in at least hot shutdown within the next 12 hours and in cold shutdown within the following 24 hours. In other operational conditions, TS 3.5.2 would provide the ACTION requirements for inoperabilities created by a de-energized swing bus.

In addition, DECo has proposed the addition of surveillances, not presently included in the TSs, to 4.8.3.1.1 and 4.8.3.2.1. These surveillances determine that the swing bus is energized at least once every 7 days by verifying the correct breaker alignment and voltage on the busses/cabinets. The additional surveillances are intended to ensure swing bus operability and improve the swing bus reliability.

We have reviewed the licensee's proposed TS revisions and find that they provide additional requirements aimed at ensuring operability of the swing bus upon demand. Therefore, we find the proposed TS changes acceptable.

### 3.0 ENVIRONMENTAL CONSIDERATION

This amendment involves changes in the installation or use of a facility component located within the restricted area as defined in 10 CFR 20 and a change in surveillance requirements. 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.

#### 4.0 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 Contributor: L. Kelly

Dated: December 15, 1988