



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**  
REGION III  
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LISLE, IL 60532-4352

November 29, 2012

Mr. Mark Schimmel  
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 PROBLEM IDENTIFICATION  
AND RESOLUTION INSPECTION REPORT 05000263/2012008**

Dear Mr. Schimmel:

On October 19, 2012, the U.S. Nuclear Regulatory Commission (NRC) completed a Problem Identification and Resolution (PI&R) inspection at your Monticello Nuclear Generating Plant. The enclosed report documents the inspection results, which were discussed on October 19, 2012, with Mr. J. Grubb and other members of your staff.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

Based on the inspection sample, the inspection team concluded that the implementation of the corrective action program and overall performance related to identifying, evaluating, and resolving problems at Monticello was adequate. Licensee identified problems were entered into the corrective action program at a low threshold. Problems were generally prioritized and evaluated commensurate with the safety significance of the problems. Corrective actions were generally implemented in a timely manner commensurate with their importance to safety and addressed the identified causes of problems. Lessons learned from industry operating experience were generally reviewed and applied when appropriate. Audits and self-assessments were generally used to identify problems and appropriate actions.

M. Schimmel

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No violations or findings were identified during this inspection.

In accordance with 10 CFR 2.390 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 Public Document Room or from the Publicly Available Records System (PARS) component of NRC's Agencywide Documents Access and Management System (ADAMS), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

*/RA/*

Kenneth Riemer, Chief  
Branch 2  
Division of Reactor Projects

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

Enclosure: Inspection Report 05000263/2012008  
w/Attachment: Supplemental Information

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U. S. NUCLEAR REGULATORY COMMISSION

REGION III

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

Report No: 05000263/2012008

Licensee: Northern States Power Company, Minnesota

Facility: Monticello Nuclear Generating Station

Location: Monticello, MN

Dates: October 1 through October 19, 2012

Inspectors: R. Lerch, Project Engineer - Team Lead  
P. Voss, Resident Inspector - Monticello  
D. Reeser, Reactor Operator License Examiner  
C. Brown, Reactor Engineer

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

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## **SUMMARY OF FINDINGS**

IR 05000263/2012008; 10/01/2012 – 10/19/2012; Monticello Nuclear Generating Plant; Biennial Baseline Inspection of the Identification and Resolution of Problems.

This team inspection was performed by three regional inspectors and the resident inspector. No violations or findings were identified. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 4, dated December 2006.

### **Identification and Resolution of Problems**

Overall, the Corrective Action Program (CAP) was adequate. Issues were effectively identified, evaluated and corrected. Nuclear Oversight (NOS) audits and department self-assessments were generally critical and identified issues that were captured in the CAP. Operating Experience (OE) was appropriately evaluated. A strong safety culture was evident, based on interviews with licensee staff and a review of the types of issues captured in the CAP and Employee Concerns Program (ECP).

While program structure and implementation were acceptable, past NRC findings and plant self revealed issues and events highlighted some areas where the CAP had failed to identify and prevent issue impacts. These appear to have been isolated cases, but still provide lessons learned for improvement in the CAP performance.

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

No items of significance were identified.

### **Licensee-Identified Violations**

No violations of significance were identified.

## REPORT DETAILS

### 4. OTHER ACTIVITIES

#### 4OA2 Problem Identification and Resolution (71152B)

The activities documented in Sections .1 through .4 constituted one biennial sample of PI&R as defined in Inspection Procedure (IP) 71152.

#### .1 Assessment of the Corrective Action Program (CAP) Effectiveness

##### a. Inspection Scope

The inspectors reviewed the licensee's CAP implementing procedures and attended CAP program meetings to assess the implementation of the CAP by site personnel.

The inspectors reviewed risk and safety significant issues in the licensee's CAP since the last NRC PI&R inspection in September 2010. The issues selected were appropriately varied across the NRC cornerstones, and were identified through routine daily plant activities, licensee audits and self assessments, industry operating experience reports, and NRC inspection activities. The inspectors also reviewed a selection of apparent, common and root cause evaluations for more significant CAP items.

The inspectors performed a more extensive review going back five years of the licensee's efforts to address issues with safety relief valves. This review consisted primarily of a five year search of related issues identified in the CAP and discussions with appropriate licensee staff to assess the licensee's corrective actions.

During the reviews, the inspectors evaluated whether the licensee staff's actions were in compliance with the facility's CAP and 10 CFR Part 50, Appendix B requirements. Specifically, whether licensee personnel were identifying plant issues at the proper threshold, entering the plant issues into the station's CAP in a timely manner, and assigning the appropriate prioritization for resolution of the issues. The inspectors determined whether the licensee staff assigned the appropriate investigation method to ensure the proper determination of root, apparent, and contributing causes. The inspectors also evaluated the timeliness and effectiveness of corrective actions for selected issue reports, completed investigations, and NRC findings.

All documents reviewed during this inspection were listed in the Attachment to this report.

##### b. Assessment

##### (1) Effectiveness of Problem Identification

In general, problem identification was good and at an appropriate threshold. The sample of issues reviewed by inspectors that were entered into the CAP indicated a low threshold, with a steady generation of condition reports (CRs) on a monthly basis across

the site organization. Corrective Action Program generation numbers appeared representative of a good problem identification ethic. Based on interviews, workers were encouraged to identify issues and were familiar with the various avenues available (NRC, CAP, etc).

### Observations

In reviewing the inspection issues of the last two years, the inspectors had a sense that in some cases, such as those dealing with Maintenance Rule, narrowly focused evaluations missed opportunities to identify tangential or related issues. Also, that the several self-revealed issues experienced at the plant may reflect prior misses in problem identification.

### Aging Management Programs

The team interviewed the program manager, reviewed procedures, and CAP documents to assess implementation of the aging management programs. The team found that all engineers had been given training (five sessions) and then had refresher training just after entering the extended period of operations. The training was also given to managers and supervisors. The team did not observe active questioning about possible aging issues during management review of CRs at the PORC meeting; however, the team was informed that this was specifically covered in the pre-screening meetings. In response to the team questions, an improvement item was generated to add aging management as a specific goal at the screening and PORC meetings.

#### (a) Qualification Basis for Safety-Related Relays and Motor-Starter Contactors

Introduction: The inspectors identified an Unresolved Item (URI) regarding the licensee's actions to maintain or extend the qualification basis for safety-related relays and motor-starter contactors used in safety-related applications greater than vendor service-life recommendations.

Description: As part of the review of CRs 1254063, 1254982, 1257234, and 1264298, the inspectors noted that safety related (SR) HFA relays had been installed greater than 40 years in the plant. The inspector noted a licensee study which had recommended replacing the relays at 40 years based on the vendors recommended service life. The licensee initiated scheduling relay replacements; however, implemented a 25 percent "grace period" which extended time beyond the recommended 40 years.

The inspectors were aware that the same type of relays at contemporary plants had a 40-year service-life designated on the certificate of compliance received from the supplier when the relays were purchased. Based on the inspectors' questions, the licensee initiated CAP 1353945, "2012 PI&R Inspection – Question on Exceeding Relay Service Life," and concluded the relays were operable based on satisfactory surveillance performance. The inspectors disagreed with the conclusion since the existing surveillance tests did not test the relays to the design requirements. The licensee expanded the assessment by completing an operability recommendation (OPR) which also concluded the relays were operable. The discussion in the OPR stated the relays at Monticello did not have a service life on the certificates of compliance when they were originally purchased; therefore, the licensee considered the relays to be operable until a failure was noted (essentially a run-to-failure). The inspectors were concerned the

licensee had not incorporated more recent vendor information regarding service life and had not extended the service life or replace installed safety related equipment before exceeding the vendor recommended service life. This issue is considered an Unresolved Item (URI 05000263/2012008-01; Qualification Basis for Safety-Related Relays and Motor-Starter Contactors) pending consultation with NRR personnel and further NRC review of the licensee responses.

(b) Concern with Periodic Design Basis Testing of Installed Relays and Motor-Starter Contactors

Introduction: The inspectors identified an Unresolved Item (URI) regarding the requirement for periodic design basis testing of installed relays and motor-starter contactors.

Description: As part of the review for exceeding relay service life in service, the inspectors determined the licensee did not periodically test the safety-related relays to the design requirements and had not since the plant started power operations. The inspectors noted Regulatory Guide (RG) 1.33, "Quality Assurance Program Requirements (Operation)," required other documents to be included in Monticello's Quality Assurance Program, specifically RG 1.30 "Quality Assurance Requirements for the Installation, Inspection, and Testing of Instrumentation and Electric Equipment," and ANSI Standard N45.2.4-1972, (also known as IEEE Std 336-1971). Section C.3 of RG 1.30 states, "Although subdivision 1.1 of ANSI N45.2.4-1972 states that the requirements promulgated apply during the construction phase of a nuclear power plant, these requirements are also to be considered applicable for the installation, inspection, and testing of instrumentation and electric equipment during the operation phase of a nuclear power plant." Section 3.3 of IEEE 336, "Procedures and Instructions," requires the licensee to produce "documents that shall be kept current by controlled supervision so that installation, inspections, and tests are performed in accordance with the latest approved design and manufacturers' instructions." Monticello USAR 8.3.4, Inspection and Testing," requires, in part, that "All components operate within their design ratings."

Based on the above, the inspectors concluded the licensee should have had a periodic testing program on all SR relays and motor-starter contactors for the life of the plant; however, the licensee believed these requirements only apply when modifying the plant or installing new equipment. This issue is considered an Unresolved Item (URI 05000263/2012008-02; Concern with Periodic Design Basis Testing of Installed Relays and Motor-Starter Contactors) pending consultation with NRR personnel and further NRC review of the licensee responses.

(2) Effectiveness of Prioritization and Evaluation of Issues

The inspectors determined that the overall performance in prioritization and evaluation of issues was acceptable. The inspectors determined that the screening meetings were generally thorough and maintained a high standard for approving and reviewing CRs. The timeliness of initial classifications and the level of classification appeared consistent with the licensee's procedures. The inspectors determined that the licensee was generally effective at evaluating equipment functionality, operability, and reporting requirements after a degraded or non-conforming issue was identified.



While most evaluations were good, inspectors noted that some evaluations lacked depth and rigor. This was evidenced by findings identified during the inspection period where weaknesses were observed by inspectors with Maintenance Rule implementation.

### Observations

During the course of their review, the inspectors noted weakness in a maintenance rule a(1) action plan created to monitor the RHR system, which had experienced several failures during the monitoring period. This monitoring plan was created following two NRC identified maintenance rule violations regarding the licensee's actions to address these equipment failures. The inspectors determined that the a(1) action plan met NRC requirements; however, they noted that development of the a(1) goals and monitoring actions should have considered actions that could be taken to monitor the condition prior to equipment failure. The monitoring plan instead took actions to track additional failures once they occurred. The inspectors noted that additional equipment failures should be an input into the monitoring process; however, where applicable, the monitoring plan should also contain actions to monitor the problematic components using inputs from the PM process prior to failure of the pump. The inspectors also noted that, as described in the licensee's procedure, the monitoring plan should contain quantitative goals to be used as equipment performance criteria in addition to the qualitative measures that were contained in the plan. The inspectors attributed these items to the lack of intrusive engineering evaluation of the equipment issues under the requirements of the maintenance rule. These observations were discussed with licensee staff.

The inspectors observed that a condition report and root cause evaluation (RCE) regarding an issue with the turbine control valve flow limit setting did not contain an operability recommendation from engineering documenting the basis for the operability call of the turbine pressure control system. The inspectors noted that the initial operability call by operations contained a request for an operability recommendation from engineering. The initial call was based on an informal evaluation and discussion with engineering, and operations requested that a formal evaluation be conducted to confirm the assumptions made in the immediate call. The inspectors noted that the action to develop this engineering document was cancelled on December 3, 2010, a few days after the initial request, with the justification stated as "based on work performed on December 3, 2010 under WO 418226-04 'adjust turbine flow limit setting' this OPR is no longer required." The assignment closure notes for this item stated "condition corrected. This action can be closed, with concurrence from operations manager." The inspectors noted that on December 6, 2010, a final GE analysis was added to the corrective action document which ultimately supported their initial operability call, but the inspectors noted that a formal operability evaluation should have been completed to confirm and formally document the operable status of the equipment and the basis for that determination. The inspectors also noted that it was inappropriate to cancel an operability evaluation action because the condition was corrected. The inspectors noted that this practice could result in the licensee missing required actions to report to the NRC any equipment inoperability that exceeds a Technical Specifications allowed out of service time.

The inspectors also noted that the turbine control valve flow limit setting root cause evaluation documented the root cause of the equipment failure, two actions to address the equipment issue and the root cause, and several actions to address contributing causes and extent of condition. The inspectors noted that the action that was performed to address the direct cause of the equipment failure was performed. However, despite

the root cause identifying inadequacies in a specific station procedure, the action intended to address the root cause itself was not performed. Specifically, the action to revise the procedure to correct the inadequacies was closed without revising the procedure. The inspectors noted that the site instead included several additional extent of condition type of actions to identify other components within the turbine control system that were not being controlled precisely, but no changes were made to the procedure identified as being the root cause of the initial equipment failure. The inspectors questioned whether the licensee had either failed to take action to address the root cause, or had incorrectly identified the root cause. These observations were discussed with licensee staff.

The inspectors reviewed a root cause evaluation performed in response to a reactor scram caused by hydrolysis in the turbine front standard. The hydrolysis was a result of inadequate management of turbine lube oil tank vacuum, which resulted in improper grounding of the turbine shaft. The inspectors noted that there were several opportunities to recognize the degradation of the shaft grounding braids and the possible implications. The inspectors noted that vendor recommendations, which are the result of industry operating experience (OE) for components, gave specific guidance for the management of the lube oil tank vacuum, and also for the testing process and test frequency to ensure the integrity of the shaft grounding mechanism. The inspectors noted that there was a substantial quantity of industry OE focused on the importance of adequate maintenance of shaft grounding mechanisms, as well as the potential consequences and the various causes that could impact ground device integrity. The inspectors also noted that the licensee had internal operating experience with demonstrated the consequences of inadequate turbine shaft grounding. The inspectors observed that the RCE's conclusion that the event was not OE preventable seemed to miss the mark; and that this conclusion may represent a missed opportunity to recognize OE utilization improvements.

The inspectors also noted that the turbine electrolysis RCE reviewed the event to determine whether there were any safety culture aspects associated with it. The RCE concluded that no safety culture aspects were applicable because "the primary basis for consideration of impact is the impact on nuclear safety. No impacts to nuclear safety were noted as a result of the causal evaluation." The inspectors noted that this conclusion was not consistent with the NRC inspection reactor oversight process (ROP). Specifically, the event resulted in a reactor scram, and one of the seven ROP cornerstones is "initiating events," which has the objective to "limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations." The inspectors observed that events that result in reactor scrams would be considered events that upset plant stability and should be considered events that impact nuclear safety. These observations were discussed with licensee staff.

The inspectors reviewed nonconforming conditions associated with two high pressure coolant injection motor operated valves (MOVs). The inspectors noted that despite both nonconforming conditions sharing similar deficiencies, the operability discussions for each valve specified different outcomes in terms of the impact the deficiency would have on valve operation. The inspectors noted several issues with the thoroughness and accuracy of the information contained in the operability discussions. In addition, the inspectors questioned whether the stall torque being credited to ensure that one of the valves would perform its safety function had considered degraded voltage conditions.

Upon further investigation, it was determined that the stall torque value used in the evaluation had failed to consider degraded voltage conditions, and the licensee initiated CAP 1355670 to correct the issue. The licensee concluded that the corrected stall torque value would still be sufficient to allow the MOV to perform its safety related function, and that the valve remained operable but nonconforming. These observations were discussed with licensee staff.

### Findings

No findings were identified.

### (3) Effectiveness of Corrective Actions

The inspectors concluded that corrective actions for identified deficiencies were generally timely and adequately implemented, commensurate with their safety significance. Those corrective actions addressing selected NRC documented violations were also generally effective and timely. The inspectors' review going back five years of the licensee's efforts to address issues with safety relief valves did not identify any negative trend or inability by the licensee to address long term issues.

### Observations

The inspectors noted that during the assessment period, there were several issues associated with the licensee's implementation of the maintenance rule that were documented as NCVs in the NRC quarterly inspection reports. These deficiencies included issues with the adequacy of evaluations, the maintenance rule knowledge base and adequacy of training of the staff, the station's oversight and intrusiveness into the program, and the tracking and utilization of the equipment data available. The inspectors observed that the maintenance rule program deficiencies identified by inspectors over the previous two years had been thoroughly evaluated by the licensee in order to develop the necessary corrective actions to repair the maintenance rule program. However, the inspectors noted that having this level of deficiency within a regulatory required program served as a notable negative data point for the site's ability to identify, evaluate, and correct issues. The inspectors observed that the deficiencies in this program could be closely linked with the plant's recent issues with ensuring equipment reliability and performance.

When reviewing the licensee's corrective actions for the program deficiencies, the inspectors observed that the site had taken extensive corrective action to improve the maintenance rule program and align more closely with the industry. This included a review of hundreds of previous maintenance rule related equipment issues, the implementation of a new and more detailed set of maintenance rule procedures, increased plant oversight of the program, and the retraining of staff that were providing input to maintenance rule activities, among other actions. The inspectors observed that the licensee's root cause evaluation of the issues was thorough, and the focused self assessment (FSA) performed subsequent to the RCE was intrusive into each aspect of the program. Throughout the inspection, the inspectors observed various examples of recently performed maintenance rule evaluations that were thorough. Overall, the inspectors concluded that the licensee's corrective actions, while not entirely complete, had demonstrated improvement in the maintenance rule program.

### Findings

No findings were identified.

.2 Assessment of the Use of Operating Experience (OE)

a. Inspection Scope

The inspectors reviewed the licensee's implementation of the facility's OE program. Specifically, the inspectors reviewed implementing OE program procedures, attended CAP meetings to observe the use of OE information, attended the weekly OE screening meeting, reviewed evaluations of OE issues and events, and reviewed an Apparent Cause Evaluation performed in response to an NOS-identified negative trend in OE usage. The inspectors' review was to determine whether the licensee was effectively integrating OE experience into the performance of daily activities, whether evaluations of issues were proper and conducted by qualified personnel, whether the licensee's program was sufficient to prevent future occurrences of previous industry events, and whether the licensee effectively used the information in developing departmental assessments and facility audits. The inspectors also assessed if corrective actions, as a result of OE experience, were identified and effectively and timely implemented.

Documents reviewed during this inspection are listed in the Attachment to this report.

b. Assessment

The inspectors determined that overall, OE was effectively used at the station. The inspectors observed that OE was discussed as part of the daily station D-15 planning meetings, during infrequently performed test or evolution briefings, and at operations and maintenance pre-job briefings. In general, the inspectors determined that OE was appropriately reviewed during causal evaluations. Inspectors based at the plant observed that maintenance pre-job briefs frequently incorporated personal operating experience which was both relevant and effective in ensuring activities were performed safety and correctly. The inspectors also noted that over the previous two years there had been a trend of plant events and issues which could potentially have been prevented if internal and external operating experience had been utilized appropriately.

The inspectors observed a few areas of vulnerability in the OE process at the site. For example, the inspectors noted that the "for information only" (FIO) process was not clearly defined in the OE implementing procedure. This process involved distributing potentially relevant OE issues to subject matter experts (SME) for informational purposes and with no action required. The inspectors noted that the process lacked controls to ensure that the OE items were reviewed by the individual that was being identified by the OE screen team as the SME. During interviews, several individuals noted that when the work load was heavy, FIO items were often a low priority and sometimes weren't reviewed. The inspectors questioned whether the site was missing valuable opportunities to identify issues through OE events that were considered less significant and were passed along through the FIO process.

The inspectors also noted that the OE program procedure was unclear in its description of a process to pass along potential time critical OE information to SMEs using the FIO process. Specifically, Section 5.1.2.4 of procedure FP-PA-OE-01 stated that "OE identified as needing possible early intervention is distributed to subject matter experts for information only." The inspectors observed that for these OE items that may be time critical, the procedure did not provide a positive means to ensure that the information

would be reviewed by an individual with appropriate expertise, and that using a 'for information only' type of process for these OE may not be appropriate. Discussions with the OE program owner indicated that the "possible early intervention" FIO process had not been used during his tenure.

The inspectors attended the weekly OE screen team meeting, and noted that during the review of the OE items on the agenda, there was minimal discussion regarding the OE screening questions outlined in the OE program procedure and printed on the cover page on the OE screening package. These screening questions instructed the screen team to consider several items during their review of whether a formal OE evaluation should be required for each OE item. The questions included "could this deficiency lead to a failure that would result in an unplanned power change, load drop, scram, or regulatory violation?" and "if the configuration of station equipment is different than the specified OE, are there generic symptoms that apply?" and "does the OE item shed new light on or provide new insight on a recurring or generic industry concern?" The inspectors noted a few examples of items where these questions were pertinent, and could have been answered in the conservative direction, but instead the items and associated questions were minimally discussed, and classified as 'FIO' or 'Not applicable/no action required.' Specifically, the inspectors noted an OE related to industry results of the TI-187 Fukushima flooding walkdowns that were in progress on site at the time, and an OE on a containment penetration conductor overcurrent protection devices missed surveillance, which may have contained human performance lessons to be learned but was determined to be not applicable and dismissed as a historical human error with minimal discussion.

c. Findings

No findings were identified.

.3 Assessment of Self-Assessments and Audits

a. Inspection Scope

The inspectors assessed the licensee staff's ability to identify and enter issues into the CAP program, prioritize and evaluate issues, and implement effective corrective actions, through efforts from departmental assessments and Quality Assurance (Nuclear Oversight) audits.

b. Assessment

The inspectors concluded that self-assessments and audits were typically accurate, thorough, and effective at identifying issues and enhancement opportunities at an appropriate threshold level. The audits and self-assessments were completed by personnel knowledgeable in the subject area, and the NOS audits were thorough and critical. Where changes to the operating experience process were too recent for inspectors to assess, the NOS organization was monitoring the stations performance. This was in response to an NOS finding on the operating experience program. The inspectors observed that CAP items had been initiated for issues identified through the NOS audits and self-assessments. The inspectors reviewed the self-assessment performed on the CAP and found no issues and generally agreed with the overall results and conclusions drawn. The self assessment of CAP was a very thorough look at the

process which concluded that the process was effective. During the assessment period it had been found that the Maintenance Rule Program had not been assessed in ten years. This has been addressed and a review for other programs lacking assessment was conducted and did not identify any additional problems. The subsequent focused self-assessment of the maintenance rule program was considered thorough.

c. Findings

No findings were identified.

.4 Assessment of Safety-Conscious Work Environment (SCWE)

a. Inspection Scope

The inspectors assessed the licensee's SCWE through the reviews of the facility's ECP implementing procedures, discussions with the ECP Manager, interviews with personnel from various departments, and reviews of issue reports. The inspectors also reviewed the results from a Safety Culture Survey conducted in July, 2011 by the Utilities Service Alliance. The review was done to ensure there was a free flow of information and determine if there was a reluctance to raise nuclear safety concerns.

b. Assessment

Assessment of SCWE

Based on inspector observations of strong problem identification in the CA process and discussions with plant staff, the indications were that plant staff felt free to raise issues either with their supervisor, through the CA process, or through the Employee Concerns Program without fear of retaliation. The Employee Concerns Program was accessible to employees and was dealing with employee issues. Employees indicated they were more likely to raise an issue up through the organization than to the ECP.

Observations

Nuclear Safety Culture Assessment

A nuclear safety culture assessment was performed in July of 2011 using a process involving an anonymous survey, on-site reviews, observations, and interviews. Overall, the survey and plant follow up of the results through the 2011 review constituted a robust look at safety culture and a management response to address the weaknesses and observations identified by the assessment. The licensee's initiation of condition reports to capture the issues was a strong approach. The inspectors observed that the safety culture survey response rate was under 49 percent. No reasons were given for the low response and no proposals were made to improve the response rate.

c. Findings

No findings were identified.

4OA6 Management Meeting

.1 Exit Meeting Summary

On October 19, 2012, the inspectors presented the inspection results to Mr. Grubb and other members of the licensee staff. The licensee acknowledged the issues presented. The inspectors confirmed that none of the potential report input discussed was considered proprietary.

ATTACHMENT: SUPPLEMENTAL INFORMATION

## **SUPPLEMENTAL INFORMATION**

### **KEY POINTS OF CONTACT**

#### Licensee

D. Bosnic, Production Manager  
B. Dixon, Program Engineering Supervisor  
T. Erickson, NSSS Supervisor  
J. Forsman, Performance Assessment  
C. Fosaaen, Regulatory Affairs  
W. Flaga, Maintenance General Supervisor  
D. Gerads, Security Supervisor  
J. Grubb, Plant Manager  
N. Haskell, Engineering Director  
S. Hafen, Nuclear Oversight Manager  
M. Holmes, Chemistry Manager  
J. Kindred, Engineering Plant and Systems Manager  
P. Kissinger, Regulatory Affairs Manager  
J. Mestad, Employee Concerns Program Manager  
D. Topley, Interim Performance Assessment Manager  
A. Ward, Business Support Manager  
J. Windchill, Fleet Performance Assessment Manager  
R. Zyduck, Design Engineering Manager

### **LIST OF ITEMS OPENED, CLOSED AND DISCUSSED**

#### Opened

05000263/2012008-01	URI	Qualification Basis for Safety-Related Relays and Motor-Started Contactors
05000263/2012008-02	URI	Periodic Design Basis Testing of Installed Relays and Motor Started Contactors



## LIST OF DOCUMENTS REVIEWED

The following is a list of documents reviewed during the inspection. Inclusion on this list does not imply that the NRC inspectors 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.

### PLANT PROCEDURES

<u>Number</u>	<u>Description or Title</u>	<u>Date or Revision</u>
0187-01B	11 Emergency Diesel Generator/11 ESW/Monthly Pump & Valve Tests	Revision 18
7962	Ultrasonic Flow Meter Operational Checks - FSW System Division II	Revision 0
B.5.12	System Basis Document: Area Radiation Monitor	Revision 3
B.7.1	System Basis Document: Liquid Radwaste	Revision 2
CP 0021	Employee Concerns Program	Revision 4
EWI-05.02.01	Maintenance Rule Program Document	Revision 16
FG-OP-TAG-01	Fleet Tagging Practices	Revision 11
FG-PA-ACE-01	Apparent Cause Evaluation Manual	Revision 17
FG-PA-ACE-01	Apparent Cause Evaluation Manual (Nuclear Department Fleet Guidance Document) (Superseded by FP-PA-ACE-01)	Revision 18
FG-PA-CAE-01	Corrective Action Effectiveness Review Manual	Revision 6
FG-PA-CTC-01	CAP Trend Code Manual	Revision 12
FG-PA-KPI-01	Performance Indicator Data Reporting	Revision 0
FG-PA-RCE-01	Root Cause Evaluation Manual	Revision 17
FP-EC-ECP-01	Employee Concerns Program	Revision 6
FP-E-MR-01	Maintenance Rule Process	Revision 0
FP-E-MR-03	Maintenance Rule Monitoring	Revision 0
FP-E-MR-04	Maintenance Rule – (A)(1) Process	Revision 0
FP-E-SE-02	Component Classification	Revision 4
FP-OP-TAG-01	Fleet Tagging	Revision 16
FP-PA-ACE-01	Apparent Cause Evaluation Manual (Nuclear Department Fleet Procedure)	Revision 0
FP-PA-ARP-01	CAP Action Request Process	Revision 34
FP-PA-OE-01	Operating Experience Program	Revision 16
FP-PA-OE-01	Operating Experience Program	Revision 17
FP-WM-WOI-01	Work Identification, Screening, Validation and Cancellation	Revision 14

## **CORRECTIVE ACTION PROGRAM DOCUMENTS**

<b><u>Number</u></b>	<b><u>Description or Title</u></b>	<b><u>Date or Revision</u></b>
1228141	SRV lift test surveillance interval potentially missed	4/20/2010
1231269	Potential Adverse Trend – Unplanned Shutdown LCO Entries	05/05/2010
1238171	Unexpected Dose Rates Encountered During RWCU Filter BW	06/21/2010
1242696	TBNWS PRM scale will not reach the EP alert set point	07/30/2010
1246506	High Radiation Area Created During Backwash of Cond Demin	08/23/2010
1248684	RCE – Adverse Trend in Security Force’s Reporting Significant Events	09/07/2010
1256338	OEE apparent failure to internalize PINGP OE at MNGP	10/29/2010
1260439	EPR removed from service and shutdown due to concerns	11/28/2010
1260604	Reactor flow limit inhibiting turbine valve movement	11/29/2010
1261721	Did Not Declare LCO 3.7.4 (CREF System) Not Met	12/06/2010
1263913	MO-2035 incorrect voltage used in MOV calculation	12/22/2010
1269804	Available OE not used to prevent events	02/07/2011
1269851	Adverse trend-MRM-crit equipment clock resets	03/15/2012
1273665	7962 Level B CAP (PCR)	03/04/2011
1281395	ACE-Dose for C inboard MSIV original exceeds estimate	04/19/2011
1288036	Unplanned tech spec action #13 RHR pump	05/27/2011
1289462	BKR 152-503 (13 RHR pump) failed to close	06/06/2011
1291640	SRV “E” tailpipe temperature exceeded 165F	06/23/2011
1292658	APRMs 1, 3, and 4 Exceed Maximum Deviation from CTP	06/30/2011
1294488	Potential RPV Level Monitoring Weakness	07/13/2011
1294652	Rad Mat Shipment container punctured during transport	07/14/2011
1295000	Minimal Training in Modes 4 and 5 in Operator Training	07/18/2011
1302334	Sprinkler piping in intake plugged with clay like debris	09/02/2011
1303716	USA NSCA Negative Trend in Principle 3 Concerns	09/14/2011
1305205	NOS AAF - Eng. Reviews of IST, ISI, and App J Tests Untimely	11/09/2011
1306770	Single Rod Scram While performing 0010	10/04/2011
1308266	OE not included in Aging Management Program	10/14/2011
1309393	Raw water alarm was received on #11 EDG during reactor scram	10/21/2011

## **CORRECTIVE ACTION PROGRAM DOCUMENTS**

<b><u>Number</u></b>	<b><u>Description or Title</u></b>	<b><u>Date or Revision</u></b>
1309430	P-202C, 13 RHR Pump, Oil Level High	10/22/2011
1311051	Potential adverse trend- unplanned LCO entries	01/27/2012
1311263	EDG Frequency Variations Impact Loads	11/02/2011
1312079	Maximum Differential Pressure Exceeded Differential Pressure Limit	11/08/2011
1313698	USA NSCA negative observation in Principle 2B	09/04/2011
1313811	13 RHRSW Pump Performance Degraded at Minimum EDG Frequency	11/18/2011
1313997	Reactor Scram Number 127 while performing 1040-01 quarterly	11/20/2011
1314953	RWM Not Operable During Startup	11/28/2011
1316075	Adverse Trend in Ops Performance	12/05/2011
1317539	P-109A Below Pump dP Limit with Minimum EDG Frequency	12/15/2011
1320714	NOS AAF- shortfalls with the implementation of the OE program	01/13/2012
1321141	P-208B Affected by Minimum Tech Spec Frequency	01/17/2012
1321996	MR (a)(1) plan not generated for CV-3490 failures	01/24/2012
1322310	NRC finding- special inspection intake FP piping	01/25/2012
1322841	Safety Related Equipment Impacted by Tech Spec Allowed Frequency	01/30/2012
1323429	Maintenance Rule Program implementation degraded	02/2/2012
1324083	Unplanned capability loss performance criteria exceeded	02/07/2012
1324739	Ambiguous Step in 0187-01B EDG Monthly Test	02/13/2012
1325200	MR (a)(1) plan needs to be generated for #13 RHR pump	02/15/2012
1326162	RHR system health is red	02/23/2012
1326250	OE not being factored into AMP	10/14/2011
1328219	RHR Pumps P-202A and P-202B Differential Pressure	03/07/2012
1328849	Technical Specifications Allowed Frequency Impacts	03/12/2012
1329584	Three RHRSW pumps in or near alert range	03/16/2012
1330317	Impact of Diesel Frequency on Core Spray Pump NPSH	03/21/2012
1332254	RP's approval on new WO task was bypassed	04/04/2012
1332651	ALARA-Evaluate dose rate at new security post north PA	04/08/2012
1337477	NRC NCV failure to monitor RHR system, inadequate MREs	05/14/2012
1339425	MR Plant level criteria was missed	10/20/2012
1341316	MO-2034 torque switch setting too high	06/11/2012
1341703	Inappropriate transition of RHR system to (a)(2) status	06/14/2012

## **CORRECTIVE ACTION PROGRAM DOCUMENTS**

<b><u>Number</u></b>	<b><u>Description or Title</u></b>	<b><u>Date or Revision</u></b>
1347464	Two "C" CAPS inappropriately closed to CCNs	08/08/2012
1347895	2 <sup>nd</sup> quarter TLD results were 50% higher than ED results	08/10/2012
1349024	ALARA-Corrective Action not implemented causing dose	08/22/2012
1353945-01	Operability Recommendation for AR 1353945	10/26/2012
1353945	2012 PI&R Inspection –Question on Exceeding Relay Service Life	10/03/2012
1354488	Use of C/O Tagging Adds Unnecessary Actions to Procedure	10/09/2012
1354843	DPIS-14-43A out of As Found Criteria	10/12/2012
1355306	PCS system Maintenance rule A.2 at risk	10/16/2012
1355310	SCT turned Maintenance Rule a(2) yellow (at risk)	10/16/2012
1355550	2012 PI&R: Clarification of mode definitions in FP-E-MR-01	10/18/2012
1355679	2012 PI&R MO-2034: stall torque did not consider degraded volt	10/22/2012

## **OPERATING EXPERIENCE**

<b><u>Number</u></b>	<b><u>Description or Title</u></b>	<b><u>Date or Revision</u></b>
AR 1284109	NRC IN 2011-11--Reporting Requirements for Heat and Smoke Detector Failures in 10 CFR Part 33 Irradiators	2011
AR 1285663	Rapid OE: PI Unit 2 Was Placed in an Unplanned Orange PRA	05/13/2011
AR 1289514	OE- EPRI - Instrument Power Supply End-of-Expected-Life Guidance	2010
AR 1290449	OE: NRC EN46873 Alert Declared Due to Halon Discharge	06/13/2011
AR 1290845	OE- IERL, Weaknesses in Operator Fundamentals	06/16/2011
AR 1291026	OE-GEH Marathon Control Rod Lifetime	06/17/2011
AR 1291365	OE-NRC IN 2011-12, Reactor Trips Resulting from Water Intrusion	06/21/2011
AR 1307997	OE- NRC Part 21 2011-43-00 - Diode Failures Due to Deterioration	10/12/2011
AR 1314427	OE- NRC Part 21 2011-51-00 GE HGA Relay Failure	11/23/2011
AR 1337739	IERL, Automatic Reactor Scram Because of Auxiliary Power Transformer Lockout	2012
AR 1338468	OE- NRC Part 21 2012-05-02 Rosemount Pressure Transmitters	05/21/2012
AR 1342375	Emergency Core Cooling System and Emergency Diesel Generator Auto Test Aborted	2012
AR 1345108	OE - Channel Friction - Control Rod Fails to Settle	07/17/2012
AR 1345380	NRC RIS 2012-08--Developing Inservice Testing and inservice inspection Programs Under 10CFR Part 52	2012
AR 1349996	Various OE items—screening results	2012
OE 30061	ESW pump discharge check valve failure to fully seat	06/30/2010

**OPERATING EXPERIENCE**

<b><u>Number</u></b>	<b><u>Description or Title</u></b>	<b><u>Date or Revision</u></b>
OE 30098	during system testing Main generator shaft ground devices/main generator shaft over voltage	11/25/2009
OE 30190	Main generator shaft ground devices/main generator shaft over voltage (update)	12/11/2009
OE 31116	Planned outage to repair DW unidentified (floor drain) leakage	05/10/2010
OE 31599	Rod control regulation card failure	07/19/2010
OE 34169	GE HFA relay failure	08/29/2011

**AUDITS, ASSESSMENTS AND SELF-ASSESSMENTS**

<b><u>Number</u></b>	<b><u>Description or Title</u></b>	<b><u>Date or Revision</u></b>
1291462	USA Nuclear Safety Culture Assessment	July 2011
1296189	Operations Training Focused Self-Assessment – Operator Fundamentals	09/23/2011
1311400	Snapshot Self-Assessment Report – INPO IER 11-3	08/12/2011
1316213-02	Pre Problem Identification & Resolution	05/11/2012
1340215	Operating Experience Program Compliance	08/09/2012
Assessment 2012-001-5	Maintenance Rule Focused Self Assessment	06/29/2012
Assessment 2012-002-5	Nuclear Oversight 1st Quarter 2012 Assessment for Monticello	05/16/2012
Assessment 2012-002-5	Nuclear Oversight 2nd Quarter 2012 Assessment for Monticello	08/02/2012
ENG DRUM 1Q2011, 1Q2012	Engineering department roll up meeting report	07/29/2011
ENG DRUM 1Q2012	Engineering department roll up meeting report	04/27/2012
ENG DRUM 3Q2011	Engineering department roll up meeting report	11/08/2011
ENG DRUM 4Q2011	Engineering department roll up meeting report	01/31/2012
NOS Observation Report #: 2011-04-024	Cyber Security	12/22/2011
NOS Observation Report #: 2012-01-006	Cyber Security	02/04/2012
NOS Observation Report #: 2012-03-002	Corrective Action	08/13/2012

**CONDITION REPORTS GENERATED DURING INSPECTION**

<b><u>Number</u></b>	<b><u>Description or Title</u></b>	<b><u>Date or Revision</u></b>
1353939	2012 PI&R: Amplifying information not included in ACE	10/03/2012
1353945	2012 PI&R inspection- question on exceeding relay service life	10/03/2012
1353951	2012 PI&R: CAP closed without assigning corrective action	10/03/2012
1354052	Valid CAM alarm in SJAЕ Room	10/04/2012
1355550	2012 PI&R: Clarification of mode definitions in FP-E-MR-01	10/18/2012
1355627	2012 PI&R: vendor recommendations on relays	10/18/2012
1355670	2012 PI&R MO-2034: stall torque did not consider degraded volt	10/19/2012

**MISCELLANEOUS**

<b><u>Number</u></b>	<b><u>Description or Title</u></b>	<b><u>Date or Revision</u></b>
WO 432546	OPS-152-503, failed to close in test	06/08/2011
4858-PM	4kv, GE, AMH Magne-blast air circuit breaker maintenance	Revision 34
3784	Maintenance Rule (a)(1) action / performance improvement plan—RHR System	Revision 1
N/A	Incoming Operating Experience Evaluation (OEE) Checklist for “For Information Only (FIO) OE	N/A
2011005-02	NCV -- Inadequate Completion of CAPRs Associated With 2RS to 2R Feeder Cable Testing	10/21/2011
2012007-02	NCV – Failure to Analyze Voltage Requirements for Non-Motor Loads and 120 Vac Instrument Panels	04/05/2012
2011008-01	NCV – Hydrogen Bottles Located Below RHR System Cables	07/01/2011
RG 1.33	Quality Assurance Program Requirements (Operation)	2
FL-WMN-SHE-002L	Clearance Order Development and Execution Training (Lesson Plan)	
MT-LOR-11C-003S	Cycle 11C RPV Level Monitoring (Simulator Exercise Guide)	0
QF-1010-01a	Needs Assessment Worksheet for “Potential RPV Level Monitoring Weakness”	07/13/2011

## LIST OF ACRONYMS USED

ACE	Apparent Cause Evaluation
ADAMS	Agencywide Document Access Management System
AR	Action Request
CAP	Corrective Action Program
CFR	Code of Federal Regulations
CAQ	Condition Adverse to Quality
CR	Condition Report
DPO	Differing Professional Opinion
DRP	Division of Reactor Projects
DRUM	Department roll-up meeting
ECP	Employee Concerns Program
FIO	For Information Only
GAR	General Action Request
IMC	Inspection Manual Chapter
IN	Information Notices
IP	Inspection Procedure
LER	Licensee Event Report
MNGP	Monticello Nuclear Generating Plant
MPFF	Maintenance Preventable Functional Failure
MOV	Motor Operated Valves
NCV	Non-Cited Violation
NOS	Nuclear Oversight
NRC	U.S. Nuclear Regulatory Commission
OE	Operating Experience
OPR	Operability Recommendation
PARS	Publicly Available Records System
PM	Preventive Maintenance
PI&R	Problem Identification & Resolution
RCE	Root Cause Evaluation
RCIC	Reactor Core Isolation Cooling
RG	Regulatory Guide
RHR	Residual Heat Removal
RHRSW	Residual Heat Removal Service Water
ROP	Reactor Oversight Process
SCAQ	Significant Condition Adverse to Quality
SCWE	Safety-Conscious Work Environment
SR	Safety Related
WO	Work Order

M. Schimmel

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No violations or findings were identified during this inspection.

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Sincerely,

*/RA/*

Kenneth Riemer, Chief  
Branch 2  
Division of Reactor Projects

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Letter to M. Schimmel from K. Riemer dated November 29, 2012

SUBJECT: MONTICELLO NUCLEAR GENERATING PLANT PROBLEM IDENTIFICATION  
AND RESOLUTION INSPECTION REPORT 05000263/2012008

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