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

November 9, 2020

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 05000263/2020003

Dear Mr. Conboy:

On September 30, 2020, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at Monticello Nuclear Generating Plant. On October 6, 2020, 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 November 9, 2020.

SUBJECT: MONTICELLO NUCLEAR GENERATING PLANT – INTEGRATED INSPECTION REPORT 05000263/2020003

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U.S. NUCLEAR REGULATORY COMMISSION
Inspection Report

Docket Number:	05000263
License Number:	DPR-22
Report Number:	05000263/2020003
Enterprise Identifier:	I-2020-003-0030
Licensee:	Northern States Power Company, Minnesota
Facility:	Monticello Nuclear Generating Plant
Location:	Monticello, MN
Inspection Dates:	July 01, 2020 to September 30, 2020
Inspectors:	R. Elliott, Acting Sr. Resident Inspector J. Harvey, Acting Sr. Resident Inspector M. Holmberg, Senior Reactor Inspector D. Krause, Resident Inspector J. Weigandt, 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

The unit began the inspection period at full power and operated at approximately full power, except for the following: flexible power operations over the quarter for electric grid efficiencies, and for several reductions in power to approximately 80 percent to meet river discharge temperatures then returning to 100 percent 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 (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 and during that time conducted plant status activities as described in IMC 2515, Appendix D; 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 a portion 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

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 extreme hot weather, to include the impact of high river and ambient temperatures on service water cooled systems

71111.04 - Equipment Alignment

Partial Walkdown Sample (IP Section 03.01) (2 Samples)

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

(1) High pressure coolant injection on September 10, 2020
(2) 'A' core spray post maintenance on September 17, 2020

71111.05 - Fire Protection

Fire Area Walkdown and Inspection Sample (IP Section 03.01) (4 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 (FZ) FZ-07-C, 125 volts Division 2 battery on September 10, 2020
(2) FZ-12-A, lower 4 kilovolts (kV) room on September 10, 2020
(3) FZ-14-A, upper 4 kV room on September 10, 2020
(4) FZ-23-B, intake structure corridor on September 5, 2020

71111.06 - Flood Protection Measures

Inspection Activities - Internal Flooding (IP Section 03.01) (1 Sample)

The inspectors evaluated internal flooding mitigation protections in the:

(1) Fire pump P-110, discharge piping integrity in the intake structure after maintenance

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 the diesel fire pump test on September 5, 2020

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

(1) The inspectors observed and evaluated MT Simulator licensed operator requalification exam on August 11, 2020

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) Group 1 isolation logic on July 28, 2020

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) Low pressure coolant injection (LPCI) and main steam line Hi flow relay planned maintenance – Yellow fire risk on July 24, 2020
(2) Group 1 differential pressure instrument switch (DPIS) planned maintenance on July 27, 2020
(3) Work week risk from August 31, 2020, to September 4, 2020

71111.15 - Operability Determinations and Functionality Assessments

Operability Determination or Functionality Assessment (IP Section 03.01) (2 Samples)

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

(1) Unexpected response during anticipated transient without scram (ATWS) mod on August 27, 2020
(2) Safety/Relief Valve (SRV) tailpipe differential pressure transmitter (DPT) primary containment penetration test missed on September 8, 2020

71111.18 - Plant Modifications

Temporary Modifications and/or Permanent Modifications (IP Section 03.01 and/or 03.02) (2 Samples)

The inspectors evaluated the following temporary or permanent modifications:

(1) Remove reactor feed pump start interlock POS-2375 and POS-2376
(2) ATWS modification, replacement of Rosemount 510 trip units

71111.19 - Post-Maintenance Testing

Post-Maintenance Test Sample (IP Section 03.01) (5 Samples)

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

(1) 11 emergency service water (ESW) pump on July 15, 2020
(2) Main steam line differential pressure indicating switch on July 22, 2020
(3) K-1F, 16 INST, and service air compressor, PMT on July 28, 2020
(4) 97-54, 12 emergency diesel generator low voltage degraded voltage relay on July 28, 2020
(5) B3315, D-10, 125VDC charger for 11 battery 480 VAC on August 3, 2020

71111.22 - Surveillance Testing

The inspectors evaluated the following surveillance tests:

Surveillance Tests (other) (IP Section 03.01) (6 Samples)

(1) 0006 SCRAM discharge volume HI level SCRAM on July 7, 2020
(2) Drywell high pressure scram, and group 2 & 3 isolation test and Cal on July 20, 2020

(3) B3315, D-10, 125 VDC charger for 11 battery 480 VAC on August 3, 2020
(4) 1070 Reactor core isolation coolant (RCIC) flow control dynamic test on August 11, 2020
(5) Safety bus under voltage test on August 13, 2020
(6) Standby gas treatment 'B' test on August 16, 2020

Inservice Testing (IP Section 03.01) (1 Sample)

(1) Standby liquid control pump and valve test on August 5, 2020

OTHER ACTIVITIES – BASELINE

71152 - Problem Identification and Resolution

Semiannual Trend Review (IP Section 02.02) (1 Sample)

The inspectors reviewed the licensee's corrective action program related to the following issue(s):

(1) Potential adverse trends in degrading work management practices.

Annual Follow-up of Selected Issues (IP Section 02.03) (1 Sample)

The inspectors reviewed the licensee's implementation of its corrective action program related to the following issue(s):

(1) Control Rod Drive System Operational Vulnerabilities.

INSPECTION RESULTS

Observation: Control Rod Drive System Operational Vulnerabilities	71152
Over the past year, there have been several operational vulnerabilities associated with the Control Rod Drive (CRD) system. The inspectors identified at least ten issues associated with CRD components that had the potential to impact SCRAM insertion functions of the control rods or may have placed the licensee in a single point vulnerability with respect to the CRD system. Several instances of nitrogen (N2) leaks from accumulators were noted as on-going or slow to have action taken to repair. Low accumulator N2 pressures can impact SCRAM insertion functions of the control rods. In order to maintain operability and compliance with technical specifications, operations personnel regularly repressurized the accumulators. In several instances this was noted as an operational burden. The inspectors reviewed licensee corrective actions associated with Corrective Action QIM 50100038829, "CRD-111/02-31 Valve not Able to Isolate"; QIM 50100035347, "CRD-111/18-31 Bonnet Instrument Block N2 Leak"; and QIM 50100038062, "CRD-11/14-39 Would not Isolate for Cal." The inspectors assessed the following performance attributes in their review: • Complete and accurate identification of the problem in a timely manner commensurate with its safety significance and ease of discovery; • Consideration of the extent of condition, generic implications, common cause, and previous occurrences; • Evaluation and disposition of operability/functionality/reportability issues;	

- Classification and prioritization of the resolution of the problem commensurate with safety significance;
- Identification of corrective actions, which were appropriately focused to correct the problem; and
- Completion of corrective actions in a timely manner commensurate with the safety significance of the issue.

The inspectors selected these samples due to the operability impact associated Control Rod Drive system; a safety significant system. Inspectors focused review of the above attributes on the licensee's corrective actions associated with the above QIMs and several others. The Inspectors determined the licensee adequately addressed the issues in accordance with their corrective action process and did not identify a performance deficiency with this issue.

Observation: Potential Adverse Trends in Degrading Work Management Practices.	71152

The inspectors performed a semi-annual review of the licensee's corrective action and adverse condition monitoring programs from January 1 – June 30, 2020, for potential adverse trends. The inspectors noted several failures in work management practices which resulted in near misses associated with maintenance or planning of safety-related or emergency preparedness equipment. Based on these events, the inspectors reviewed the licensee's corrective action program (QIMs 501000043571, "Unexpected Response during ATWS Modification"; 50150100041764, "Loss of Power to 'B' Stack WRGM"; and 501000043696, "Potential Trend in I&C Work Planning"), trend reports, major equipment problem lists, system health reports, self-assessments, and additional documents to identify trends that might indicate the existence of a more significant safety issue. Programmatic requirements and processes were also reviewed to determine whether adverse conditions related to work control and planning were being appropriately tracked, managed, and resolved. The inspectors also reviewed the licensee's selection of criteria or set points for which further evaluation or action was designated to assess the health of the adverse condition monitoring program.

The inspectors determined the licensee appropriately followed their corrective action process and did not identify any significant trends that might indicate the existence of a more significant safety concern that had not been previously addressed by the licensee, nor did the inspectors identify any performance deficiency with this issue.

EXIT MEETINGS AND DEBRIEFS

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

- On October 6, 2020, the inspectors presented the integrated inspection results to Mr. T. Conboy, Site Vice President and other members of the licensee staff.

DOCUMENTS REVIEWED

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71111.01	Corrective Action Documents	501000042102	Service Water System Challenges	0
		501000042210	WW2027 10 Tasks Moved Out of the Week	0
	Miscellaneous		Site VP Summer Readiness Certification Letter to the CNO	05/15/2020
	Procedures	B.09.03-05	345KV Substation System Operation	44
71111.04	Work Orders	700069851	0255-06-IA-1, HPCI Quarterly Pump and Valve Tests	105
		700073444	0255-03-IA-1-1, Core Spray Loop 'A' Quarterly Pump and Valve Tests	65
71111.05	Fire Plans	Fire Zone 12-A	Strategy A.3-12-A, Lower 4KV Bus Area (13 & 15)	19
		Fire Zone 14-A	Strategy A.3-14-A, Upper 4KV Bus Area (14 & 16)	18
		Fire Zone 23-B	Strategy A 3.23-B, Intake Structure Corridor	10
		Fire Zone 7-C	Strategy A.3-07-C, 125V Division II Battery Room	9
71111.06	Miscellaneous		P&ID Screen Wash, Fire and Chlorination System Intake Structure	95
	Work Orders	700039723	Fire Pump (P-110) Discharge Strainer	08/10/2020
		700041751	Fire Detection Instrumentation Detector Sensitivity Check for 962 ft Reactor Building	08/06/2020
		700069652	Verify Strainer Fitup	08/10/2020
71111.11Q	Corrective Action Documents	501000043886	V-CH.1 Found Tripped	0
		501000043903	Condensate Pump Packing Leak	0
	Procedures	OSP-FIR-0608	P-506 Portable Diesel Fire Pump Test	7
		RQ-SS-183	MT Simulator LOR Exam	0
71111.12	Procedures	NX-7823-4-8	Elem. Diagram - Primary Containment Isolation System	7
71111.13	Corrective Action Documents	501000042619	16A-K3D Relay Cycling	07/24/2020
		501000042632,	DPIS-2-116D Out of As-Found	07/24/2020
		501000042633	DPIS-2-116D Instrument Issues	07/26/2020
		501000042634	DPIS-2-116D Mercury Switch Observations	07/26/2020
		501000042644	Broken Phenolic Inside Relay 16A-K3B	07/25/2020
		501000043686	Removal of MCC-122 from Service	08/31/2020
		501000043772	WW2034 Items Excluded per AP928 App F	08/31/2020
		501000043854	Fire Det S-116A Failed Sensitivity Test	09/03/2020
		501000043912	Increase in Drywell Equipment Drain Sump	09/03/2020

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		50100042550	16A-K3D Relay Failing	07/21/2020
	Drawings	NX-7823-4-5	Elem. Diag - Primary Containment Isolation System	79
		NX-7823-4-8	Elem. Diag-Primary Containment Isolation System	77
71111.15	Corrective Action Documents	50100003960	No Appendix J Test for Instrument Replacements	0
		501000043673	IST and Appendix J Impacts Missed in ECR 1779	0
		501000043960	No Appendix J Test for Instrument Replacements	0
	Miscellaneous	ACE 501000043571	Unexpected Response During ATWS Mod	0
		ECR 601000001779	Rosemount Upgrade - SRV Tailpipe Differential Pressure Transmitters	04/03/02020
71111.18	Corrective Action Documents Resulting from Inspection	501000041113	NRC Observation of 50.59 Screening	05/29/2020
	Engineering Changes	601000000402	Remove RFP Start Interlock POS-2375 and POS-2376	0
	Miscellaneous	18-0084	50.59 Screening - Removal of Feedwater Block Valve Pump Start Interlocks	2
		ECR 601000002008	NRC ATWS Diversity Rule LLWL Trip Units	05/15/2020
71111.19	Work Orders	700004353	97-54, 12 EDG Low Voltage Degraded Voltage Relay PMT	07/29/2020
		700039948	11 ESW Pump Discharge Air Vent	1
		700040227	K-1F, 16 INST and Service Air Compressor PMT	0
		700053265	11 ESW Pump Basket Strainer Selector Valve	3
		700071513	ESW Pump Basket Strainer	1
		700072429	D-10, 15VDC Charger for 11 Battery 480 PMT	08/28/2020
71111.22	Corrective Action Documents	01204062	Bases for .6.4.2 Action Entry	0
	Work Orders	700004353	97-54, 12 EDG Low Voltage Degraded Voltage Relay	07/29/2020
		70002429	D-10, 125VDC Charger for 11 Battery 480 PMT	08/28/2020
		700063046	SBLC Suction Piping System Leakage Test, 0255-02-IIC-2 Standby Liquid Control Suction Piping System Leakage Test	6
		700070951	Safety Bus Under Voltage Test, 0301 Safeguard Bus Degraded Voltage Protection Relay Unit Functional Test	44

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		700071042	Drywell High Pressure Scram and Group Iso Test and Cal, 0003Drywell High Pressure Scram and Group 2, 3, and SCTMT Isolation Test and Calibration Procedure	36
		700071867	SBLC Quarterly Test, 0255-0211 SBLC Quarterly Pump and Valve Tests	67
		700072347	Safety Bus Undervoltage Calibration, 0302 Safeguard Bus Degraded Voltage Protection - Relay Unit Calibration	35
		700072449	SBGT B Quarterly Test, 0253-02 SBGT Quarterly Test	57
		700076143	0006 SCRAM Discharge Volume HI Level SCRAM Test	07/31/2020
		70009651	RCIC Flow Control Dynamic Test	08/12/2020
71152	Corrective Action Documents	36072	P-201A 11 CRD Pump Vent Valves Leak	0
		501000038062	CRD-111/18-31 Bonnet Instrument Block N2 Leak	0
		501000038062	CRD-111-14-39 Would not Isolate for Calibration	0
		501000038829	CRD-111/02-31 Valve not Able to Isolate	0
		501000041084	O.D.D. Anchor Bolt Issues	0
		501000041764	Loss of Power to 'B' Stack WRGM	0
		501000042736	DPIS 3-304 and 3-217 Failed Downscale	0
		501000043571	Unexpected Response During ATWS Modification	0
		501000043696	Potential Trend I&C Work Planning	0