



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. 49
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, as supplemented by letters dated August 24, 1988, and May 31, 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. 49, 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 the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

John O. Thoma

John O. Thoma, Acting Director
Project Directorate III-1
Division of Reactor Projects - III,
IV, V & Special Projects
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: January 18, 1990

ATTACHMENT TO LICENSE AMENDMENT NO. 49

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.

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xxiii*	xxiii*
xxiv	xxiv
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*Overleaf page provided to maintain document completeness. No changes contained on these pages

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CONTAINMENT SYSTEMS

3/4.6 CONTAINMENT SYSTEMS

3/4.6.1 PRIMARY CONTAINMENT

PRIMARY CONTAINMENT INTEGRITY

LIMITING CONDITION FOR OPERATION

3.6.1.1 PRIMARY CONTAINMENT INTEGRITY shall be maintained.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2* and 3.

ACTION:

Without PRIMARY CONTAINMENT INTEGRITY, restore PRIMARY CONTAINMENT INTEGRITY within 1 hour or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

SURVEILLANCE REQUIREMENTS

4.6.1.1 PRIMARY CONTAINMENT INTEGRITY shall be demonstrated:

- a. After each closing of each penetration subject to Type B testing, except the primary containment air locks, if opened following Type A or B test, by leak rate testing the seals with gas at P_a , 56.5 psig, and verifying that when the measured leakage rate for these seals is added to the leakage rates determined pursuant to Surveillance Requirement 4.6.1.2.b for all other Type B and C penetrations, the combined leakage rate is less than or equal to $0.60 L_a$.
- b. At least once per 31 days by verifying that all primary containment penetrations except those inside the containment or in locked high radiation areas (listed in Table 4.6.1.1-1) not capable of being closed by OPERABLE containment automatic isolation valves and required to be closed during accident conditions are closed by locked closed valves, blank flanges, or deactivated automatic valves secured in position, except as provided in Table 3.6.3-1 of Specification 3.6.3.
 1. Valves, flanges, and deactivated automatic valves which are located inside the containment, and are locked, sealed or otherwise secured in the closed position shall be verified closed during each COLD SHUTDOWN except such verification need not be performed when the primary containment has not been deinerted since the last verification or more often than once per 92 days.

*See Special Test Exception 3.10.1.

CONTAINMENT SYSTEMS

PRIMARY CONTAINMENT LEAKAGE

SURVIVANCE REQUIREMENTS (Continued)

2. Locked closed valves, flanges, and deactivated automatic valves (listed in Table 4.6.1.1-1) which are located outside the containment within locked high radiation areas shall be verified closed during each COLD SHUTDOWN if not performed within the previous 31 days.**
- c. By verifying each primary containment air lock is in compliance with the requirements of Specification 3.6.1.3.
- d. By verifying the suppression chamber is in compliance with the requirements of Specification 3.6.2.1.

**The TIP Flange (Penetration X-35A) may be verified by review of high radiation area access controls if the TIP Room remains a locked high radiation area during COLD SHUTDOWN.

TABLE 4.6.1.1-1

PRIMARY CONTAINMENT ISOLATION VALVES/FLANGES
LOCATED IN LOCKED HIGH RADIATIONS AREAS

<u>PLANT IDENTIFICATION/ VALVE NUMBER</u>	<u>LOCATION</u>	<u>PENETRATION</u>
a. 1. P34-F013 2. P34-F014	RWCU Valve Pit	X-48F
b. 1. E21-F023A 2. E21-F022A	Reactor Bldg. Second Floor	X-16B
c. 1. G33-F002 2. G33-F003	RWCU Valve Pit	X-43
d. 1. B21-F017 2. B21-F018	Steam Tunnel	X-8
e. 1. T48-F006A 2. T48-F007A	Reactor Bldg. Second Floor	X-15
f. 1. C41-F026 2. C41-F027	RWCU Valve Pit	X-42
g. 1. B21-F025A 2. B21-F025B 3. B21-F025C 4. B21-F025D 5. B21-F026A 6. B21-F026B 7. B21-F026C 8. B21-F026D	Steam Tunnel	X-7A, B, C & D
h. 1. B21-F102A 2. B21-F103A	Steam Tunnel	X-7A
i. 1. G33-F122 2. G33-F123	Steam Tunnel	X-9B
j. 1. E51-F036 2. E51-F037	Steam Tunnel	X-10
k. 1. E41-F014 2. E41-F015	Steam Tunnel	X-11
l. Penetration X-35A Blank Flange	TIP Room	X-35A

CONTAINMENT SYSTEMS

PRIMARY CONTAINMENT LEAKAGE

LIMITING CONDITION FOR OPERATION

3.6.1.2 Primary containment leakage rates shall be limited to:

- a. An overall integrated leakage rate of less than or equal to: L_a , 0.5 percent by weight of the containment air per 24 hours at P_a , 56.5 psig.
- b. A combined leakage rate of less than or equal to $0.60 L_a$ for all penetrations and all valves listed in Table 3.6.3-1, except for main steam line isolation valves* and valves which are hydrostatically tested per Table 3.6.3-1, subject to Type B and C tests when pressurized to P_a , 56.5 psig.
- c. *Less than or equal to 100 scf per hour for all four main steam lines when tested at 25.0 psig.
- d. A combined leakage rate of less than or equal to 5 gpm for all containment isolation valves in hydrostatically tested lines which penetrate the primary containment, when tested at $1.10 P_a$, 62.2 psig.
- e. Less than or equal to 1 gpm times the number of valves per penetration not to exceed 3 gpm per penetration for any line penetrating containment and hydrostatically tested at $1.10 P_a$, 62.2 psig.

APPLICABILITY: When PRIMARY CONTAINMENT INTEGRITY is required per Specification 3.6.1.1.

ACTION:

With:

- a. The measured overall integrated primary containment leakage rate exceeding $0.75 L_a$, or
- b. The measured combined leakage rate for all penetrations and all valves listed in Table 3.6.3-1, except for main steam line isolation valves* and valves which are hydrostatically tested per Table 3.6.3-1, subject to Type B and C tests exceeding $0.60 L_a$, or
- c. The measured leakage rate exceeding 100 scf per hour for all four main steam lines, or
- d. The measured combined leakage rate for all containment isolation valves in hydrostatically tested lines which penetrate the primary containment exceeding 5 gpm, or
- e. The leakage rate of any hydrostatically tested line penetrating primary containment exceeding 1 gpm per isolation valve times the number of containment isolation valves per penetration or greater than 3 gpm per penetration,

prior to increasing reactor coolant system temperature above 200°F, restore:

- a. The overall integrated leakage rate(s) to less than or equal to $0.75 L_a$, and

*Exemption to Appendix J of 10 CFR Part 50.
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CONTAINMENT SYSTEMS

SURVEILLANCE REQUIREMENTS

- 4.6.5.1 SECONDARY CONTAINMENT INTEGRITY shall be demonstrated by:
- a. Verifying at least once per 24 hours that the vacuum within the secondary containment is greater than or equal to 0.125 inch of vacuum water gauge.
 - b. Verifying at least once per 31 days that:
 1. All secondary containment equipment hatches and pressure relief doors are closed and sealed, and both railroad bay access doors are closed and sealed.
 2. At least one door in each access to the secondary containment is closed.
 3. All secondary containment penetrations except for Steam Tunnel Blowout Panels not capable of being closed by OPERABLE secondary containment automatic isolation dampers/valves and required to be closed during accident conditions are closed by valves, blank flanges, or deactivated automatic dampers/valves secured in the closed position.
 - c. Verifying Steam Tunnel Blowout Panels are closed during each COLD SHUTDOWN if not performed within the previous 31 days.
 - d. At least once per 18 months:
 1. Verifying that one standby gas treatment subsystem will draw down the secondary containment to greater than or equal to 0.25 inch of vacuum water gauge in less than or equal to 567 seconds at a flow rate not exceeding 3800 cfm, and
 2. Operating one standby gas treatment subsystem for 1 hour and maintaining greater than or equal to 0.25 inch of vacuum water gauge in the secondary containment at a flow rate not exceeding 3000 cfm.

3/4.6 CONTAINMENT SYSTEMS

BASES

3/4.6.1 PRIMARY CONTAINMENT

3/4.6.1.1 PRIMARY CONTAINMENT INTEGRITY

PRIMARY CONTAINMENT INTEGRITY ensures that the release of radioactive materials from the containment atmosphere will be restricted to those leakage paths and associated leak rates assumed in the safety analyses. This restriction, in conjunction with the leakage rate limitation, will limit the SITE BOUNDARY radiation doses to within the limits of 10 CFR Part 100 during accident conditions.

PRIMARY CONTAINMENT INTEGRITY is demonstrated by leak rate testing and by verifying that all primary containment penetrations not capable of being closed by OPERABLE containment automatic isolation valves and required to be closed during accident conditions are closed by locked valves, blank flanges or deactivated automatic valves secured in the closed position. For test, vent and drain connections which are part of the containment boundary, a threaded pipe cap with acceptable sealant in addition to the containment isolation valve(s) provides protection equivalent to a blank flange.

3/4.6.1.2 PRIMARY CONTAINMENT LEAKAGE

The limitations on primary containment leakage rates ensure that the total containment leakage volume will not exceed the value assumed in the safety analyses at the peak accident pressure of 56.5 psig, P_a . As an added conservatism, the measured overall integrated leakage rate is further limited to less than or equal to $0.75 L_a$ during performance of the periodic tests to account for possible degradation of the containment leakage barriers between leakage tests.

Operating experience with the main steam line isolation valves has indicated that degradation has occasionally occurred in the leak tightness of the valves; therefore the special requirement for testing these valves.

The surveillance testing for measuring leakage rates is consistent with the requirements of Appendix J of 10 CFR Part 50 with the exception of exemptions granted for main steam isolation valve leak testing and testing the airlocks after each opening and analyzing the Type A test data.

Appendix J to 10 CFR Part 50, Paragraph III.A.3, requires that all Type A tests be conducted in accordance with the provisions of N45.4-1972, "Leakage-Rate Testing of Containment Structures for Nuclear Reactors." N45.4-1972 requires that Type A test data be analyzed using point-to-point or total time analytical techniques. Specification 4.6.1.2a. requires use of the mass plot analytical technique. The mass plot method is considered the better analytical technique, since it yields a confidence interval which is a small fraction of the calculated leak rate; and the interval decreases as more data sets are added to the calculation. The total time and point-to-point techniques may give confidence intervals, which are large fractions of the calculated leak rate, and the intervals may increase as more data sets are added.

3/4.6 CONTAINMENT SYSTEMS

BASES

The mass plot method is endorsed by ANSI/ANS 56.8-1981 (Containment System Leakage Requirements) which superseded N45.4-1972.

3/4.6.1.3 PRIMARY CONTAINMENT AIR LOCKS

The limitations on closure and leak rate for the primary containment air locks are required to meet the restrictions on PRIMARY CONTAINMENT INTEGRITY and the primary containment leakage rate given in Specifications 3.6.1.1 and