



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**

REGION III  
2443 WARRENVILLE RD. SUITE 210  
LISLE, IL 60532-4352

July 19, 2016

Mr. Peter A. Gardner  
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 INSPECTION REPORT  
05000263/2016009, INDEPENDENT SAFETY CULTURE ASSESSMENT  
FOLLOWUP

Dear Mr. Gardner:

On June 10, 2016, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Monticello Nuclear Generating Plant. The inspection was conducted in accordance with NRC Inspection Procedure 40100, "Independent Safety Culture Assessment Followup," with emphasis on your actions and the effectiveness of your actions in addressing site cultural issues impacting an identified trend of human performance errors. The inspection was scheduled and conducted as specified in our letter to you of February 27, 2015, "Assessment Followup Letter for the Monticello Nuclear Generating Plant and Deviation From the Reactor Oversight Process Action Matrix" (ADAMS Accession Number ML15049A132). The enclosed report documents the inspection findings and conclusions which were discussed on June 10, 2016, with you and other members of your staff.

Based on the inspection sample, the inspection team determined that your staff's implementation of corrective actions has resulted in a declining human performance error rate over the inspected period of May 2015 through June 2016. Additionally, the inspection did not identify any program elements, corrective actions, or cultural attributes that would inhibit continuing long-term decline in the human performance error rate. However, while the error rate had declined, the team noted that some errors attributable to human performance were still occurring and the team concluded that continued improvements in this area would require continued management attention. No violations or items of significance were identified.

Our independent review of your Safety Culture Assessment, combined with the results and conclusions from the Inspection Procedure 95002 inspection ("Monticello Nuclear Generating Plant-NRC 95002 Supplemental Inspection Report 05000263/2014009 And Exercise Of Enforcement Discretion; ML15016A338"), the most recent Problem Identification and Resolution inspection ("Monticello Nuclear Generating Plant Problem Identification And Resolution And Power Uprate Inspection Report 05000263/2014007; ML14322A309,"), and our day-to-day observations will form the basis of our decision with respect to actions taken in response to the Deviation Letter ("Assessment Followup Letter For The Monticello Nuclear Generation Plant and Deviation From the Reactor Oversight Process Action Matrix;

P. Gardner

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ML 15049A132," dated February 27, 2015). You will be notified of the NRC's formal decision in this matter via separate correspondence.

If you disagree with the findings and observations 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 Regional Administrator, Region III, and the NRC Resident Inspector at the Monticello Nuclear Generating Plant.

In accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) 2.390, "Public Inspections, Exemptions, Requests for Withholding," of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC's Public Document Room or from the Publicly Available Records System (PARS) component of the NRC's Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

*/RA/*

K. Riemer, Chief  
Branch 2  
Division of Reactor Projects

Docket No. 50-263  
License No. DPR-22

Enclosure:  
Inspection Report 05000263/2016009

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No: 50-263  
License No: DPR-22

Report No: 05000263/2016009

Licensee: Northern States Power Company, Minnesota

Facility: Monticello Nuclear Generating Plant

Location: Monticello, Minnesota

Dates: June 6 through June 10, 2016

Inspectors: J. Rutkowski, Project Engineer, Team Lead  
D. Krause, Resident Inspector, Monticello  
C. Norton, Senior Resident Inspector, Duane Arnold  
Energy Center

Approved by: K. Riemer, Branch Chief  
Branch 2  
Division of Reactor Projects

Enclosure

## **SUMMARY**

Inspection Report 05000263/2016009; 06/06/2016-06/10/2016; Monticello Nuclear Generating Plant; Independent Safety Culture Assessment Followup.

This inspection was performed by three NRC inspectors. No findings of significance or violations of NRC requirements were identified during this inspection. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 5, dated February 2014.

### **INDEPENDENT SAFETY CULTURE ASSESSMENT FOLLOWUP**

On the basis of the sample selected for review, the team determined that licensee staff's implementation of corrective actions has resulted in a declining human performance error rate over the period of May 2015 to June 2016. Additionally, the inspection did not identify any program elements, corrective actions, or cultural attributes that would inhibit continuing long-term decline in the human performance error rate if the plant's present emphasis and actions to reduce errors are continued. On the basis of interviews conducted during the inspection, workers at the plant generally expressed agreement with, and support of, plant efforts to reduce human performance errors.

### **NRC-Identified and Self-Revealed Findings**

None

### **Licensee-Identified Violations**

None

## REPORT DETAILS

### 4. OTHER ACTIVITIES

#### 4OA5 Other Activities

##### .1 Assessment of Actions to Address Human Performance Errors

###### a. Inspection Scope

The inspectors reviewed the licensee's October 2015 independent safety culture assessment and the corrective actions developed to address identified human performance error issues. The inspectors concentrated on the licensee's current progress in addressing human performance while also reviewing performance and conditions back to the second calendar quarter of 2015.

The inspectors concentrated on interviewing plant employees through scheduled focus groups and one-on-one interviews. The inspectors also, in walking around the plant, conducted target-of-opportunity interviews with essentially the same questions asked during the scheduled interactions. The inspectors observed various planning meetings where the potential existed for influencing human performance. The inspectors watched several work activities to observe human behavior. These included several activities from worker pre-job briefs through actual in-field work and portions of several work activities that were in progress during inspector plant walk-a-rounds.

The inspectors reviewed allegations the NRC received from concerned individuals over the last two years relating to activities or conditions at the plant. The inspectors also reviewed the recent plant Employee Concerns Program logs and several of the case files.

Documents reviewed are listed in the Attachment to this report.

###### Assessment

Based on the inspection sample, the inspection team determined, mostly from licensee data, that the plant's human performance error rate is decreasing and that there were no observable culture traits that would prevent continuing improvement to a level desired by the licensee. The team did note, as discussed in the NRC Inspection Procedure 95002 Supplemental Inspection Report (ADAMS Accession Number ML15016A338), "Although positive results have been observed (to address the safety culture problems that ultimately resulted in the plant's yellow finding), the site understands that safety culture changes are not immediate and that long term actions are required for the organizational culture to be sustainable." It has been about 18 months since that statement was made; the team could not determine if the expectations and beliefs that are presently apparent have actually become an engrained part of the station's culture and would continue if management actions to reinforce the desired culture changed or were significantly reduced.

Overall, based on the discussions, team observations, and input from plant employees, the team concluded that the plant is presently exhibiting culture attributes that are conducive to improving human performance.

## Observations

The inspection team reviewed the independent Monticello Nuclear Safety Culture Assessment performed in October 2015. Although no strengths or weaknesses were identified, the assessment concluded that Monticello Nuclear Generating Plant has a safety culture that supports all of the industry traits of a Healthy Nuclear Safety Culture; has a healthy respect for nuclear safety; and assures that nuclear safety is not compromised by production priorities. The independent assessors observed that the implemented Tiered Decision Making Process had provided value to the Operations Department but needed reinforcement across departments to ensure it is fully internalized.

The inspection team found that the plant management had promulgated expectations that promoted or could promote conditions that facilitated good human performance. Plant personnel were aware of the expectation for briefings and peer checking or concurrent verification and the inspectors did see that behavior in the field. This included that if something did not look right or if there were questions on an activity, plant personnel had the right and were expected to stop work until the concerns and questions were resolved.

The inspectors held focus groups and conducted formal and informal interviews with workers, supervisors, and managers. Forty-five personnel were interviewed in focus groups, ten personnel in formal one-on-one interviews, and approximately 15 additional personnel in informal settings. Focus groups included, in separate groups, front line workers, engineers, and first-line supervision. In general, workers and supervisors expressed an attitude of empowerment to ensure work is completed safely and without time pressure. Workers, especially operators, embraced the Tiered Decision Making Process. Personnel interviewed felt that the Tiered Decision Making Process resulted in timely supervisory and management involvement in decisions important to the safe operation of the plant. Workers and supervisors voiced an appreciation of management's solicitation and inclusion of subordinates in problem resolution. Management and supervisors praised worker engagement in the effort to improve Monticello's safety culture. Some workers expressed concern that increased layers of safety focus reduces their time in the field although no examples were provided where this caused a potential problem or actual error.

Plant personnel voiced approval for the communication efforts to keep personnel informed on what was happening in the plant. Particularly mentioned were the messages from senior management. Interviewed personnel did not mention any other message sources but the inspectors found no indication that the normal communication paths did not work. However, a focus group mentioned some issues with communications mostly at the supervisory level associated with coordination of work activities within RP and with other groups. Front line workers in focus groups indicated that they worked well with their peers in other groups. Some security personnel were grateful for the opportunities to express their concerns about a discussed potential shift schedule change but were skeptical if their input would be actually considered in the final decision.

The inspectors observed licensee activities including operations activities, security activities, maintenance work activities, transmission and distribution work activities, and radiation protection support activities. Operator activities observed included control

room briefs, beginning and end of shift meetings, operator turnovers, plan of the day meetings, surveillance activities, response to control room alarms, and support of maintenance activities. Security activities observed included security post activities and field support activities. Maintenance activities observed included daily shop meetings, pre-job briefs, in field work activities, a task performance evaluation, supervisory oversight and coaching, and post-job critiques. The inspectors observed transmission and distribution work in the switchyard including licensee control and oversight of work activities performed by non-plant personnel. The inspectors observed radiation protection support of maintenance activities and radiation area control point activities. The inspectors observed that the licensee prioritized activities with an operational centered focus on nuclear safety.

The tasks/activities observed by the inspectors were, in all cases, conducted with safety in mind. Pre-job briefs were complete, well conducted and followed procedure/policy. Peer checking was used in activities observed. Plant procedures were followed and documented as required. Management and/or engineering was involved in each observed activity and was observed at the activity location with the exception of the radiation hot area walk-down. Managers did provide coaching where applicable. One equipment issue resolution involved workers stopping the activity and reassessing the process, resolving the issue, and restarting work. All observed activities had proper control room and management involvement and communication flow. No personnel involved with work activities displayed any concern with time pressure and no activity impediments were noted by the inspectors. Operations management was kept aware of activities observed and was in the decision-making chain as necessary. In an activity with a Leader-in-the-Field, the observer was accepted by the workers, made fair and informed comments to the workers about the work process, and positively commented on the work issue correction process and thoroughness of the communication performed. However, some interviewed workers contend that the leader-in-the-field program provides little value and believe there is a quota for corrective or deflating comments even when a job goes well. Subsequently the inspectors were informed by plant management there were no quotas for the number of constructive or other comments.

The inspectors evaluated interview and focus group statements and observed licensee activity against the traits of a healthy nuclear safety culture: personal accountability, questioning attitude, safety communication, leadership accountability, decision making, respectful work environment, continuous learning, problem identification and resolution, environment for raising concerns, and work processes. The inspectors concluded that licensee statements and observed licensee behaviors indicate that a positive nuclear safety culture currently exists at Monticello. One example provided to the inspectors were the results of a recent licensee limited scope survey following an unplanned outage over a holiday period. Even though participation in the survey was voluntary, licensee participation in the survey was high. Licensee survey results indicated a high satisfaction rate with the safety culture at Monticello. Survey participants credited safety communication, leadership accountability, respectful work environment, and other traits of a healthy nuclear safety culture for the successful and timely resolution of the issues leading to the unplanned outage.

b. Findings

No findings were identified.

4OA6 Management Meetings

.1 Exit Meeting Summary

On June 10, 2016, the inspectors presented the inspection results to Mr. P. Gardner, Site Vice President, and other members of the licensee staff. The licensee acknowledged the assessment presented.

The inspectors confirmed that none of the potential report input discussed was considered proprietary and that all material considered proprietary by the licensee and held by the inspection team was returned to the licensee.

ATTACHMENT: SUPPLEMENTAL INFORMATION

## **SUPPLEMENTAL INFORMATION**

### **KEY POINTS OF CONTACT**

#### Licensee

P. Gardner, Site Vice President  
K. Scott, Site Operations Director  
H. Hanson, Jr., Plant Manager  
T. Witschen, Operations Manager  
M. Lingenfelter, Director of Engineering  
B. Olson, Maintenance Manager  
A. Ward, Regulatory Affairs Manager  
S. O'Connor, Regulatory Affairs Analyst

#### U.S. Nuclear Regulatory Commission

K. Riemer, Chief, Reactor Projects Branch 2  
P. Zurawski, Senior Resident Inspector, Monticello

## LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

None

Closed

None

Discussed

None

## LIST OF DOCUMENTS REVIEWED

The following is a partial list of documents reviewed during the inspection. Inclusion on this list does not imply that the NRC inspector reviewed the documents in their entirety, but rather that selected sections or portions of the documents were evaluated as part of the overall inspection effort. Inclusion of a document on this list does not imply NRC acceptance of the document or any part of it, unless this is stated in the body of the inspection report.

### Procedures and Policies

- FG-PA-HU-01; Human Performance Event Review Board; Revision 2
- CD 3.3; Performance Assessment Program; Revision 8
- FP-PA-DRUM-01; Department/Functional Area Roll-Up Meeting (DRUM) & Fleet Analysis Manual; Revision 6
- FP-PA-HU-01; Human Performance Program; Revision 16
- FP-PA-HU-02; Human Performance Tools; Revision 11
- FP-PA-HU-03; Human Performance Observation Program; Revision 15
- FP-PA-HU-05; Decision Making; Revision 1
- FP-PA-HU-06; Pre-Job Briefs and Post-Job Critiques; Revision 0
- CP0087; Employment Review Program; Revision 9
- CP0017; Nuclear Safety Culture Traits and Risk Management Principles; Revision 10
- FP-EC-ECP-01; Employee Concerns Program; Revision 7
- FP-EC-ERB-01; Employment Review Board; Revision 0
- FP-STND-NSC-01; Nuclear Safety Culture Monitoring Process' Revision 4
- FP-PA-ARP-01; CAP Action Request Process; Revision 44
- FG-PA-CTC-01; CAP Trend Code Manual; Revision 16

### Other

- Nuclear Safety Culture Monitoring Panel Reports; First, Second, Third and Fourth quarters of 2014 and 2015
- SAR01482872; Monticello Nuclear Station Nuclear Safety Culture Assessment; October 2015
- IP 40100 Assessment Table; April 29, 2016
- MNGP Deviation Letter Closure; Undated
- Timeline of HU Related Improvement Actions Taken Since 2014; Undated
- Site and Department Human Performance Clock Resets YTD; May 9, 2016
- Site and Department Human Performance Clock Resets YTD; December 31, 2015
- Site and Department Human Performance Clock Resets YTD; December 31, 2014
- Site Clock Resets Since 2014; Undated
- Monticello Pulse Survey Results for 1Q16; Undated
- Monticello Response to Human Performance Assist Visit Items; April 13, 2015
- Monticello Nuclear Generating Plant – Nuclear Safety Culture Assessment' December 1 through 5, 2014
- NSCA Survey Organization Level and Department Statistics; November 11, 2014
- NSC Survey Scores by Trait; January 2014 through April 2016
- Tabulation of NRC Cross-Cutting Numbers; January 2015 through First Quarter 2016
- SCWE Indicator; January 2014 through April 2016
- Xcel Energy – Nuclear Supervisory Leadership Development Program, Training Program Description; Revision 23
- FL-LDP-CNT-075L; Safety Culture/95002 Case Study; Revision 0
- Monticello Organizational Effectiveness Survey; 2011 and 2014

- Human Performance Error Rate Performance Indicator; April 2015 through April 2016
- Monticello Brochure; NRC Safety Culture Inspection
- Monticello Management and Safety Review Committee 2016–01 Minutes; April 28, 2016

### **Action Requests**

- 01500357, 01500361, 01500363, 01500365; 2015 FSA: Neg Obs - Safety Culture Assessment in HU; November 11, 2015
- 01414878; Monticello Nuclear Safety Culture Snap-Shot Assessment; May 5 – May 9, 2014
- 01464791; Staff Would Benefit from Job fx Specific trg; February 4, 2015
- 01464798; Work Environment Issues not Resolved Promptly; February 4, 2015
- 01464804; Plans for Emrg Respndrs not Communicated IER13–10; February 4, 2015
- 01464807; Fst Trk Projects and ER Issues Impact Schedule; February 4, 2015
- 01477351; Loss of 15 Bus and Load Center 103 (Loss of Shutdown Cooling); May 2, 2015
- 01460675; 11 EDG Governor Control Switch Inadvertently Lowered; December 28, 2014
- 01444033; Physical Security Plan ... Navigability; August 22, 2014
- 01437454; AFI LF.1–1, Leadership Fundamentals; July 7, 2014
- 01426098; 5 Finding in Work Management H.5 Cross-Cutting Aspect; April 9, 2014
- 01425443; Six NRC Findings in H.14 Cross-Cutting Aspect; April 4, 2014
- 01458521; Adverse Trend in Security Human Performance; December 5, 2014
- 01444120; High Rad Area improperly posted; August 24, 2014
- 01438828; Sequencing error in mask fitting; July 17, 2014

P. Gardner

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ML 15049A132," dated February 27, 2015). You will be notified of the NRC's formal decision in this matter via separate correspondence.

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Sincerely,

*/RA/*

K. Riemer, Chief  
Branch 2  
Division of Reactor Projects

Docket No. 50-263  
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