



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

REGION I
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KING OF PRUSSIA, PENNSYLVANIA 19406-1415

August 22, 2024

David P. Rhoades
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President and Chief Nuclear Officer (CNO)
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Warrenville, IL 60555

**SUBJECT: NINE MILE POINT NUCLEAR STATION, UNITS 1 AND 2 – AGE-RELATED
DEGRADATION INSPECTION REPORT 05000220/2024010 AND
05000410/2024010**

Dear David Rhoades:

On July 31, 2024, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at Nine Mile Point Nuclear Station, Units 1 and 2 and discussed the results of this inspection with Nick Tryt, Operations Director and other members of your staff. The results of this inspection are documented in the enclosed report.

One finding of very low safety significance (Green) is documented in this report. This finding involved a violation of NRC requirements. We are treating this violation as a non-cited violation (NCV) consistent with Section 2.3.2 of the Enforcement Policy.

If you contest the violation or the significance or severity of the violation documented in this inspection report, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, Region I; the Director, Office of Enforcement; and the NRC Resident Inspector at Nine Mile Point Nuclear Station, Units 1 and 2.

If you disagree with a cross-cutting aspect assignment in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, Region I; and the NRC Resident Inspector at Nine Mile Point Nuclear Station, Units 1 and 2.

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,

Mel Gray, Chief
Engineering Branch 1
Division of Operating Reactor Safety

Docket Nos. 05000220 and 05000410
License Nos. DPR-63 and NPF-69

Enclosure:
As stated

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SUBJECT: NINE MILE POINT NUCLEAR STATION, UNITS 1 AND 2 – AGE-RELATED DEGRADATION INSPECTION REPORT 05000220/2024010 AND 05000410/2024010 DATED AUGUST 22, 2024

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

Docket Numbers: 05000220 and 05000410

License Numbers: DPR-63 and NPF-69

Report Numbers: 05000220/2024010 and 05000410/2024010

Enterprise Identifier: I-2024-010-0026

Licensee: Constellation Energy Generation, LLC

Facility: Nine Mile Point Nuclear Station, Units 1 and 2

Location: Oswego, NY

Inspection Dates: June 10, 2024 to July 31, 2024

Inspectors: D. McHugh, Reactor Inspector
N. Mentzer, Reactor Inspector
B. Pinson, Senior Reactor Inspector

Approved By: Mel Gray, Chief
Engineering Branch 1
Division of Operating Reactor Safety

Enclosure

SUMMARY

The U.S. Nuclear Regulatory Commission (NRC) continued monitoring the licensee’s performance by conducting an age-related degradation inspection at Nine Mile Point Nuclear Station, Units 1 and 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

Failure to implement a preventive maintenance schedule on some safety-related circuit breakers			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Mitigating Systems	Green NCV 05000220,05000410/2024010-01 Open/Closed	[H.3] - Change Management	71111.21N.04
The inspectors identified a finding of very low safety significance (Green) associated with a non-cited violation (NCV) of Technical Specification 5.4.1.a, “Procedures,” for the failure to implement a preventive maintenance schedule to inspect and lubricate safety-related 600 VAC and 125 VDC circuit breakers. Specifically, the licensee inadvertently retired all preventive maintenance activities on 10 safety-related breakers.			

Additional Tracking Items

None.

INSPECTION SCOPE

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.

REACTOR SAFETY

71111.21N.04 - Age-Related Degradation

Age-Related Degradation (12 Samples)

- (1) Unit 1, Emergency Diesel Generator EG-EDG-102 Raw Water Cooling Pump PMP-79-53
- (2) Unit 1, 112 Emergency Condenser Cooling Valves CK-3904 and AOV-3906
- (3) Unit 1, Emergency Condenser EC-121
- (4) Unit 2, Instrument Air Compressor 21AS-C3B
- (5) Unit 2, High Pressure Core Spray Motor 2CSH*M1 Cabling
- (6) Unit 2, Containment Vent Valves 2CPS*AOV109, 2CPS*AOV110, and 2CPS*AOV111
- (7) Unit 2, Reactor Core Isolation Cooling Lube Oil Cooling Subsystem
- (8) Unit 2, Residual Heat Removal Pump 2RHS*P1B
- (9) Unit 2, Service Water Piping, Motor Operated Valves, and Strainers
- (10) Unit 2, Emergency Diesel Generator 2EGS*EG2 Fuel Supply Subsystem
- (11) Unit 2, 125VDC Bus 2BYS*SWGG002A
- (12) Unit 2, 600V Emergency Switchgear 2EJS*US1

INSPECTION RESULTS

Failure to implement a preventive maintenance schedule on some safety-related circuit breakers			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Mitigating Systems	Green NCV 05000220,05000410/2024010-01 Open/Closed	[H.3] - Change Management	71111.21N.04
The inspectors identified a finding of very low safety significance (Green) associated with an NCV of Technical Specification 5.4.1.a, "Procedures," for the failure to implement a preventive maintenance schedule to inspect and lubricate safety-related 600 VAC and 125 VDC circuit breakers. Specifically, the licensee inadvertently retired all preventive maintenance activities on 10 safety-related breakers.			
<u>Description:</u> The inspectors requested and reviewed copies of the current preventive maintenance strategy associated with 600 VAC safety-related breakers at Nine Mile Point Unit 2. During response to inspectors' questions, the licensee discovered that some safety-			

related breakers did not have any active preventive maintenance activities associated with them. The initial scope of affected breakers included two 600 VAC circuit breakers associated with vital bus 2EJS*US1, and one 125 VDC circuit breaker associated with switchgear 2BYS*SWG002A. Based on the inspectors questions, the licensee initiated a condition report to evaluate and re-establish the preventive maintenance activities, and to perform an extent of condition to identify any other safety-related circuit breakers that had the preventive maintenance activities removed. The extent of condition identified the following (totaling 10 safety-related breakers at Nine Mile Point Unit 2) circuit breakers that had no active preventive maintenance activities:

- 2BYS*SWG002A1B (Battery 2BYS*BAT2A breaker)
- 2BYS*SWG002A-2D (Protection and control for 4160V bus 2ENS*SWG101)
- 2BYS*SWG002A-3A (125 VDC distribution panel 2BYS*PNL201A)
- 2BYS*SWG002A-3B (125 VDC breaker to 2BYS*PNL204A bus)
- 2BYS*SWG002A-3C (125 VDC breaker to 2VBA*UPS2A bus)
- 2BYS*SWG002A-3D (125 VDC breaker to 2DMS*MCCA1 bus; RCIC DC breakers power supply)
- 2BYS*SWG002A-4C (125 VDC supply to 2EJS*US1)
- 2BYS*SWG002A-4D (125 VDC breaker to 2BYS*PNL202A bus)
- 2EJS*US1-6D (Supply breaker to 2EJS*PNL100A)
- 2EJS*US1-7C (Supply breaker to 2LAC*PNL100A)

The preventive maintenance program at Nine Mile Point Unit 2 is performed in accordance with procedure ER-AA-200, "Preventive Maintenance Program." Preventive Maintenance Modification Requests (PMMRs) are utilized in the program to evaluate a preventive maintenance activity for frequency or scope changes, deferrals, and adjustments. In 2017, PMMR 17-001694 was initiated and resulted in the retirement of the breaker inspect and test activity, and adjusted the frequency of the overhaul activity to four refueling outages (eight years) for breakers 2EJS*US1-6D and 2EJS*US1-7C. In 2020, PMMR 20-126002 was initiated with the intent to retire the overhaul activity and re-establish the inspect and test activities. Due to an administrative error, all the preventive maintenance activities for the circuit breakers were inadvertently retired without reinstatement of the inspect and test activity.

For the remaining eight affected circuit breakers identified in the extent of condition, the preventive maintenance activities specifying inspect and test, and overhaul frequencies were inadvertently retired as a result of PMMR 18-113872 in 2018.

Inspectors reviewed the licensee's preventive maintenance template for the breakers, which identified the specific tasks and frequencies recommended for components to minimize consequential failures based on the criticality of the component, how often it was used, and the environment in which it operated. The template recommended overhaul frequency for non-critical metal-clad breakers in a mild environment was 12 years with a 25% grace period (i.e. 15 years total).

The identified breakers were ABB K-line metal-clad breakers, classified as non-critical, normally closed, operated in mild environments, and had safety functions to provide power to their respective loads and to trip (open) on fault conditions prior to initiation of a trip of any upstream protective device. Circuit breakers 2EJS*US1-7C, 2BYS*SWG002A-2D, and 2BYS*SWG002A-3A were last overhauled in 2012, while the other 7 breakers were last overhauled in 2016.

Corrective Actions: The licensee entered the issues into the corrective action program, performed an extent of condition, and initiated PMC-24-150128 to re-establish preventive maintenance activities in accordance with the preventive maintenance program.

Corrective Action References: IRs 04787178, 04780587, and 04783270

Performance Assessment:

Performance Deficiency: The inspectors determined that the failure to implement a preventive maintenance schedule to inspect and lubricate safety-related 600 VAC and 125 VDC circuit breakers was contrary to Technical Specification 5.4.1.a and was a performance deficiency.

Screening: The inspectors determined the performance deficiency was more than minor because if left uncorrected, it would have the potential to lead to a more significant safety concern. Specifically, absent the inspectors' questions, the circuit breakers would not have the intended preventive maintenance activities. Absent intended preventive maintenance, the probability that these breakers may spuriously open or fail to open in response to a fault when required would be increased. The inspectors' review of licensee information found that operator response to most of these conditions would either require a manual scram or render some mitigating equipment unavailable. Additionally, the inspectors noted that for the breaker 2BYS*SWG002A-3D, a spurious opening would result in a manual scram and render some reactor core isolation cooling automatic actions unavailable. Therefore, the failure to implement preventive maintenance reduces the reliability and capability of the safety-related circuit breakers, and affects the availability, reliability, and capability of the systems that rely on the circuit breakers to respond to initiating events. The issue was similar to example 13.a in IMC 0612, Appendix E, "Examples of Minor Issues."

Significance: The inspectors assessed the significance of the finding using IMC 0609 Appendix A, "The Significance Determination Process for Findings At-Power." The inspectors determined this finding was of very low safety significance (Green) because although the finding was a deficiency affecting the design or qualification of a mitigating system, structure, and component (SSC), the SSC maintained its operability and probabilistic risk analysis functionality.

Cross-Cutting Aspect: H.3 - Change Management: Leaders use a systematic process for evaluating and implementing change so that nuclear safety remains the overriding priority. Specifically, the preventive maintenance activities for the circuit breakers were inadvertently retired, leading to the components having no recurring inspection, testing or overhaul activities.

Enforcement:

Violation: Technical Specification 5.4.1 requires, in part, that written procedures shall be established, implemented, and maintained covering the applicable procedures recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978.

NRC Regulatory Guide 1.33, Revision 2, Appendix A, section 9 addresses "Procedures for Performing Maintenance" and section 9.b states, "Preventive maintenance schedules should be developed to specify lubrication schedules, inspections of equipment, replacement of such items as filters and strainers, and inspection or replacement of parts that have a specific lifetime such as wear rings."

Contrary to the above, from 2018 for eight breakers, and from 2020 for two breakers, and ongoing at the time of the exit meeting, the licensee failed to implement a preventative maintenance schedule for the inspection or lubrication of some safety-related 600 VAC and 125 VDC circuit breakers.

Enforcement Action: This violation is being treated as an NCV, consistent with Section 2.3.2 of the Enforcement Policy.

EXIT MEETINGS AND DEBRIEFS

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

- On July 31, 2024, the inspectors presented the design basis assurance inspection (programs) inspection results to Nick Tryt, Operations Director and other members of the licensee staff.

DOCUMENTS REVIEWED

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71111.21N.04	Calculations	2EQDP-SPL002	Environmental Qualification Document Package	Revision 5
		2EQDP-SPL004	Environmental Qualification Document Package	Revision 4
	Corrective Action Documents	04199519		
		04539945		
		04703385		
	Corrective Action Documents Resulting from Inspection	04780067		
		04780570		
		04780587		
		04780753		
		04783270		
		04783423		
		04783494		
		04783570		
	Miscellaneous	A3PE	10CFR50.65 (a)(3) Maintenance Rule Periodic Assessment, October 2021 to September 2023	
	Procedures	2EQPBD	Environmental Qualification Program Basis Document	Revision 6
		ER-AA-2030	Conduct of Equipment Reliability Manual	Revision 30
		LR-PBD-ELECT1	License Renewal Aging Management Program Basis Document	Revision 1
		NMPNS-IST-001	Nine Mile Point Unit 1 and Unit 2 Inservice Testing (IST) Program Plan	Revision 14
	Work Orders	C92393017		
		C93659812		
		C93664607		
		C93698747		
		C93700919		
C93750300				
C93784786				
C93792145				
C93793545				
C93799566				

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		C93805909		
		C93808152		
		C93809222		
		C93816120		
		C93844381		
		C93884641		
		C93899070		