



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

REGION III
2443 WARRENVILLE ROAD, SUITE 210
LISLE, ILLINOIS 60532-4352

April 30, 2021

Mr. Thomas Conboy
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 05000263/2021001

Dear Mr. Conboy:

On March 31, 2021, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at Monticello Nuclear Generating Plant. On April 6, 2021, 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,

/RA/

Hironori Peterson, Chief
Branch 3
Division of Reactor Projects

Docket No. 05000263
License No. DPR-22

Enclosure:
As stated

cc w/ encl: Distribution via LISTSERV®

Letter to Thomas Conboy from Hironori Peterson dated April 30, 2021.

SUBJECT: MONTICELLO NUCLEAR GENERATING PLANT – INTEGRATED INSPECTION
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**U.S. NUCLEAR REGULATORY COMMISSION
Inspection Report**

Docket Number: 05000263

License Number: DPR-22

Report Number: 05000263/2021001

Enterprise Identifier: I-2021-001-0041

Licensee: Northern States Power Company

Facility: Monticello Nuclear Generating Plant

Location: Monticello, MN

Inspection Dates: January 01, 2021 to March 31, 2021

Inspectors: T. McGowan, Resident Inspector
V. Myers, Senior Health Physicist
C. Norton, Senior Resident Inspector

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

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

Monticello began the inspection period at rated thermal power. Except for planned load drops for control rod sequence exchange and control rod line adjustments, Monticello remained at rated thermal power until February 14, 2021, when the unit began coast down at the end of the operating cycle. Monticello ended the inspection period at 85 percent rated thermal power.

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.

Starting on March 20, 2020, in response to the National Emergency declared by the President of the United States on the public health risks of the Coronavirus Disease 2019 (COVID-19), resident inspectors were directed to begin telework and to remotely access licensee information using available technology. During this time, the resident inspectors performed periodic site visits each week; conducted plant status activities as described in IMC 2515, Appendix D, "Plant Status"; observed risk-significant activities; and completed on-site portions of IPs. In addition, resident and regional baseline inspections were evaluated to determine if all or portions of the objectives and requirements stated in the IP could be performed remotely. If the inspections could be performed remotely, they were conducted per the applicable IP. In some cases, portions of an IP were completed remotely and on-site. The inspections documented below met the objectives and requirements for completion of the IP.

REACTOR SAFETY

71111.01 - Adverse Weather Protection

Impending Severe Weather Sample (IP Section 03.02) (1 Sample)

- (1) The inspectors evaluated the adequacy of the overall preparations to protect risk-significant systems from impending extreme low temperatures throughout the weekend starting on February 5, 2021

71111.04 - Equipment Alignment

Partial Walkdown Sample (IP Section 03.01) (4 Samples)

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

- (1) High pressure cooling injection (HPCI) system during the reactor core isolation cooling maintenance window on February 16, 2021
- (2) Control rod drive (CRD) pump room on March 18, 2021

- (3) Standby liquid control system on March 17, 2021
- (4) Core spray system/train 'A' on March 18, 2021

Complete Walkdown Sample (IP Section 03.02) (1 Sample)

- (1) The inspectors evaluated system configurations of emergency diesel generator (EDG) 12 on January 25, 2021

71111.05 - Fire Protection

Fire Area Walkdown and Inspection Sample (IP Section 03.01) (7 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 2-H, west shutdown cooling area on March 3, 2021
- (2) Fire zone 1-C, reactor core isolation cooling (RCIC) room on March 3, 2021
- (3) Fire zone 1-E, HPCI room on March 3, 2021
- (4) Fire zone 1-G, CRD pump room on March 9, 2021
- (5) Fire zone 33, emergency filtration train building, third floor on March 9, 2021
- (6) Fire zone 12-A, lower 4 kv bus area (13 & 15) on March 9, 2021
- (7) Fire zone 14-A, upper 4 kv bus area (14 & 16) on March 9, 2021

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 power increase following rod pattern adjustment on January 5, 2021

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

- (1) The inspectors observed and evaluated a newly promoted shift manager evaluated scenario on March 10, 2021

71111.12 - Maintenance Effectiveness

Maintenance Effectiveness (IP Section 03.01) (3 Samples 1 Partial)

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

- (1) Inspectors evaluated various maintenance work activities performed on EDG 11 from January 11, 2021 through January 14, 2021
- (2) 10 CFR 50.69 integrated decision-making panel for portions of the emergency service water system on March 12, 2021
- (3) 10 CFR 50.69 functional assessment of core spray on March 15, 2021

- (4) (Partial)
Evaluation of CAP 501000043960, No Appendix J test for instrument replacements

71111.13 - Maintenance Risk Assessments and Emergent Work Control

Risk Assessment and Management Sample (IP Section 03.01) (3 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) Reactor building exhaust damper maintenance on February 10, 2021
- (2) Standby gas treatment system exhaust fan breaker on February 10, 2021
- (3) HPCI work window on March 24, 2021

71111.15 - Operability Determinations and Functionality Assessments

Operability Determination or Functionality Assessment (IP Section 03.01) (5 Samples)

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

- (1) QIM 501000048364, non-conservative coefficient of friction assumption results in artificially high allowable values for the torque arm set screws on the division II residual heat removal (RHR) heat exchanger bypass valve
- (2) QIM 501000048542, broken sight glass window on 13 RHR service water pump seal water supply
- (3) QIM 501000048750, no grease in lantern ring seal on reactor core isolation cooling (RCIC) vacuum pump
- (4) QIM 501000048755, packing leak on high pressure coolant injection drain pot level switch upper rod valve
- (5) QIM 501000049574, seal leak in radwaste door 47

71111.19 - Post-Maintenance Testing

Post-Maintenance Test Sample (IP Section 03.01) (2 Samples)

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

- (1) EDG 11 overspeed trip check and auxiliary systems testing on January 21, 2021
- (2) CRD 11 pump relay maintenance, calibration and test tripping on March 11, 2021

71111.20 - Refueling and Other Outage Activities

Refueling/Other Outage Sample (IP Section 03.01) (1 Partial)

- (1) (Partial)
The inspectors evaluated refuel outage preparations for refuel outage 30 during the first quarter 2021

71111.22 - Surveillance Testing

The inspectors evaluated the following surveillance tests:

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

- (1) Functional test and calibration of the low reactor pressure - emergency core cooling system pump start permissive pressure switches on March 25, 2021
- (2) EDG 12 monthly load test on March 29, 2021

Inservice Testing (IP Section 03.01) (1 Sample)

- (1) HPCI quarterly pump and valve test on March 25, 2021

Containment Isolation Valve Testing (IP Section 03.01) (1 Sample)

- (1) Primary containment isolation valve exercise on March 26, 2021

RADIATION SAFETY

71124.04 - Occupational Dose Assessment

Special Dosimetric Situations (IP Section 03.04) (1 Sample)

The inspectors evaluated the following special dosimetric situation:

- (1) Declared Pregnant Worker for declaration on August 31, 2020

71124.05 - Radiation Monitoring Instrumentation

Calibration and Testing Program (IP Section 03.02) (12 Samples)

The inspectors evaluated the calibration and testing of the following radiation detection instruments:

- (1) RM-14, Unit Tracking Code 310331
- (2) HV-1, Unit Tracking Code 310273
- (3) REM500B, Unit Tracking Code 600003
- (4) RO-7, Unit Tracking Code 310410
- (5) SAM-11, Unit Tracking Code 310413
- (6) DARM 3090-3, Unit Tracking Code 502321
- (7) GEM-5, Unit Tracking Code 600019
- (8) Containment High Range Radiation Monitor, RM-7860A
- (9) ARGOS 5AB, Unit Tracking Code 491666
- (10) Telepole, Unit Tracking Code 515544
- (11) 5XLB Automatic Smear Counter, Unit Tracking Code 525006
- (12) AMS-4 Continuous Air Monitor, Unit Tracking Code 512848

Effluent Monitoring Calibration and Testing Program Sample (IP Sample 03.03) (2 Samples)

The inspectors evaluated the calibration and maintenance of the following radioactive effluent monitoring and measurement instrumentation:

- (1) Reactor Building Vent Wide Range Gas Monitor, RM-7859A
- (2) Service Water Monitor, RM-17-351

OTHER ACTIVITIES – BASELINE

71151 - Performance Indicator Verification

The inspectors verified licensee performance indicators submittals listed below:

IE01: Unplanned Scrams per 7000 Critical Hours Sample (IP Section 03.01) (1 Sample)

- (1) January 2020 – December 2020

IE03: Unplanned Power Changes per 7000 Critical Hours Sample (IP Section 03.02) (1 Sample)

- (1) January 2020 – December 2020

IE04: Unplanned Scrams with Complications (USwC) Sample (IP Section 03.03) (1 Sample)

- (1) January 2020 – December 2020

71153 – Follow-up of Events and Notices of Enforcement Discretion

Event Follow-up (IP Section 03.01) (1 Sample)

- (1) The inspectors evaluated site's response to a steam leak outside of containment related to the reactor water cleanup system (train 'A') on January 26, 2021

Reporting (IP Section 03.05) (1 Sample)

- (1) Medical emergency, potentially contaminated transportation to hospital on February 2, 2021

INSPECTION RESULTS

Observation: Licensee Response to Steam Leak Outside of Containment	71153
On January 26, 2021, the licensee entered abnormal operating procedures in response to a steam leak outside containment. The leak was a fatigue failure through wall on a relief valve on the non-safety related rad waste side of the 'A' cleanup system train. The licensee successfully isolated and repaired the leak. The inspectors identified no findings or violations of regulatory requirements.	

Observation: Medical Emergency	71153
On February 2, 2021, a worker suffered a non-work-related medical emergency while working in a potentially contaminated area. The licensee placed a priority on getting the worker medical attention and notified the local hospital that a potentially contaminated injured individual was in transport to their facility. Radiation protection was able to radiologically clear the individual in the ambulance before the ambulance left the site and the individual was transported as non-contaminated. The local hospital was notified of the change in classification. The licensee did not enter an emergency action level. The inspectors identified no findings or violation of regulatory requirements.	

EXIT MEETINGS AND DEBRIEFS

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

- On April 6, 2021, the inspectors presented the integrated inspection results to Mr. T. Conboy, Site Vice President, and other members of the licensee staff.
- On March 11, 2021, the inspectors presented the radiation protection inspection results to Mr. D. Barker, Plant Manager, and other members of the licensee staff.

DOCUMENTS REVIEWED

Inspection Procedure	Type	Designation	Description or Title	Revision or Date		
71111.01	Procedures	1444	Pre and Post Severe Weather Inspection Checklist	20		
		B.08.07-05	Operations Manual - Heating and Ventilating	67		
		C.4-B.08.03.A	Operations Manual Abnormal Procedures Ventilation System Failure	22		
		C.4-B.08.7.A	Operations Manual Abnormal Procedures Ventilation System Failure	44		
71111.04	Drawings	NH-36244 (M-118)	Control Rod Hydraulic System	90		
		NH-36245 (M-119)	Control Rod Hydraulic System	80		
		NH-36248 (M-122)	Core Spray (Train A)	90		
		NH-36249 (M-123)	P&ID HPCI (Steam Side)	85		
		NH-36250 (M-124)	P&ID HPCI (Water Side)	87		
		NH-36253 (M-127)	Standby Liquid Control System	80		
	Procedures	2124	Plant Prestart Checklist Diesel Generators and Fuel Oil System	12		
		2154-14	Fuel Oil System Prestart Valve Checklist	20		
		2154-28	Diesel Generator Air Start System Prestart Valve Checklist	12		
		2173	Plant Prestart Checklist AC Power System – Plant	25		
		FP-OP-PEQ-01	Protected Equipment Program	25		
		71111.05	Fire Plans	Strategy A.3-01-C	Fire Zone 1-C, RCIC Room and Appendix R Cable Enclosure	11
				Strategy A.3-01-E	Fire Zone 1-E, HPCI Room – Reactor Building Elevation 896'	9
				Strategy A.3-01-G	Fire Zone 1-G, CRD Pump Room	5
Strategy A.3-02-H	Fire Zone 2-H, West Shutdown Cooling Area			10		
Strategy A.3-12-A	Fire Zone 12-A, Lower 4 kv Bus Area (13 & 15)			19		
Strategy A.3-14-A	Fire Zone 14-A, Upper 4 kv Bus Area (14 & 16)	18				

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		Strategy A.3-33	Fire Zone 33, EFT Building Third Floor	12
71111.11Q	Miscellaneous	RQ-55-190	Evaluated Scenario, Unisolable Reactor Core Isolation Cooling Leak Requiring Blowdown	08/20/2020
	Procedures	2300	Reactivity Adjustment	24
71111.12	Corrective Action Documents	501000047671	11 EDG Lister Diesel Fuel Leak	01/09/2021
		501000047675	11 EDG Oil Weepage Found on TS-7206	01/12/2021
		501000047690	G-3A Main Bearing Stud Nut Play	01/11/2021
		501000047695	11 EDG Fuel Oil Weepage	01/12/2021
		501000047696	11 EDG: Lube Oil Filter Drip Tray Crack	01/12/2021
		501000047733	11 EDG Overspeed Limit Switch	01/13/2021
		501000047750	11 EDG Local Governor Switch Defective	01/12/2021
		501000047764	Potential Switch Adverse Trend	01/13/2021
		50100047697	MCE Phase 3 to 1 mH Reading Low V-SF-10	01/12/2021
	Miscellaneous		Core Spray Function Matrix	03/15/2021
		XCELCORP007-REPT-MT-FSW	Monticello Nuclear Generating Station 10 CFR 50.69 Categorization Document - FSW System	0
	Procedures	OSP-MSC-0542-01	Breaker Alignment and Indicated Power Availability Verification of Required Offsite Circuits	1
	Work Orders	700048277-0010	V-SF-10/MTR, Electrical Offline PM	0
71111.13	Corrective Action Documents	501000048487	B3310 Overload Relay INOP	02/08/2021
		501000048505	CR124 Overload Relays are Obsolete	02/09/2021
		501000048524	Actuator not Available from Warehouse	02/09/2021
		501000049819	Pomona Jacks Unable to be Installed	03/23/2021
71111.15	Corrective Action Documents	501000048364	MO-2010 Weak Link Limit	02/03/2021
		501000048542	FG-3171B Broken Sight Glass Window	02/08/2021
		501000048750	P-211, RCIC Vac Pump Lantern Ring Issue	02/16/2021
		501000048755	1-HPCI-R-6, LS-23-90 Upper Root Iso Leak	02/16/2021
		501000049574	Seal Leak in Radwaste Door 47	03/14/2021
	Procedures	FP-OP-OL-01	Operability	22
71111.19	Procedures	0187-01A	11 Emergency Diesel Generator / 11 ESW Comprehensive Pump and Valve Tests	49
		0192	Diesel Fuel Quality Check	43
		NSP-DOL-0604	EDG Diesel Oil Pump Quarterly/Comprehensive Test	16

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		OSP-EDG-0550-11	11 Emergency Diesel Generator - Consolidated Testing	8
	Work Orders	700051052	152-506, 11 CRD Pump Relay Maintenance, Calibration, and Test Tripping	03/10/2021
71111.22	Corrective Action Documents	50100049859	Contact Resistance During ISP-ECC-0033	03/25/2021
	Procedures	0032	ECCS Pump Start Permissive Sensor	22
		0187-02B	12 Emergency Diesel Generator	44
		0255-06-1A-1	HPCI Quarterly Pump and Valve Test	03/24/2021
		0255-10-IA-1	Primary Containment Isolation Valve Exercise	47
71124.04	Miscellaneous		Unborn Child Protection Program Declaration	08/31/2020
71124.05	Calibration Records	0248	Reactor Building Vent Wide Range Gas Monitor Calibration	06/04/2020
		0290	Service Water Monitor Calibration	02/05/2021
		0428-01	Containment High Range Radiation Monitors Calibration Procedure	01/12/2021
		0428-02	Containment High Range Radiation Detectors Calibration Procedure	04/26/2019
		21569	West Technology Inc Certificate of Calibration for REM500B	10/28/2020
		5150	MG Telepole Calibration	10/30/2020
		5158	Canberra Tennelec 5XLB Calibration Verification	08/03/2020
		5171	RO-7 Calibration for 310410	02/04/2021
		5175	DARM Calibration - Model #3090-3	11/04/2020
		5712	Frisker Calibration Record	08/26/2020
		5733	Air Sampler Calibration Data Sheet	04/01/2020
		5854	SAM-11/LAM Calibration	06/22/2020
		5871	ARGOS Calibration	12/02/2020
	Miscellaneous	NX-19774	High Range Gamma Radiation Monitoring System Vendor Manual	1
	Procedures	R.09.22	Frisker Calibration and Functional Check	23
		R.09.35	Air Sampler Calibration	17
		R.09.50	DCA Area Radiation Monitor Checks	16
R.09.55		RO-7 Operation, Function Check and Calibration	10	
R.09.61		SAM-11/LAM Operation and Calibration	13	

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		R.09.62	ARGOS Contamination Monitors: Function Check and Calibration	16
		R.09.69	Operational and Functional Checks for Canberra Tennelec 5XLB	5
71151	Miscellaneous	QF0445	Unplanned Scrams per 7000 Critical Hours, Monthly Submission Forms (January - December 2020)	15
		QF0445	Unplanned Scrams/Complications, Monthly Submission Forms (January - December 2020)	15
		QF0445	Unplanned Power Changes per 7000 Critical Hours, Monthly Submission Forms (January - December 2020)	15
71153	Drawings	NH-36047-1 (MONTI CAD DWG: M-141)	Radwaste Solids Handling System Piping and Instrumentation Diagram	88
		NH-36255 9 (MONTI CAD DWG: M-129)	Unit 1 Reactor Water Clean-Up Filter/Demineralizer System P&ID	86
	Procedures	A-5-100	On-Site Medical Emergency	23
		Ops Man C.4-B.02.04.A	Steam Leaks Outside Primary Containment	15