



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

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

May 26, 2020

EA-13-109

Mr. Thomas Conboy
Site Vice President
Northern States Power Company, Minnesota
Monticello Nuclear Generating Plant
2807 West County Road 75
Monticello, MN 55362-9637

SUBJECT: MONTICELLO NUCLEAR GENERATING PLANT – INSPECTION OF THE
IMPLEMENTATION OF EA-13-109: ORDER MODIFYING LICENSES WITH
REGARD TO RELIABLE HARDENED CONTAINMENT VENTS CAPABLE OF
OPERATION UNDER SEVERE ACCIDENT CONDITIONS REPORT
05000263/2020012

Dear Mr. Conboy:

On May 7, 2020, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at Monticello Nuclear Generating Plant 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,

/RA/

Aaron T. McCraw, Team Leader
Technical Support Staff
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 Aaron McCraw, dated May 26, 2020.

SUBJECT: MONTICELLO NUCLEAR GENERATING PLANT – INSPECTION OF THE IMPLEMENTATION OF EA-13-109: ORDER MODIFYING LICENSES WITH REGARD TO RELIABLE HARDENED CONTAINMENT VENTS CAPABLE OF OPERATION UNDER SEVERE ACCIDENT CONDITIONS REPORT 05000263/2020012

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

Docket Number: 05000263

License Number: DPR-22

Report Number: 05000263/2020012

Enterprise Identifier: I-2020-012-0008

Licensee: Northern States Power Company, Minnesota

Facility: Monticello Nuclear Generating Plant

Location: Monticello, MN

Inspection Dates: May 04, 2020 to May 07, 2020

Inspectors: D. Krause, Resident Inspector
S. Sheldon, Project Engineer

Approved By: Aaron T. McCraw, Team Leader Technical Support Staff
Division of Reactor Projects

Enclosure

SUMMARY

The U.S. Nuclear Regulatory Commission (NRC) continued monitoring the licensee's performance by conducting an Inspection of The Implementation of EA-13-109: Order Modifying Licenses with Regard to Reliable Hardened Containment Vents Capable of Operation Under Severe Accident Conditions 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.

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/readingrm/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." From January 1 – March 19, 2020, the inspectors performed plant status activities described in IMC 2515, Appendix D, "Plant Status," and conducted routine reviews using IP 71152, "Problem Identification and Resolution." 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; and observed risk significant activities when warranted. In addition, resident and regional baseline inspections were evaluated to determine if all or 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 the cases where it was determined the objectives and requirements could not be performed remotely, management elected to postpone and reschedule the inspection to a later date.

OTHER ACTIVITIES – TEMPORARY INSTRUCTIONS, INFREQUENT AND ABNORMAL

2515/193 - Inspection of the Implementation of EA-13-109: Order Modifying Licenses with Regard to Reliable Hardened Containment Vents Capable of Operation under Severe Accident Conditions

Inspection of the Implementation of EA-13-109: Order Modifying Licenses with Regard to Reliable Hardened Containment Vents Capable of Operation under Severe Accident Conditions (1 Sample)

- (1) Inspectors reviewed documentation, conducted walkdowns, and held discussions with licensee staff to verify implementation of a reliable hardened containment vent as described in the plant specific submittals and the associated safety evaluation (ADAMS Accession No. ML19255F582) to determine compliance with NRC Order EA-13-109 Phase 1, "Reliable, Severe Accident Capable Wetwell Venting System" (ADAMS Accession No. ML13143A321).

The inspectors verified that the licensee satisfactorily:

- Installed the Hardened Containment Vent System (HCVS) to meet the performance objectives outlined in Section A.1.1 of Attachment 2 to the Order EA-13-109;
- Installed the HCVS system with the design features specified in Section A.1.2 of Attachment 2 to the Order EA-13-109;

- Designed the HCVS to meet the quality standards described in Section A.2 of Attachment 2 to the Order EA-13-109;
- Developed and implemented adequate maintenance and testing of HCVS equipment to ensure their availability and capability;
- Developed and issued procedures to safely operate the HCVS using normal power supplies, during Extended Loss of AC Power (ELAP), and a postulated severe accident scenario, and integrated the procedures into existing plant procedures; and
- Trained their staff to ensure personnel can proficiently operate the HCVS.

Inspectors reviewed documentation, conducted walkdowns, and held discussions with licensee staff to verify implementation of a reliable hardened containment vent as described in the plant specific submittal and the associated safety evaluation (ADAMS Accession No. ML19255F582) to determine compliance with NRC Order EA-13-109 Phase 2, “Reliable, Severe Accident Capable Drywell (or alternative strategy) Venting System” (ADAMS Accession No. ML13143A321).

The inspectors verified that the licensee satisfactorily developed a strategy making it unlikely that the licensee would need to vent from the containment drywell, that includes the following:

- Implemented the Severe Accident Water Addition (SAWA)/Severe Accident Water Management (SAWM) systems as defined and fulfilled functional requirements for installed and portable equipment;
- Installed and/or identified the previously-installed instrumentation necessary to implement SAWM;
- Developed and implemented adequate maintenance and testing of SAWA/SAWM equipment to ensure availability and capability;
- Developed and issued procedures to safely operate the SAWA/SAWM during an ELAP and during postulated severe accident scenario, and integrated their procedures into their existing plant procedures such that entry into and exiting from the procedures are clear when using existing plant procedures; and
- Trained their staff to ensure personnel can proficiently operate the HCVS during an ELAP and accident scenario.

The inspectors verified that any noncompliance with requirements, and standards identified during the inspection was entered into the licensee's corrective action program.

INSPECTION RESULTS

No findings were identified.

EXIT MEETINGS AND DEBRIEFS

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

- On May 7, 2020, the inspectors presented the Inspection of The Implementation of EA-13-109: Order Modifying Licenses with Regard to Reliable Hardened Containment Vents Capable of Operation Under Severe Accident Conditions 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
2515/193	Calculations	PRA-CALC-14-003	Monticello MAAP Thermal Hydraulic Calculations to Support Extended Loss of AC Power (ELAP) Mitigating Strategies	2
	Corrective Action Documents	50100002224	Hard Pipe Vent Rad Monitor Failure	0
		501000008583	RM-4544 Signal Failure During Rounds	0
		501000021681	B.5.B Vehicle Needs New Oil Pan	0
		501000023266	Flex/Alternate Emergency Access Point	0
		501000026426	RFO29 Flex Lead Bolt Issue	0
		501000026766	Fuel Leak from FLEX Pump P-506	0
		501000028840	Hole Developed on 5" 50ft Discharge Hose	0
		501000030038	Potential FLEX Generator PM Enhancement	0
		501000032050	HPV Rad Monitor Failed Off Scale Low	0
		501000034669	FLEX Fire Hose Connection Icing Issue	0
		501000035387	Snow Removal for FLEX Not Followed	0
		501000035574	HCVS FSA SAWA Valve Testing	0
		501000036074	RM-4544 Spiking/ Losing Power	0
		501000036090	Hard Pipe Vent Rad Monitor Found Failed	0
		501000038161	Hard Pipe Rad Monitor Power Loss	0
		501000038252	RM-4544, HPV Rad Monitor failed	0
	501000039165	Adverse Trend of HPV Rad Monitor	0	
	501000039448	SAWA Maint Plan Issue Not Addressed	0	
	Corrective Action Documents Resulting from Inspection	501000040276	HCVS 2020 - Procedure Enhancement	05/05/2020
		501000040360	HCVS 2020 - NRC Question on Procedures	05/06/2020
	Drawings	NH-116629	Hard Pipe Vent System P&ID	80
	Miscellaneous		Monticello Nuclear Generating Plant FLEX Validation and Staffing Addendum	12/01/2018
		MT-OPS-CYCLE 18B RO	Training Attendance: Licensed Operator Requal for Cycle 18B	0

2515/193	Miscellaneous	FLEX	Diverse and Flexible Coping Strategies (FLEX) Program Document	10
		LOR-17B-005L	Training Lesson Plan	0
		M-8107L-041	Initial Licensed Training Plan	16
		M8119S-007	Training Simulator Scenario	0
		MT-ILT-FLX-001L	Training Lesson Plan	3
		MT-LOR-18B-004L	Training Lesson Plan	0
		MT-LOR-20B-001S	Training Simulator Scenario	0
		MT-NLO-18B-001L	Training Lesson Plan	0
		MT-NLO-FLX-001-L	Training Lesson Plan	3
		MT-OPS-CYCLE 17B LOR	Training Attendance: Licensed Operator Requal for Cycle 17B	03/29/2017
		MT-OPS-CYCLE 18B NLO	Training Attendance: Non-Licensed Operator Requal for Cycle 18B	0
		MT-OPS-CYCLE 18B SRO	Training Attendance: Licensed SRO Requal for Cycle 18B	0
		QF 1040-16 - MT-ILT-FLX-001L	Training Attendance Sheet	06/12/2018
	Procedures	1415	Primary Containment Hard Pipe Vent Valve Exercise	7
		4 AWI-04.05.01	General Work Controls	34
		4 AWI-08.16.01	Monticello Emergency Operating Procedure and Beyond-Design-Basis Guideline Maintenance Program	11
		C.5-1200	Primary Containment Control	22
		C.5-3203	Use of Alternate Injection Systems for RPV Makeup	18
		C.5-3505	Venting Primary Containment	15
C.5-4050		SBO without High Pressure Injection	2	
C.5-4051	Energize LPCI Swing Bus During SBO	1		
C.5-4201	FLEX Portable Diesel Pump Staging and Hose Connection	1		

		C.5-4202	Portable Diesel Pump (PDP) Operation	3
		C.5-4301	Spent Fuel Pool Makeup with FLEX Portable Diesel Pump	3
		C.5-4453	Energize Hard Pipe Vent During SBO	0
		FP-BDB-EQP-01	Equipment Important to BDB Compliance	9
		FP-G-DOC-03	Procedure and Work Instruction use and Adherence	17
		FP-OP-COO-27	Work Management	5
		FP-PA-ARP-01	CAP Process	55
	Work Orders	00491481	Hard Pipe Vent LLRT	05/12/2017
		00533714 01	1415 PCT Hard Pipe Vent Valve Exercise	05/08/2017
		00540339 07	HPV N2 Supply and Alternate Operating Station For EC 26083	05/09/2017
		00540342 19	EC26083 - Permanent Power Installation All Post Installation Testing	05/03/2017
		00540342 24	EC26083 - Initial Charge and Capacitance Testing	03/09/2017
		700014154 0010	Primary Containment Hard Pipe Vent Valve Exercise	04/21/2019
		700026369 0070	ECR6MOD0002692I - PDG Phase Rotation Check	03/26/2018
		700026369 0080	ECR6MOD00026921 - B4353 Phase Rotation Check	03/15/2018
		700040377 0010	P.507 Portable Diesel Pump Testing	06/12/2019
		700040561 0010	#11 Portable Diesel Water Pump Testing	06/21/2019
		700046725 0010	P-506 Diesel Fire Pump 12M PM	01/07/2020
		700069919 0010	Periodic Cycle of Flex Valves	04/27/2020