



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
2443 WARRENVILLE ROAD, SUITE 210
LISLE, ILLINOIS 60532-4352

May 6, 2024

Peter Dietrich
Senior VP and Chief Nuclear Officer
DTE Electric Company
Fermi 2 – 260 TAC
6400 North Dixie Highway
Newport, MI 48166

SUBJECT: FERMI POWER PLANT, UNIT 2 – NRC INSPECTION REPORT
05000341/2024010

Dear Peter Dietrich:

On April 4, 2024, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at Fermi Power Plant, Unit 2 and discussed the results of this inspection with you and other members of your staff. The results of this inspection are documented in the enclosed report.

No findings or violations of more than minor significance were identified during this inspection.

This letter, its enclosure, and your response (if any) will be made available for public inspection and copying at <http://www.nrc.gov/reading-rm/adams.html> and at the NRC Public Document Room in accordance with Title 10 of the *Code of Federal Regulations* 2.390, "Public Inspections, Exemptions, Requests for Withholding."

Sincerely,

A handwritten signature in cursive script, appearing to read "Dariusz Szwarc".

Signed by Szwarc, Dariusz
on 05/06/24

Dariusz Szwarc, Acting Branch Chief
Engineering and Reactor Projects Branch
Division of Operating Reactor Safety

Docket No. 05000341
License No. NPF-43

Enclosure:
As stated

cc w/ encl: Distribution via LISTSERV®

Letter to Peter Dietrich from Dariusz Szwarc dated May 6, 2024.

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05000341/2024010

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**U.S. NUCLEAR REGULATORY COMMISSION
Inspection Report**

Docket Number: 05000341

License Number: NPF-43

Report Number: 05000341/2024010

Enterprise Identifier: I-2024-010-0033

Licensee: DTE Electric Company

Facility: Fermi Power Plant, Unit 2

Location: Newport, MI

Inspection Dates: March 25, 2024 to April 05, 2024

Inspectors: M. Domke, Reactor Inspector

Approved By: Dariusz Szwarc, Acting Branch Chief
Engineering and Reactor Projects Branch
Division of Operating Reactor Safety

Enclosure

SUMMARY

The U.S. Nuclear Regulatory Commission (NRC) continued monitoring the licensee's performance by conducting a NRC inspection at Fermi Power Plant, Unit 2, in accordance with the Reactor Oversight Process. The Reactor Oversight Process is the NRC's program for overseeing the safe operation of commercial nuclear power reactors. Refer to <https://www.nrc.gov/reactors/operating/oversight.html> for more information.

List of Findings and Violations

No findings or violations of more than minor significance were identified.

Additional Tracking Items

None.

INSPECTION SCOPES

Inspections were conducted using the appropriate portions of the inspection procedures (IPs) in effect at the beginning of the inspection unless otherwise noted. Currently approved IPs with their attached revision histories are located on the public website at <http://www.nrc.gov/reading-rm/doc-collections/insp-manual/inspection-procedure/index.html>. Samples were declared complete when the IP requirements most appropriate to the inspection activity were met consistent with Inspection Manual Chapter (IMC) 2515, "Light-Water Reactor Inspection Program - Operations Phase." The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel to assess licensee performance and compliance with Commission rules and regulations, license conditions, site procedures, and standards.

OTHER ACTIVITIES – TEMPORARY INSTRUCTIONS, INFREQUENT AND ABNORMAL

71003 - Post-Approval Site Inspection for License Renewal

Post-Approval Site Inspection for License Renewal (1 Sample)

- (1) The Inspector conducted a Phase 1 license renewal inspection. The following aging management programs were evaluated by the Inspector:
 - Flow Accelerated Corrosion
 - Commitment 15, in part, revises procedures to indicate that the flow-accelerated corrosion program manages loss of material due to erosion mechanisms of cavitation, flashing, liquid droplet impingement, and solid particle erosion for any material in treated water or steam environments.
 - Inspectors conducted walkdowns of 3S Feedwater Heater and observed wall thickness examinations and reviewed associated inspection reports for implementation of acceptance criteria.
 - Protective Coating Monitoring and Maintenance Program and Coating Integrity Program
 - Commitment 29, in part, revises plant procedures to include in the program Service Level I coating applied to steel and concrete surfaces of the steel containment vessel, (e.g., steel containment vessel shell, structural steel, supports, penetrations, and concrete walls and floors). Revisions include information and instructions for monitoring Service Level I coating systems to be used for the inspection of coatings in accordance with guidelines identified in American Society for Testing and Materials (ASTM) standard ASTM D5163-08.
 - Commitment 36, Coating Integrity Program, is a new program that included periodic visual examinations of coatings/linings applied to internal surfaces of in-scope piping, piping components, heat exchangers, and tanks where loss of coating or lining integrity could prevent accomplishment of license renewal intended functions.
 - Inspectors conducted interviews with program owners, reviewed recently completed torus coating examination photos, and conducted walkdowns for activities associated with residual heat removal end bell coating refurbishment.
 - Structures Monitoring
 - Commitment 34, in part, revises procedures to include the following for the detection of aging effects: Personnel involved with the inspection

and evaluation of structures meet qualification guidance in American Concrete Institute (ACI) standard ACI 349.3R-02; Structures will be inspected at least once every 5 years; If normally inaccessible areas become accessible due to plant activities, then an inspection of these areas shall be conducted. It also revises plant procedures to prescribe quantitative acceptance criteria base on ACI 349.3R-02 and information provided in industry codes, standards, and guidelines including ACI 318, American National Standards Institute (ANSI)/American Society of Civil Engineers (ASCE) guideline 11, and relevant American Institute of Steel Construction (AISC) specifications.

- Inspectors conducted walkdowns of south reactor feed pump room during licensee structural examinations and reviewed associated inspection reports against acceptance standards. Inspectors also conducted documentation reviews for a sample of previously performed structures monitoring examinations to assure those examinations were conducted in accordance with programmatic requirements including referenced standards.
- Selective Leaching
 - Commitment 32 implements the new selective leaching program that will demonstrate the absence of selective leaching in a sample of components fabricated from gray cast iron and copper alloys that contain greater than 15% zinc or greater than 8% aluminum exposed to raw water, treated water, waste water, or soil.
 - Inspectors reviewed a sample of completed examinations for fire protection ring header isolation valves to assure adequate detection methods were used to detect selective leaching. Licensee exams reviewed components for no visible porosity or honeycomb-like structure, color changes, structural removal from mechanical exams, or laboratory results analyzing for selective leaching presence.
- Containment In-service Inspection - IWE
 - Commitment 9, in part, revises plant procedures to determine drywell shell thickness in the sand cushion areas before the period of extended operation and once each 10-year interval during the period of extended operation. From the results, develop a corrosion rate to demonstrate that the drywell shell will have sufficient wall thickness to perform its intended function through the period of extended operation.
 - Inspectors conducted documentation reviews of engineering evaluations that provided estimates of the corrosion rate in the Unit 2 drywell shell in the sand cushion area that provides guidance and direction on the current shell thickness in this area, an estimate of the current corrosion rate based on available data and industry experience, and recommendations for future monitoring of this area based on regulatory guidance and applicable licensee operating experience.

INSPECTION RESULTS

No findings were identified.

EXIT MEETINGS AND DEBRIEFS

The inspectors verified no proprietary information was retained or documented in this report.

- On April 4, 2024, the inspectors presented the NRC inspection results to Peter Dietrich, and other members of the licensee staff.

DOCUMENTS REVIEWED

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71003	Corrective Action Documents	CARD 22-21848	FWH 3S Shell Thickness	02/15/2022
		CR-2024-37514	Div 2 EESW Return Line Support Loose Pipe Clamp Bolt	03/29/2024
		CR-2024-37619	RF22 IVVI: Jet Pumps 11-20 WD-1 Wedge Assembly Monitoring	03/31/2024
		CR-2024-37620	FWH 3S Shell Thickness Evaluation Acceptable for Operation in Cycle 23	03/31/2024
		CR-2024-37682	HPCI Test Line Spring Settlings Out of Tolerance	04/01/2024
		CR-2024-37688	RF22 IVUT: Relevant Indications Identified at Core Shroud H3 Weld	04/01/2024
		CR-2024-37722	Frayed Cloth Jacketing on Individual Conductors in N22P400, EDP 600010	04/02/2024
		CR-2024-37750	RF22 IVVI: Jet Pumps 01-10 WD-1 Wedge Assembly Monitoring	04/02/2024
		CR-2024-37751	RF22 IVVI: Jet Pump Auxiliary Wedge Monitoring	04/02/2024
		CR-2024-37762	RF22 MES83-114 Inspection -Torus Immersion Space -Indications Identified in Bays 4 and 5	04/02/2024
	Corrective Action Documents Resulting from Inspection	CR-2024-36948	NRC IP 71003 License Renewal Phase I Inspection - OTI Form Signature	03/15/2024
		CR-2024-37063	2024 NRC License Renewal Phase I Inspection - CRs Not Written as Required for Selective Leaching Inspections Not Meeting Acceptance Criteria	03/21/2024
	Drawings	M 83761	Low Pressure Feedwater Heater No. 3N & 3S	6
	Engineering Evaluations	2101251.302	Fermi Buckling Analysis of Six Feedwater Heaters	03/22/2022
		SL-017546	Drywell Sand Cushion Corrosion Rate Evaluation	0
		TBI-1F	Structures Monitoring Program Walkdown Record of Reactor Feed Pump Rooms	03/31/2020
		TBI-1F (Reactor Feed Pump Rooms)	Structures Monitoring Program Walkdown Record	03/26/2024
	NDE Reports	38130919-175	N3021F004B Valve Body and Upstream & Downstream Piping Internals One Time Inspection	10/02/2018
		65196083	High Pressure Control Valve 4 One Time Inspection Report	04/04/2024

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		66275885	FWH 3S, FWH 3S1, FWH3S-3, FWH 3S-4	03/27/2024
	Procedures	MES26	Flow Accelerated Corrosion Prediction, Detection, and Correction	21
		MMR14	Structures Monitoring	7
	Work Orders	42417424	Fire Protection Ring Header Isolation Valve	03/09/2022
		50788457	Fire Protection Ring Header Supply to Hydrants #6, #7, and #8 Isolation Valve	04/06/2023
		59080129	(FAC 15) Perform Erosion/Corrosion Inspection of Heater Drains System Piping	03/30/2022
		60727483	Fire Protection Ring Header Isolation Valve	08/16/2023
		60807250	Fire Protection Ring Header Isolation Valve	08/17/2023
		66275885	FAC 20-RF22-FWH 3S Shell UT Perform Erosion/Corrosion Inspection of Heater Drains System Piping	03/26/2024