



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

March 4, 2024

Mr. Peter Dietrich  
Senior Vice President  
and Chief Nuclear Officer  
DTE Electric Company  
Fermi 2 – 260 NOC  
6400 North Dixie Highway  
Newport, MI 48166

SUBJECT: FERMI, UNIT 2 - ISSUANCE OF AMENDMENT NO. 228 REGARDING  
REVISION OF NON-CONSERVATIVE TECHNICAL SPECIFICATION 3.4.5,  
"RCS PRESSURE ISOLATION VALVE (PIV) LEAKAGE"  
(EPID L-2023-LLA-0066)

Dear Mr. Dietrich:

The U.S. Nuclear Regulatory Commission (Commission) has issued the enclosed Amendment No. 228 to Renewed Facility Operating License No. NPF-43, for Fermi, Unit 2. The amendment includes changes to the technical specification (TS) in response to your amendment request dated May 5, 2023 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML23128A026).

The amendment revises TS 3.4.5, "RCS Pressure Isolation Valve (PIV) Leakage", Action A.1 to remove the word "check" and clarify that the Action A.1 is not limited only to check valves but it has to be met by all valves required to meet the action.

A copy of the related Safety Evaluation is also enclosed. A Notice of Issuance will be included in the Commission's monthly *Federal Register* notice.

Sincerely,

/RA/

Surinder S. Arora, Project Manager  
Plant Licensing Branch III  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket No. 50-341

Enclosures:

1. Amendment No. 228 to NPF-43
2. Safety Evaluation

cc: Listserv



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

DTE ELECTRIC COMPANY

DOCKET NO. 50-341

FERMI 2

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 228  
Renewed License No. NPF-43

1. The U.S. Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by DTE Electric Company dated May 5, 2023, 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 Renewed Facility Operating License No. NPF-43 is hereby amended to read as follows:

- (2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 228, and the Environmental Protection Plan contained in Appendix B, are hereby incorporated into this renewed license. DTE Electric Company shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of its date of issuance and shall be implemented within 45 days of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Jeffrey A. Whited, Chief  
Plant Licensing Branch III  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to the Renewed Facility  
Operating License and  
Technical Specifications

Date of Issuance: March 4, 2024

ATTACHMENT TO LICENSE AMENDMENT NO. 228

FERMI, UNIT 2

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

DOCKET NO. 50-341

Renewed Facility Operating License No. NPF-43

Replace the following page of the Renewed Facility Operating Licenses No. NPF-43 with the attached revised page. The revised page is identified by amendment number and contains marginal line indicating the area of change.

REMOVE

INSERT

- 4 -

- 4 -

Technical Specifications

Replace the following page in Appendix A, Technical Specifications. The revised page is identified by amendment number and contains marginal line indicating the area of change.

REMOVE

INSERT

3.4-11

3.4-11

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 228, and the Environmental Protection Plan contained in Appendix B, are hereby incorporated into this renewed license. DTE Electric Company shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

(3) Antitrust Conditions

DTE Electric Company shall abide by the agreements and interpretations between it and the Department of Justice relating to Article I, paragraph 3 of the Electric Power Pool Agreement between DTE Electric Company and Consumers Power Company as specified in a letter from the Detroit Edison Company to the Director of Regulation, dated August 13, 1971, and the letter from Richard W. McLaren, Assistant Attorney General, Antitrust Division, U.S. Department of Justice, to Bertram H. Schur, Associate General Counsel, Atomic Energy Commission, dated August 16, 1971.

(4) Deleted

(5) Deleted

(6) Deleted

(7) Deleted

(8) Deleted

(9) Modifications for Fire Protection (Section 9.5.1, SSER #5 and SSER #6)\*

DTE Electric Company shall implement and maintain in effect all provisions of the approved fire protection program as described in its Final Safety Analysis Report for the facility through Amendment 60 and as approved in the SER through Supplement No. 5, subject to the following provision:

- (a) DTE Electric Company may make changes to the approved fire protection program without prior approval of the Commission only if those changes would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire.

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• The parenthetical notation following the title of many license conditions denotes the section of the Safety Evaluation Report (SER) and/or its supplements wherein the license condition is discussed.

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.5 RCS Pressure Isolation Valve (PIV) Leakage

LCO 3.4.5 The leakage from each RCS PIV shall be within limit.

APPLICABILITY: MODES 1 and 2.  
MODE 3, except valves in the residual heat removal (RHR) shutdown cooling flow path when in, or during the transition to or from, the shutdown cooling mode of operation.

ACTIONS

- NOTES-----
1. Separate Condition entry is allowed for each flow path.
  2. Enter applicable Conditions and Required Actions for systems made inoperable by PIVs.
- 

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>A. One or more flow paths with leakage from one or more RCS PIVs not within limit.</p>	<p>-----NOTE----- Each valve used to satisfy Required Action A.1 must have been verified to meet SR 3.4.5.1 at the last refueling outage or after the last time the valve was disturbed, whichever is more recent.</p> <p>-----</p> <p>A.1 Isolate the high pressure portion of the affected system from the low pressure portion by use of one other closed manual, de-activated automatic, or check valve.</p>	<p>4 hours</p>

(continued)



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 228 TO

CORRECT NON-CONSERVATIVE TECHNICAL SPECIFICATION 3.4.5

RENEWED FACILITY OPERATING LICENSE NO. NPF-43

DTE ELECTRIC COMPANY

FERMI, UNIT 2

DOCKET NO. 50-341

1.0 INTRODUCTION

By letter dated May 5, 2023 (Reference 1), DTE Electric Company (DTE), the licensee, submitted a license amendment request (LAR) to revise the technical specification (TS) for the Fermi, Unit 2, power plant (Fermi 2). The proposed amendment would modify the TS to clarify the valves included in the required action in the case of reactor coolant system (RCS) pressure isolation valve (PIV) leakage. In particular, the proposed TS change would modify the TS 3.4.5, "RCS Pressure Isolation Valve (PIV) Leakage," Required Action A.1 Note to delete the word "check" to ensure that the required action includes all applicable valves. This proposed modification would make the Required Action Note consistent with NUREG-1433, "Standard Technical Specifications (STS) for General Electric BWR/4 [boiling-water reactor] Plants" (Reference 2), which states that all valves used in STS 3.4.5 Required Action A.1 must meet Surveillance Requirement (SR) 3.4.5.1.

2.0 REGULATORY EVALUATION

2.1 Regulations and Guidance

The U.S. Nuclear Regulatory Commission (NRC or Commission) staff considered the following regulations and guidance during its review of the proposed TS change for Fermi 2.

The relevant regulations for this LAR are related to the reactor coolant pressure boundary (RCPB), which is defined in part 50, "Domestic Licensing of Production and Utilization Facilities," in Title 10, "Energy," of the *Code of Federal Regulations* (10 CFR) in section 50.2, "Definitions." The regulations concerning the RCPB are specified in 10 CFR 50.55a, "Codes and standards," in paragraph (c), "Reactor Coolant Pressure Boundary".

The regulations in 10 CFR 50.36, "Technical specifications," require that the TSs include items, in part, in the following categories: (1) safety limits, limiting safety system settings, and limiting

control settings; (2) limiting conditions for operation [LCOs]; (3) surveillance requirements; (4) design features; and (5) administrative controls.

Regulation 10 CFR 50.36(c)(2)(i) states that LCOs are the lowest functional capability or performance levels of equipment required for safe operation of the facility and requires that when an LCO of a nuclear reactor is not met, the licensee shall shut down the reactor or follow any remedial action permitted by the TSs until the condition can be met.

Regulation 10 CFR 50.36(c)(3) provides that SRs are requirements relating to test, calibration, or inspection to assure the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the LCO will be met.

NUREG-1433 contains the staff's format and content guidance for meeting requirements for TSs in 10 CFR 50.36. NUREG-1433 implements remedial actions permitted while an LCO is not met using an ACTIONS table for each LCO. The table contains described conditions where the LCO is not met, along with associated Required Action and Completion Times.

Appendix A, "General Design Criteria for Nuclear Power Plants," to 10 CFR, part 50, includes design criteria related to the RCS, such as the following:

General Design Criterion (GDC) 14, "Reactor Coolant System Boundary," in Appendix A to 10 CFR Part 50 states that the RCPB shall be designed, fabricated, erected, and tested so as to have an extremely low probability of abnormal leakage, of rapidly propagating failure, and of gross rupture.

GDC 15, "Reactor Coolant System Design," in Appendix A to 10 CFR Part 50 states that the RCS and associated auxiliary, control, and protection systems shall be designed with sufficient margin to assure that the design conditions of the RCPB are not exceeded during any condition of normal operation, including anticipated operational occurrences.

## 2.2 System Description

Fermi 2 is a General Electric Type 4 BWR, which contains PIVs as part of its RCS design. The PIVs maintain a pressure differential between the high-pressure RCS and connected lower pressure systems, such as the residual heat removal system, core spray system, high-pressure coolant injection system, and reactor core isolation cooling system. In Fermi 2 TS 3.4.5, "RCS Pressure Isolation Valve (PIV) Leakage", the LCO allows RCS high-pressure operation when leakage through these valves exists in amounts that do not compromise safety. The PIV leakage limit applies to each individual valve. Leakage through these valves is not included in any allowable LEAKAGE specified in the LCO in TS 3.4.4, "RCS Operational LEAKAGE." The limits for the RCS PIVs are to prevent overpressure failure of low-pressure portions of connecting systems. The leakage limit is an indication that the PIVs between the RCS and the connecting systems are degraded. PIV leakage could lead to overpressure of the low-pressure piping or components. These TS requirements provide reasonable assurance that no overpressure failure will occur that could compromise the lower pressure systems connected to the RCS and cause a significant loss of reactor coolant.

## 2.3 Proposed TS Change

When the plant is in a condition where one or more flow paths with leakage from one or more RCS PIV's is not within limit, Required Action A.1 of TS 3.4.5 requires isolation of the high-



pressure portion of the affected system from the low-pressure portion by use of one other closed manual, de-activated automatic, or check valve within 4 hours. The NOTE modifying Required Action A.1 states: "Each check valve used to satisfy Required Action A.1 must have been verified to meet SR 3.4.5.1 at the last refueling outage or after the last time the valve was disturbed. whichever is more recent." The licensee proposed to correct language in the NOTE for TS 3.4.5 Required Action A.1 by removing the word "check" that limits the action statement to only check valves. The LAR requests that the NOTE be revised to state the following: "Each valve used to satisfy Required Action A.1 must be verified to meet SR 3.4.5.1 at the last refueling outage or after the last time the valve was disturbed. whichever is more recent."

### 3.0 TECHNICAL EVALUATION

The LAR proposes to remove the word "check" from the NOTE in Required Action A.1 for TS 3.4.5 at Fermi 2. In section 2.3 of the LAR the licensee stated:

"The current wording in the Fermi 2 TS which varies from the STS could be misinterpreted to allow a closed manual valve or de-activated automatic valve to be used to isolate the flow path without ensuring that the valve meets the SR 3.4.5.1 requirements."

The proposed change would correct the TS to require every PIV in the RCS used to satisfy Required Action A.1 to meet SR 3.4.5.1, which contains the maximum leakage for each type of RCS PIV. The staff determined that the current TS could be interpreted to imply that only check valves must meet the SR. The NRC staff noted the STS specifies that all PIVs must meet SR 3.4.5.1. With the word "check" deleted, the SR will apply to all RCS PIVs consistent with the American Society of Mechanical Engineers (ASME) *Boiler and Pressure Vessel Code* (BPV Code) as incorporated by reference in 10 CFR 50.55a and required by 10 CFR 50.55a(c). This proposed change is also consistent with the requirement in 10 CFR, part 50, appendix A, GDC 14, that the RCPB be tested to ensure a low probability of abnormal leakage and with 10 CFR, part 50, appendix A, GDC 15, which requires that the RCS and associated systems not exceed the design conditions during anticipated operational occurrences.

The NRC staff determined that the remedial measures provided by Required Action A.1, and it's associated revised NOTE would provide acceptable remedial measures the licensee could follow until the LCO of TS 3.4.5 can be met. Therefore, the staff determined that the TS, as amended by the proposed change, will meet the requirements of 10 CFR 50.36.

The proposal in the LAR meets the guidance in Nuclear Energy Institute (NEI) report 15-03, "Licensee Actions to Address Nonconservative Technical Specifications," (Reference 3) endorsed by the NRC in Regulatory Guide 1.239 (Reference 4) of the same title. The current Note in Required Action A.1 for TS 3.4.5 at Fermi 2 could be interpreted to mean valves other than check valves do not need to meet SR 3.4.5.1 when they are used to comply with Required Action A.1. By removing the word "check" from the note, the proposed amendment would make the TS consistent with the STS and would clarify the necessary SR for the RCPB at Fermi 2. Therefore, the NRC staff finds the proposed amendment to TS 3.4.5 in the submitted LAR for Fermi 2 to be acceptable.

The NRC staff reviewed the LAR submitted by the licensee to revise the NOTE above Required Action A.1 for TS 3.4.5 at Fermi 2 to remove the word "check" from the action statement. Based

on its review, the NRC staff concludes that the proposed TS amendment meets the required RCPB requirements in 10 CFR 50.55a(c) and is consistent with GDC 14 and GDC 15 in appendix A to 10 CFR, part 50. Therefore, the NRC staff finds the proposed TS amendment in the LAR for Fermi 2 to be acceptable.

#### 4.0 TECHNICAL CONCLUSION

Based on the review described above, the NRC staff has determined that the proposal in the LAR to remove the word “check” from the Note in Required Action A.1 for TS 3.4.5 corrects potentially nonconservative language in the TS at Fermi 2.

#### 5.0 REFERENCES

1. Letter from Peter Dietrich, Senior Vice President and Chief Nuclear Officer, Fermi 2 Power Plant, DTE Electric Company, to United States Nuclear Regulatory Commission Document Control Desk, “License Amendment Request to Correct Non-Conservative Technical Specification 3.4.5, ‘RCS Pressure Isolation Valve (PIV) Leakage,’” dated May 5, 2023 (ML23128A026).
2. NRC NUREG-1433, “Standard Technical Specifications – General Electric BWR/4 Plants,” Volume 1 (ML21272A357) and Volume 2 (ML21272A358)
3. NEI 15-03 (Revision 3), “Licensee Actions to Address Nonconservative Technical Specifications,” March 2020 (ML20100G899).
4. NRC Regulatory Guide 1.239, “Licensee Actions to Address Nonconservative Technical Specifications,” November 2020 (ML20294A510).

#### 6.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Michigan State official was notified of the proposed issuance of the amendment on January 2, 2024. The State official did not provide any comments.

#### 7.0 ENVIRONMENTAL CONSIDERATION

The amendment changes requirements with respect to the installation or use of facility components located within the restricted area as defined in 10 CFR, part 20, and changes the SRs. The NRC staff has determined that the amendment involves no significant change in the types or significant increase in the amounts of any effluents that 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, as published in the *Federal Register* on July 11, 2023 (88 FR 44165), and there has been no public comment on such finding. 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.

## 8.0 CONCLUSION

The Commission 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) there is reasonable assurance that 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 Contributors: T. Scarbrough, NRR  
D. Woodyatt, NRR  
M. Hamm, NRR

Date of Issuance: March 4, 2024

SUBJECT: FERMI, UNIT 2 - ISSUANCE OF AMENDMENT NO. 228 REGARDING REVISION OF NON-CONSERVATIVE TECHNICAL SPECIFICATION 3.4.5, "RCS PRESSURE ISOLATION VALVE (PIV) LEAKAGE" (EPID L-2023-LLA-0066) DATED MARCH 4, 2024

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