

May 10, 1989

Docket No. 50-341

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

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Dear Mr. Sylvia:

SUBJECT: AMENDMENT NO. 32 TO FACILITY OPERATING LICENSE NO. NPF-43:  
(TAC NO. 72998)

The Commission has issued the enclosed Amendment No.32 to Facility Operating License No. NPF-43 for the Fermi-2 facility. This amendment consists of changes to the Plant Technical Specifications (TSs) in response to your letter dated April 28, 1989 (NRC-89-0103).

The amendment revises the TSs Section 3/4.6.4.1 to change the required Action statement concerning when one of the two redundant vacuum breaker position indicator is inoperable.

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

Enclosures:

1. Amendment No. 32 to NPF-43
2. Safety Evaluation

cc w/enclosures:

See next page

LA/PD31:DRSP  
PShuttleworth  
5/9/89

PM/PD31:DRSP  
JStang:cr  
5/9/89

(A)B/PD31:DRSP  
LYandell  
5/10/89

OGC  
S H Low  
5/10/89

JW  
SPLB/NRR  
JCraig  
5/9/89

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UNITED STATES  
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D. C. 20555

May 10, 1989

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Mr. P. Ralph Sylvia  
Senior Vice President - Nuclear  
Operations  
Detroit Edison Company  
6400 North Dixie Highway  
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Sincerely,

A handwritten signature in cursive script that reads "John F. Stang".

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

Enclosures:

1. Amendment No. 32 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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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. 32  
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 April 28, 1989, 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:

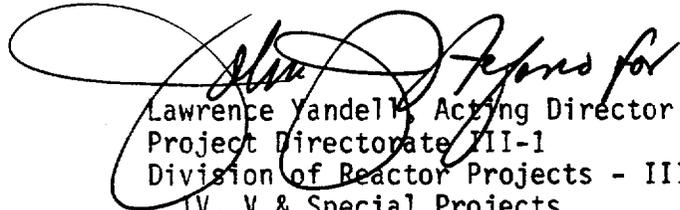
Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 32, 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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P PDC

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

FOR THE NUCLEAR REGULATORY COMMISSION

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

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: May 10, 1989

ATTACHMENT TO LICENSE AMENDMENT NO.32

FACILITY OPERATING LICENSE NO. NPF-43

DOCKET NO. 50-341

Replace the following page of the Appendix "A" Technical Specifications with the attached page. The revised page is identified by Amendment number and contain a vertical line indicating the area of change. The corresponding overleaf page is also provided to maintain document completeness.

REMOVE

3/4 6-48

INSERT

3/4 6-48

## CONTAINMENT SYSTEMS

### 3/4.6.4 VACUUM RELIEF

#### SUPPRESSION CHAMBER - DRYWELL VACUUM BREAKERS

#### LIMITING CONDITION FOR OPERATION

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3.6.4.1 All suppression chamber - drywell vacuum breakers shall be closed and at least 10 vacuum breakers shall be OPERABLE.\*

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, and 3.

#### ACTION:

- a. With one of the above required vacuum breakers inoperable for opening but known to be closed, restore the inoperable vacuum breaker to OPERABLE status within 72 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 or more suppression chamber - drywell vacuum breakers open, close the open vacuum breaker(s) 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 one of the position indicators of any suppression chamber - drywell vacuum breakers inoperable, verify that all other vacuum breakers are closed within 2 hours and:
  1. Verify the vacuum breaker(s) with the inoperable position indicator to be closed by demonstrating the other indicator to be OPERABLE within 2 hours and at least once per 14 days thereafter, or
  2. Verify the vacuum breaker(s) with the inoperable position indicator to be closed by conducting a test which demonstrates that the drywell-to-suppression chamber  $\Delta P$  is maintained at greater than or equal to 0.5 psi for one hour without makeup within 24 hours and at least once per 14 days thereafter.Otherwise, be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.
- d. With one of the closed position indicators of one or more suppression chamber - drywell vacuum breaker(s) indicating open and the redundant closed position indicator indicating closed after a suppression chamber - drywell vacuum breaker opening as a result of a steam release, within 24 hours, cycle the applicable valve(s) to determine which of the redundant indicators is OPERABLE.

\*The suppression chamber - drywell vacuum breakers may be manually opened for inerting the containment. All these vacuum breakers shall be in the closed position within 2 hours after inerting is completed.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 32 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 April 28, 1989, the Detroit Edison Company (DECO or the licensee) requested amendment to the Technical Specifications (TSs) appended to Facility Operating License No. NPF-43 for Fermi-2. The proposed amendment would revise the TSs Section 3/4.6.4.1 to change the required Action statement concerning when one of the two redundant vacuum breaker position indicators is inoperable.

2.0 EVALUATION

The suppression chamber-to-drywell vacuum breakers must be closed during normal operation to prevent steam flow from a postulated LOCA from passing through the vacuum breakers directly to the suppression chamber atmosphere. This would bypass the pressure quenching effect of the suppression pool and lead to an unacceptable pressure in the suppression chamber. For this reason, the TSs require position indication of the vacuum breakers.

When one of the two redundant divisional position indicators is inoperable, the TSs Action statement is provided to give additional assurance that the associated vacuum breaker is closed. This assurance is needed as soon as practical and also is provided periodically with a two week interval.

The current Action statement provides the initial assurance that the affected vacuum breaker is closed by verifying the vacuum breaker to be closed within 2 hours. The method of verification within 2 hours is not specified. However, the only practical method for verification in the specified time is to verify the other position indicator is OPERABLE and utilize its indication. Three-limit-switch indicators are provided for the vacuum breakers. The two closed position indicators are in the TSs and are the subject of the proposed amendment. The open-limit-switch indicator is not in the TSs. The position indicator is demonstrated to be OPERABLE by performing Surveillance Requirement 4.6.4.1.b.2, which strokes the vacuum breaker and assures that the indication follows the vacuum breaker movement (i.e., closed indication lamp extinguishes, the open-limit-switch lamp is illuminated, then the close indication lamp is again illuminated).

The proposed change makes the provisions for the initial assurance more clear by specifying that the position indicator relied upon is to be verified OPERABLE. The proposal also allows the same procedure to be repeated for the two week interval surveillance required until restoration of the inoperable indicator. The test specified in the current ACTION c would be reserved for situations where the redundant position indicator cannot be verified to be OPERABLE and hence the vacuum breaker cannot be verified to be closed with the limit switches. In this case, the specified test is given as an alternative method to verify that the vacuum breaker is closed.

The proposed change in the Action statement in Section 3/4.6.4.1.c of the TSs is justified based on the following:

- (1) The two methods (position indication and pressure test) of verifying that the vacuum breaker is closed both provide assurance that the vacuum breaker is closed. The two redundant position indicators are divisional, so that the failure in the inoperable indicator can not affect the functioning of the OPERABLE indicator. Therefore, designs utilizing redundant, independent position indicators may reasonably rely on the other position indicator in the event one indicator is inoperable in lieu of a pressure test.
- (2) As a secondary consideration it should be noted that the test method for verifying the closed position of the vacuum breaker requires the increase of Drywell pressure to at least 0.5 psi above the suppression chamber pressure. This places the pressure closer to the Drywell Pressure-High scram trip set point of 1.68 psig. This increases the risk of reactor scram from a minor drywell pressure transient which may have been managed by the operator if it occurred with a normal drywell pressure as the initial condition and increases challenges to the operators. The reduction in the risk of a reactor scram is a safety enhancement of the proposed change.

NRC Standard Review Plan (SRP) (NUREG-0800), Section 6.2.1.1.c covers the requirements for pressure-suppression type BWR containments. The SRP states that in evaluating surveillance and test programs for vacuum relief the staff uses "the results of previous review and operating experience with similar systems to determine their adequacy."

### 3.0 FINDINGS

The Fermi-2 suppression chamber-to-drywell vacuum breaker design is similar to the design at Hope Creek Generating Station. The proposed ACTION c is modeled after the Hope Creek ACTION statement for the same situation. The proposed amendment does not change the intent of the ACTION statement in the TSs because the proposed change continues to require that the vacuum breaker be verified closed at the same frequency. The proposed verification method is consistent with the existing surveillance requirements and will be performed at twice the normal surveillance frequency.

Based on the above evaluation the staff finds the proposed change to the TSs is acceptable.

#### 4.0 EXIGENT CIRCUMSTANCES

The Commission's regulations, 10 CFR 50.91, contain provisions for issuance of amendments when the usual 30-day public notice period cannot be met. One type of special exception is an exigency. An exigency is a case where the staff and licensee need to act promptly, but failure to act promptly does not involve a plant shutdown, derating, or delay in startup. The exigency case usually represents an amendment involving a safety enhancement to the plant.

The Commission has determined that the licensee used its best efforts to make timely application for the proposed change and that exigent circumstances do exist and were not the result of any fault of the licensee. The exigent circumstances resulted from the fact that one position indicator for suppression chamber-to-drywell vacuum breaker, T23-400F was discovered on April 26, 1989, to be inoperable. With one position indicator on a vacuum breaker inoperable, the Technical Specifications for Fermi-2 require that the associated vacuum breaker and all other vacuum breakers be verified closed within 2 hours. In addition, the licensee has 14 days to restore the position indicator to operable or verify the vacuum breaker with the inoperable position indicator to be closed by conducting a test which demonstrates that the drywell to suppression chamber differential pressure is maintained at greater than or equal to 0.5 psi for one hour without makeup, within 24 hours, and at least once per 15 days, thereafter.

Upon discovery of the inoperable indication, the licensee began troubleshooting activities on the inoperable indicator and complied with the provisions to verify the closure of all vacuum breakers within 2 hours. Also, planning for completion of the subsequent required test for vacuum closure was begun in the event that the troubleshooting effort was unsuccessful.

The undesirability of the use of the pressure test method for verification of vacuum breaker closure then became evident. The licensee believes that performance of the test when it is not necessary leads to unnecessary challenges to plant safety systems and unnecessary environmental impact. These circumstances arose from an unexpected plant event and, therefore, could not have been reasonably foreseen. Subsequently, it has been determined that the plant must be placed in COLD SHUTDOWN to repair the inoperable position indicator.

Based on the above, the NRC staff finds that exigent circumstances do exist and the licensee has acted in a timely manner.

#### 5.0 FINAL DETERMINATION OF NO SIGNIFICANT HAZARDS CONSIDERATION

The Commission has provided standards for determining whether a significant hazards consideration exists [10 CFR 50.92(c)] for a proposed amendment to a facility operating license. A proposed amendment to an operating license for a facility involves no significant hazards consideration if operation of the facility in accordance with the proposed amendment would not: (1) Involve a significant increase in the probability or consequences of an accident previously evaluated; or (2) Create the possibility of a new or different kind of accident from any accident previously evaluated; or (3) Involve a significant reduction in a margin of safety.

- (1) The proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated. The intent of the TS ACTION statement is not changed because the position of the vacuum breaker will still be determined on an accelerated basis. In addition, the vulnerability of placing the plant in a transient condition has been reduced. The proposed change also prevents the routine (every 15 days when complying with the existing TS) release of gaseous effluents in order to return to normal primary containment pressure.
- (2) The proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated. The proposed amendment does not introduce new modes of plant operation nor involve a physical modification to the plant. The method of verifying that the vacuum breaker is closed is consistent with existing TS surveillance requirement 4.6.4.1.b.2. The two position indicator circuits on each valve are divisional such that an inoperable circuit will not affect an OPERABLE circuit.
- (3) The proposed change does not involve a significant reduction in the margin of safety. The proposed amendment reduces the probability of placing the plant into a transient condition, reduces the number of gaseous effluent releases, and maintains the intent of the TS. The proposed change will reduce the probability of placing the plant into a transient condition by not requiring a pressure test that verifies a vacuum breaker is closed, when an OPERABLE position indicator is indicating the vacuum breaker is closed. The proposed amendment will reduce the number of gaseous effluent releases that are required subsequent to performing the subject pressure test by reducing the situation when this off-normal test is performed.

On the basis of the above consideration, the staff finds that the change to the TSs does not involve a significant hazards consideration.

In accordance with the Commission's regulations, efforts were made to contact the Michigan State representative. A representative was contacted and had no comments.

## 6.0 ENVIRONMENTAL CONSIDERATION

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

7.0 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 this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: John Stang

Date: May 10, 1989