



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

January 17, 2023

Christopher Domingos
Site Vice President
Monticello Nuclear Generating Plant
Northern States Power Company, Minnesota
2807 West County Road 75
Monticello, MN 55362-9637

SUBJECT: MONTICELLO NUCLEAR GENERATING PLANT – INTEGRATED INSPECTION
REPORT 05000263/2022004

Dear Christopher Domingos:

On December 31, 2022, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at Monticello Nuclear Generating Plant. On January 12, 2023, the NRC inspectors 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 black ink, appearing to read "Hironori Peterson".

Signed by Peterson, Hironori
on 01/17/23

Hironori Peterson, Chief
Reactor Projects Branch 3
Division of Operating Reactor Safety

Docket No. 05000263
License No. DPR-22

Enclosure:
As stated

cc w/ encl: Distribution via LISTSERV®

Letter to Christopher Domingos from Hironori Peterson dated January 17, 2023.

SUBJECT: MONTICELLO NUCLEAR GENERATING PLANT – INTEGRATED INSPECTION
REPORT 05000263/2022004

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U.S. NUCLEAR REGULATORY COMMISSION
Inspection Report

Docket Number: 05000263

License Number: DPR-22

Report Number: 05000263/2022004

Enterprise Identifier: I-2022-004-0050

Licensee: Northern States Power Company, Minnesota

Facility: Monticello Nuclear Generating Plant

Location: Monticello, MN

Inspection Dates: October 01, 2022 to December 31, 2022

Inspectors: A. Demeter, Project Engineer
G. Hansen, Senior Emergency Preparedness Inspector
T. Iskierka-Boggs, Senior Operations Engineer
J. Kutlesa, Emergency Preparedness Inspector
T. McGowan, Resident Inspector
V. Myers, Senior Health Physicist
C. Norton, Senior Resident Inspector
K. Pusateri, Resident Inspector

Approved By: Hironori Peterson, Chief
Reactor Projects Branch 3
Division of Operating Reactor Safety

Enclosure

SUMMARY

The U.S. Nuclear Regulatory Commission (NRC) continued monitoring the licensee's performance by conducting an integrated inspection at Monticello Nuclear Generating Plant, 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.

PLANT STATUS

The unit began the inspection period at rated thermal power. On November 3, 2022, the unit was down powered to 81 percent as requested by transmission. The unit was returned to rated thermal power on November 3, 2022. On December 17, 2022, the unit was down powered to 94 percent to perform a control rod sequence exchange. The unit was returned to rated thermal power on December 17, 2022. The unit remained at rated thermal power for the rest of the inspection period.

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 performed activities described in IMC 2515, Appendix D, "Plant Status," observed risk significant activities, and completed on-site portions of IPs. 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

71111.01 - Adverse Weather Protection

Seasonal Extreme Weather Sample (IP Section 03.01) (1 Sample)

- (1) The inspectors evaluated readiness for seasonal extreme weather conditions prior to the onset of winter for the following systems:

reactor building chillers, diesel fire pump, cooling towers, and heating boiler on October 20, 2022

71111.04 - Equipment Alignment

Partial Walkdown Sample (IP Section 03.01) (3 Samples)

The inspectors evaluated system configurations during partial walkdowns of the following systems/trains:

- (1) 345 kilovolt (kV), 230 kV, and 115 kV substation on October 06, 2022
- (2) 11 emergency diesel generator (EDG) starting air and fuel oil systems prior to making 12 EDG inoperable for quarterly testing on October 25, 2022
- (3) high pressure coolant injection system during reactor core isolation cooling (RCIC) system work window on November 15, 2022

71111.05 - Fire Protection

Fire Area Walkdown and Inspection Sample (IP Section 03.01) (5 Samples)

The inspectors evaluated the implementation of the fire protection program by conducting a walkdown and performing a review to verify program compliance, equipment functionality, material condition, and operational readiness of the following fire areas:

- (1) fire zone 07-A, 125V division 1 battery room on October 03, 2022
- (2) fire zone 07-B, 250V division 1 battery room on October 03, 2022
- (3) fire zone 02-G, east shutdown cooling area on October 04, 2022
- (4) fire zone 02-H, west shutdown cooling area on October 04, 2022
- (5) fire zone 13-A, lube oil storage tank room on October 04, 2022

71111.07A - Heat Exchanger/Sink Performance

Annual Review (IP Section 03.01) (1 Sample)

The inspectors evaluated readiness and performance of:

- (1) 12 EDG heat exchanger

71111.11A - Licensed Operator Requalification Program and Licensed Operator Performance

Requalification Examination Results (IP Section 03.03) (1 Sample)

- (1) The inspectors reviewed and evaluated the licensed operator examination failure rates for the requalification annual operating exam administered between October 31, 2022, and December 12, 2022. One operator failed the operating test scenario portion and will be remediated and reexamined during the first quarter of 2023 to meet CFR requirements for standing watch as a licensed operator.

71111.11Q - Licensed Operator Requalification Program and Licensed Operator Performance

Licensed Operator Performance in the Actual Plant/Main Control Room (IP Section 03.01) (1 Sample)

- (1) The inspectors observed and evaluated licensed operator performance in the control room during an unplanned loss of the plant heating boiler on November 28, 2022.

Licensed Operator Requalification Training/Examinations (IP Section 03.02) (1 Sample)

- (1) The inspectors observed and evaluated licensed operator requalification simulator examination on November 29, 2022.

71111.12 - Maintenance Effectiveness

Maintenance Effectiveness (IP Section 03.01) (1 Sample)

The inspectors evaluated the effectiveness of maintenance to ensure the following structures, systems, and components (SSCs) remain capable of performing their intended function:

- (1) 3-year review of 13 diesel generator

Quality Control (IP Section 03.02) (1 Sample)

The inspectors evaluated the effectiveness of maintenance and quality control activities to ensure the following SSC remains capable of performing its intended function:

- (1) residual heat removal service water (RHRSW) pump 109B cable replacement on October 18, 2022

71111.13 - Maintenance Risk Assessments and Emergent Work Control

Risk Assessment and Management Sample (IP Section 03.01) (7 Samples)

The inspectors evaluated the accuracy and completeness of risk assessments for the following planned and emergent work activities to ensure configuration changes and appropriate work controls were addressed:

- (1) extended limiting condition for operation (LCO) for failure of 'B' control room emergency filtration train on October 21, 2022
- (2) risk-informed completion time for replacement of division 2 emergency service water (ESW) pipe on November 1, 2022
- (3) short term LCO planning during work on 11 standby liquid control pump on November 10, 2022, work order (WO) 700086593
- (4) Evaluation of cumulative risk associated with RCIC work window on November 14, 2022
- (5) reviewed the rework to route the cable shield ground through the current transformer for the RHRSW P-109B on November 21, 2022
- (6) risk-informed completion time for replacement of division 2 filtration service water (FSW) piping on December 1, 2022, WO 700103553
- (7) Reviewed planning and risk mitigation for the installation of MW-10B for tritium mitigation on December 15, 2022

71111.15 - Operability Determinations and Functionality Assessments

Operability Determination or Functionality Assessment (IP Section 03.01) (4 Samples)

The inspectors evaluated the licensee's justifications and actions associated with the following operability determinations and functionality assessments:

- (1) 501000066931, door-142 excessive gap while pressurized
- (2) 501000068506, P-109C, RHRSW pump cable not routed as designed
- (3) 501000068634, steady steam plume from 'C' outboard MSIC

- (4) 501000060255, 'G' safety relief valve discharge line temperature elevated

71111.18 - Plant Modifications

Temporary Modifications and/or Permanent Modifications (IP Section 03.01 and/or 03.02) (1 Sample)

- (1) The inspectors evaluated the temporary cooling installed for the MG set room per EC 601000003813.

71111.19 - Post-Maintenance Testing

Post-Maintenance Test Sample (IP Section 03.01) (6 Samples)

The inspectors evaluated the following post-maintenance testing activities to verify system operability and/or functionality:

- (1) division 2 emergency filtration train filter efficiency and leak tests after replacement of the charcoal canisters on October 21, 2022
- (2) 12 RHRSW pump following pump motor cable replacement on October 31, 2022
- (3) division 2 ESW system following pipe replacement on November 3, 2022
- (4) testing of pressure control valve PCV-4916A following replacement of an air pressure gauge for train 'A' outboard main steam isolation valve on November 8, 2022, WO 700082370-0020.
- (5) leakage testing after replacement of division 2 FSW piping on December 2, 2022, WO 700103968
- (6) 11 RHRSW pump after P-109A motor feeder cable replacement on December 16, 2022, WO 700103553

71111.22 - Surveillance Testing

The inspectors evaluated the following surveillance testing activities to verify system operability and/or functionality:

Surveillance Tests (other) (IP Section 03.01) (2 Samples)

- (1) reactor building to torus vacuum breaker operability check on October 12, 2022, WO 70080953
- (2) 14 ESW quarterly pump and valve testing after a portion of FSW piping was replaced on December 1, 2022, WO 700103968

71114.04 - Emergency Action Level and Emergency Plan Changes

Inspection Review (IP Section 02.01-02.03) (1 Sample)

- (1) The inspectors evaluated the following submitted Emergency Action Level and Emergency Plan changes:
 - FT-2021-756, FP-S-FSIP-07 Revision, 10/27/2021
 - FT-2021-760, FP-EP-WI-24 Changes, 12/21/2021
 - MT-2021-755, A.2-410 Revision, 08/27/2021

- MT-2021-761, Avaya Telephone Decommissioning, 12/08/2021
- MT-2021-762, EP-TPD Revision 32, 12/07/2021
- MT-2021-763, A.2-402 Revision, 12/22/2021
- MT-2022-765, A.2-404 Revision, 12/17/2022
- MT-2022-766, E-Plan Revision 56, 06/02/22
- MT-2022-767, A.2-809 Revision, 04/11/2022

This evaluation does not constitute NRC approval.

71114.06 - Drill Evaluation

Select Emergency Preparedness Drills and/or Training for Observation (IP Section 03.01) (1 Sample)

- (1) emergency response organization tabletop drill on October 18, 2022

RADIATION SAFETY

71124.08 - Radioactive Solid Waste Processing & Radioactive Material Handling, Storage, & Transportation

Radioactive Material Storage (IP Section 03.01) (3 Samples)

The inspectors evaluated the licensee's performance in controlling, labeling, and securing the following radioactive materials:

- (1) radioactive material stored in warehouse 4
- (2) radioactive material stored in the rotor storage building
- (3) radioactive material stored in the truck bay

Radioactive Waste System Walkdown (IP Section 03.02) (1 Sample)

The inspectors walked down the following accessible portions of the solid radioactive waste systems and evaluated system configuration and functionality:

- (1) reactor water clean-up

Waste Characterization and Classification (IP Section 03.03) (3 Samples)

The inspectors evaluated the following characterization and classification of radioactive waste:

- (1) reactor water clean-up resin for shipment 22-39
- (2) condensate resin for shipment 21-69
- (3) irradiated hardware for shipment 22-24

Shipping Records (IP Section 03.05) (3 Samples)

The inspectors evaluated the following non-excepted radioactive material shipments through a record review:

- (1) shipment 22-39 for reactor water clean-up resin as a type B shipment
- (2) shipment 21-69 for condensate resin as an LSA-II shipment
- (3) shipment 22-24 for irradiated hardware as a type B shipment

OTHER ACTIVITIES – BASELINE

71151 - Performance Indicator Verification

The inspectors verified licensee performance indicators submittals listed below:

MS09: Residual Heat Removal Systems (IP Section 02.08) (1 Sample)

- (1) October 1, 2021 through September 30, 2022

MS10: Cooling Water Support Systems (IP Section 02.09) (1 Sample)

- (1) October 1, 2021 through September 30, 2022

BI01: Reactor Coolant System (RCS) Specific Activity Sample (IP Section 02.10) (1 Sample)

- (1) July 1, 2021 through September 30, 2022

OR01: Occupational Exposure Control Effectiveness Sample (IP Section 02.15) (1 Sample)

- (1) July 1, 2021 through September 30, 2022

PR01: Radiological Effluent Technical Specifications/Offsite Dose Calculation Manual Radiological Effluent Occurrences (RETS/ODCM) Radiological Effluent Occurrences Sample (IP Section 02.16) (1 Sample)

- (1) July 1, 2021 through September 30, 2022

INSPECTION RESULTS

No findings were identified.

EXIT MEETINGS AND DEBRIEFS

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

- On January 12, 2023, the inspectors presented the integrated inspection results to C. Domingos, Site Vice President, and other members of the licensee staff.
- On November 17, 2022, the inspectors presented the radiation protection inspection results to S. Hafen, Plant Manager, and other members of the licensee staff.
- On December 5, 2022, the inspectors presented the emergency action level and emergency plan changes inspection results to K. Nyberg, Director of Nuclear Security and Emergency Preparedness, and other members of the licensee staff.

DOCUMENTS REVIEWED

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71111.01	Procedures	1151	Winter Checklist	101
71111.04	Drawings	NF-36298-1	Electrical Load Flow, One Line Diagram	118
	Procedures	2154-10	High Pressure Coolant Injection System Prestart Valve Checklist	40
		2154-14	Fuel Oil System Prestart Valve Checklist	20
		2154-28	Diesel Generator Airstart System Prestart Valve Checklist	12
71111.05	Fire Plans	Strategy A.3-02-G	East Shutdown Cooling Area	6
		Strategy A.3-02-H	West Shutdown Cooling Area	10
		Strategy A.3-07-A	125 Volt Division 1 Battery Room	8
		Strategy A.3-07-B	250 Volt Division 1 Battery Room	11
		Strategy A.3-13-A	Lube Oil Storage Tank Room	5
71111.07A	Procedures	0187-02A	12 Emergency Diesel Generator/12 Emergency Service Water Comprehensive Pump and Valve Tests	55
71111.11A	Miscellaneous	2022 MNGP Annual LORT Exam Summary Results	2022 Annual Licensed Operator Regualification Operating Test examination results for Monticello Nuclear Generating Plant	12/12/2022
71111.11Q	Miscellaneous	SEG RQ-SS-182	Loss of Torus Inventory Requiring Blowdown	1
	Procedures	C.4-B.08.03A	Loss of Heating Boiler	22
		C.4-B.08.07A	Ventilation System Failure	44
71111.12	Corrective Action Documents	501000023118	13 DG/52-710 Locked Out	02/13/2019
		501000053295	13 NDG Overheat During 1374 Load Test	06/28/2021
		501000067395	NOS: P-109B Motor Lead Degraded	10/18/2022
	Work Orders	7000103553-0190	P-109B/MTR-Remove Cable A608-M608/1 Between Switchgear and Motor	10/18/2022
71111.13	Corrective Action Documents	501000067517	Failed Freon Filter Test	10/19/2022
		501000068609	RHR SW P-109B Shielded Ground Cable	11/18/2022
		501000068885	Incorrect Manufacturer Heat Number on Received Piping (In Support of FSW Piping Replacement Project)	11/30/2022
	Drawings	NF-93493 (Isol Drawing of Div 2 FSW Piping)	S.W. Supply Line from Pump-111D to VEAC-14B (Turbine Building)	C

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
	Engineering Changes	601000004126	Outside Monitoring Wells Installed 2022	0
	Miscellaneous		Weekly PRA Schedule Evaluation (11/6/2022 - 11/12/2022)	11/01/2022
			Weekly PRA Schedule Evaluation (11/13/2022 - 11/19/2022)	11/08/2022
		FP-OP-PEQ-01	Protected Equipment Log for RCIC Work Window	11/13/2022
		QF1132 (FP-OP-PEQ-01)	Protected Equipment Work Approval Form for Repair of Oil Leak on 11 Standby Liquid Control Pump	11/09/2022
	Procedures	QF0930 (FP-PE-WLD-10)	Weld Control Record	6
	Work Orders	7000117104	Excavation Permit	12/08/2022
		700064444-0090	FSW, Install New Pipe and Supports	0
71111.15	Corrective Action Documents	501000060255	SRV 'G' Discharge Line Temp Elevated	02/01/2022
		501000064784	'B' SRV Intermittent Tail Pipe Temp Spike	07/18/2022
		50100006484	'G' SRV Approaching Alarm Setpoint	07/19/2022
		501000066625	'G' SRV ACMP Threshold Value Exceeded	09/22/2022
		501000066931	Door-142 Excessive Gap While Pressurized	10/04/2022
		501000067321	'G' SRV Tailpipe Temp Exceeded ACMP	10/16/2022
		501000068043	'G' SRV Tailpipe Temp Met ACMP Threshold	11/02/2022
		501000068253	'B' SRV Tailpipe Temperature Step Change	11/06/2022
		501000068506	RHRWS P-109C Cable Shield Not Routed as Designed	11/16/2022
		501000068634	Steady Steam Plume from 'C' MSIV	11/18/2022
	Procedures	602000005747	ODMI for Monitoring 'G' SRV Tailpipe Temperatures	11/17/2022
71111.18	Corrective Action Documents	501000063428	V-SF-4 Belts are no Longer on Pulleys	05/28/2022
		501000063794	MG Set Rm Cooling Ideas	06/12/2022
	Engineering Changes	601000003813	Temporary Cooling for MG Set Room	0
71111.19	Corrective Action Documents	501000068339	During 0051, PCI084 doesn't Display RSET	11/08/2022
		501000068352	DPIS-2-117B out of As Found	11/08/2022
	Miscellaneous	Field Change Request 0001	Temporary Chiller Power Weld Receptacle N1419B Fuses for EC Number 601000003813	0
	Procedures	0051	Main Steam Line High Flow Group I Instrument Test	38
		0255-05-IA-1-1	'A' RHRWS Quarterly Pump and Valve Tests (Marked Up Procedure Performed as PMT for 11 RHRWS Pump Motor	90

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
			Cable Replacement)	
		0255-05-IA-1-2	B RHRSW Quarterly Pump and Valve Tests (Marked Up Procedure Performed as PMT for 12 RHRSW Pump Motor Cable Replacement)	91B
		0255-11-IIC-2	Emergency Service Water System Leakage Test, Loop 'B'	9
		0466-02	B EFT Filter Efficiency and Leak Tests	41
	Work Orders	700064444	MT Replace Division 2 FSW Pipe	11/02/2022
		700082370	Replace Pressure Gauge For PCV-4916A	11/08/2022
		700103553-0150	11 RHRSW Pump (PMT/RTS)	12/16/2022
71111.22	Procedures	0141	Reactor Building to Torus Vacuum Breaker Operability Check	43
		0255-11-III-4	14 ESW Quarterly Pump and Valve Tests	66
71114.04	Miscellaneous	FT-2021-756	FP-S-FSIP-07 Revision	10/27/2021
		FT-2021-760	FP-EP-WI-24 Changes	12/21/2021
		MT-2021-755	A.2-410 Revision	08/27/2021
		MT-2021-761	Avaya Telephone Decommissioning	12/08/2021
		MT-2021-7621	EP-TPD Revision 32	12/07/2021
		MT-2021-763	A.2-402 Revision	12/22/2021
		MT-2022-765	A.2-404 Revision	12/17/2021
		MT-2022-766	E-Plan Revision 56	06/02/2022
		MT-2022-767	A.2-809 Revision	04/11/2022
	Procedures	A.2-402	On-Site Radiological Monitoring	11
		A.2-404	Emergency Air Sampling and Analysis	13
		A.2-410	Out of Plant Surveys	27
		A.2-809	EOF Security	14
		E-Plan	Emergency Plan	55
		E-Plan	Emergency Plan	56
71114.06	Miscellaneous	22B	MT Tabletop	0
71124.08	Corrective Action Documents	501000056905	Resin Liner RDS-1000 Overfilled	10/07/2021
		501000061395	Limited Quantity RAM Shipped as Exempt	10/18/2021
	Corrective Action Documents Resulting from	501000068509	NRC Comments Regarding Shipment 21-69	11/14/2022
		501000068557	NRC: License Verification Not Updated	11/16/2022

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
	Inspection			
	Miscellaneous	DAC-0570	MNGP Activated Hardware Characterization	0
		L92559-2	Vendor Analysis Report for T-34B	07/23/2021
		L96114-3	Vendor Analysis Report for T-36A	06/08/2022
		L96114-4	Vendor Analysis Report for T-36B	06/08/2022
	Procedures	FP-RP-NISP-04	Radiological Posting and Labeling	5
		FP-RP-RW-02	Radioactive Shipping Procedure	24
		FP-RP-RW-05	Type B Radioactive Shipments	2
		FP-RP-RW-06	Create Radioactive Packages Using Radman	1
		R.11.07	Sampling and Analysis of Radioactive Resins	16
	Shipping Records	21-69	Condensate Resin Shipment	10/26/2021
		22-24	Irradiated Hardware Shipment	06/21/2022
		22-39	Reactor Water Clean-Up Resin Shipment	09/27/2022
71151	Miscellaneous	MSPI QF0445 Packet	NRC and MOR Data Collection and Submittal Form (FP-R-PI-01); Review of MS09, MS10, and BI01 data (uploaded in CERTREC)	11/18/2022
	Procedures	FP-R-PI-01	Preparation of NRC Performance Indicators	10