



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

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

September 25, 2009

EA-06-178

Mr. Mark A. Schimmel
Site Vice President
Prairie Island Nuclear Generating Plant
Northern States Power Company, Minnesota
1717 Wakonade Drive East
Welch, MN 55089

**SUBJECT: PRAIRIE ISLAND NUCLEAR GENERATING PLANT, UNITS 1 AND 2, NRC
BIENNIAL PROBLEM IDENTIFICATION AND RESOLUTION INSPECTION
REPORT 05000282/2009009; 05000306/2009009**

Dear Mr. Schimmel:

On August 13, 2009, the U.S. Nuclear Regulatory Commission (NRC) completed a biennial team inspection of problem identification and resolution at your Prairie Island Nuclear Generating Plant, Units 1 and 2. The inspection team also reviewed a sample of corrective actions taken for Prairie Island in response to requirements of a confirmatory order issued to Nuclear Management Company, LLC on January 3, 2007. The enclosed inspection report documents the inspection findings which were discussed on August 7, 2009, with Mr. M. Wadley and members of your staff; an exit was held on August 13, 2009, with Mr. D. Koehl and other staff members.

This inspection was an examination of activities conducted under your license as they relate to the identification and resolution of problems, compliance with the Commission's rules and regulations, and with the conditions of your operating license. Within these areas, the inspection involved selected examination of procedures and representative records, observations of activities, and interviews with personnel.

The inspection team concluded that on the basis of the sample selected for review, in general, problems were properly identified, evaluated, and corrected.

Based on the results of this inspection, three NRC-identified findings of very low safety significance were identified. These findings involved violations of NRC requirements. However, because of their very low safety significance, and because the issues were entered into your corrective action program, the NRC is treating the issues as Non-Cited Violations (NCVs) in accordance with Section VI.A.1 of the NRC Enforcement Policy.

If you contest the subject or severity of these NCVs, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001, with a copy to the Regional Administrator, U.S. Nuclear Regulatory Commission - Region III, 2443 Warrenville Road, Suite 210, Lisle, IL 60532-4352; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; and the Resident Inspector Office at the Prairie Island Nuclear Generating Plant. In addition, if you disagree with the characterization of any finding 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 Prairie Island Nuclear Generating Plant. The information that you provide will be considered in accordance with Inspection Manual Chapter 0305.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

John B. Giessner, Chief
Branch 4
Division of Reactor Projects

Docket Nos. 50-282; 50-306; 72-010
License Nos. DPR-42; DPR-60; SNM-2506

Enclosure: Inspection Report 05000282/2009009; 05000306/2009009
w/Attachment: Supplemental Information

cc w/encl: D. Koehl, Chief Nuclear Officer
G. Salamon, Regulatory Affairs Manager
P. Glass, Assistant General Counsel
Nuclear Asset Manager
J. Stine, State Liaison Officer, Minnesota Department of Health
Tribal Council, Prairie Island Indian Community
Administrator, Goodhue County Courthouse
Commissioner, Minnesota Department
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Manager, Environmental Protection Division
Office of the Attorney General of Minnesota
Emergency Preparedness Coordinator, Dakota
County Law Enforcement Center

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Letter to M. Schimmel from J. Giessner dated September 25, 2009

SUBJECT: PRAIRIE ISLAND NUCLEAR GENERATING PLANT, UNITS 1 AND 2, NRC
BIENNIAL PROBLEM IDENTIFICATION AND RESOLUTION INSPECTION
REPORT 05000282/2009009; 05000306/2009009

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket Nos: 50-282; 50-306; 72-010
License Nos: DPR-42; DPR-60; SNM-2506

Report No: 05000282/2009009; 05000306/2009009

Licensee: Northern States Power Company, Minnesota

Facility: Prairie Island Nuclear Generating Plant, Units 1 and 2

Location: Welch, MN

Dates: July 20 through August 13, 2009

Inspectors: R. Lerch, Project Engineer, Team Leader
K. Stoedter, Senior Resident Inspector, Prairie Island
S. Thomas, Senior Resident Inspector, Monticello
D. Betancourt, Reactor Engineer
R. Winter, Engineering Inspector
M. Phalen, Senior Radiation Protection Inspector

Approved by: J. Giessner, Chief
Branch 4
Division of Reactor Projects

Enclosure

TABLE OF CONTENTS

Summary of Findings.....	1
Report Details.....	4
4. OTHER ACTIVITIES.....	4
4OA2 Biennial Problem Identification and Resolution (71152B).....	4
4OA6 Management Meetings	18
SUPPLEMENTAL INFORMATION	1
KEY POINTS OF CONTACT	1
LIST OF ITEMS OPENED, CLOSED AND DISCUSSED	2
LIST OF DOCUMENTS REVIEWED.....	3
LIST OF ACRONYMS USED	13

SUMMARY OF FINDINGS

IR 05000282;05000306/2009-009; 07/20/2009 – 08/13/2009; Prairie Island Nuclear Plant, Routine Biennial Problem Identification and Resolution Inspection.

This inspection was performed by four NRC regional inspectors and the Prairie Island senior resident inspector with a 1 week assist by the Monticello senior resident inspector. Three Green findings were identified by the inspectors. The findings were considered Non-Cited Violations of NRC regulations. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process" (SDP). Findings for which the SDP does not apply may be Green or be assigned a severity level after NRC management review. 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.

Problem Identification and Resolution

On the basis of the information reviewed, the team concluded that the corrective action (CA) program at Prairie Island was functional, but implementation was lacking in rigor resulting in inconsistent and undesirable results. In general, the licensee had a low threshold for identifying problems (issue reports called CAPs) and entering them in the CA program; however, some significant issues went unrecognized and therefore CAPs were not issued for these. Most items entered into the CA program were screened and prioritized in a timely manner using established criteria; however, inspectors observed inconsistency and lack of rigor in the screening process. Most issues, including operating experience, were properly evaluated commensurate with their safety significance; and corrective actions were generally implemented in a timely manner, commensurate with the safety significance. However, the inspectors identified significant examples of issues with evaluation and corrective action shortcomings that resulted in inspection findings. The backlog of corrective actions was large and growing. Audits and self-assessments were determined to be performed at an appropriate level to identify deficiencies, but the station was not taking full advantage of the processes and results. On the basis of interviews conducted during the inspection, and a review of the employee concerns program, workers at the site were willing to enter safety concerns into the CA program.

Inspectors continued to have concerns with the performance of the corrective action program. The last biennial problem identification and resolution inspection in 2007 was critical of program implementation and weaknesses were recognized by the licensee. An improvement effort was initiated. At the time of this inspection, inspectors concluded that performance had declined and another improvement plan was in progress. The current improvement program was not yet fully implemented and effective.

A. NRC-Identified and Self-Revealed Findings

Cornerstone: Initiating Events

- **Green.** The inspectors identified a finding of very low significance and non-cited violation (NCV) of Technical Specification 5.4.1.a for the licensee failing to obtain a temporary or permanent procedure change, as required by their Procedure Use and Adherence procedure, prior to implementing a procedure when it was determined that they could not complete a required swap of two heater drain pumps using the applicable

section of the appropriate operating procedure. Once identified, the licensee took actions to correct the issue and entered the issue into their corrective action program.

The inspectors determined the finding to be more than minor because if left uncorrected, this finding had the potential to lead to a more significant safety concern. The inspectors evaluated the finding using Inspection Manual Chapter (IMC) 0609, Appendix A, Attachment 1, "Significance Determination of Reactor Inspection Findings for At-Power Situations," using the Phase 1 Worksheet for the Initiating Events Cornerstone. Since the finding did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions will not be available, the inspectors concluded that the finding was of very low safety significance. The inspectors determined that the performance deficiency affected the cross-cutting area of Human Performance, having work practices components, and involving aspects associated with personnel following procedures. (H.4(b)). (Section 40A2.a(1))

Cornerstone: Mitigating Systems

- Green. The inspectors identified a Non-Cited Violation (NCV) of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Actions," for the failure to promptly correct a condition adverse to quality regarding the expired qualification of safety-related molded case circuit breakers. Specifically, the licensee failed to evaluate extending the service life of safety-related molded case circuit breakers beyond the 20 year life expectancy, a condition adverse to quality. The licensee entered this issue into its corrective action program.

The finding was more than minor in accordance with IMC 0612, Appendix B, "Issue Screening," dated December 4, 2008, because the finding was associated with the Mitigating Systems Cornerstone attribute of equipment performance and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, an unqualified safety-related molded case circuit breaker could lead to higher trip times and potential unavailability of safety-related components associated with the bus when a circuit fault is present. The finding screened as of very low safety significance because the finding was a qualification deficiency confirmed not to have resulted in loss of operability or functionality in service. This finding had a cross-cutting aspect in the area of Problem Identification and Resolution, operating experience, because the licensee failed to implement maintenance information through changes to station processes and procedures to address the qualification of the breakers from Vendor Technical Bulletin 06-2 (P.2(b)). (Section 40A2.b.4))

Cornerstone: Emergency Preparedness

- Green. The inspectors identified a finding of very low safety significance and a Non-Cited Violation of 10 CFR 50.54(q), associated with 10 CFR 50.47(b)(8), for failing to maintain the portion of the emergency plan in effect regarding the adequate maintenance of the Technical Support Center (TSC) emergency facility. Specifically, the implementation of procedure steps in Surveillance Procedure (SP) 1689, "TSC Ventilation System Operability Check," on January 25, 2009, resulted in the licensee's failure to test the TSC ventilation system in its as-found condition. As a result, the TSC ventilation system and an emergency preparedness planning standard were unknowingly degraded between July 26, 2008, and January 25, 2009. Corrective

actions for this issue included ensuring that the TSC ventilation system was appropriately tested in July 2009 and revising SP 1689 to ensure that the TSC ventilation system was appropriately tested in the future.

This finding was more than minor because it was associated with the attribute of meeting the planning standards of 10 CFR 50.47(b). In addition, the finding affected the cornerstone objective of ensuring that the licensee was capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. The inspectors used Section 4.8 of the Emergency Preparedness Significance Determination Process and concluded that this finding was of very low safety significance, because the associated emergency preparedness planning standard was not lost. The finding was determined to be cross-cutting in the area of Human Performance, Resources because procedure SP 1689 was not complete and accurate (H.2(c)). (Section 40A2.a(2))

B. Licensee-Identified Violations

No violations of significance were identified.

REPORT DETAILS

4. OTHER ACTIVITIES

4OA2 Biennial Problem Identification and Resolution (71152B)

The activities documented in Sections a. through d. constituted one biennial sample of problem identification and resolution as defined in IP 71152.

a. Assessment of the Corrective Action Program Effectiveness

Inspection Scope

The inspectors reviewed the licensee's Corrective Action (CA) program implementing procedures, interviewed personnel and attended CA program meetings to assess the implementation of the CA program by site personnel.

The inspectors reviewed risk and safety significant issues in the licensee's CA program since the last NRC Problem Identification and Resolution (PI&R) inspection in October 2007. The selection of issues ensured an adequate review of issues across NRC cornerstones. The inspectors used issues identified through NRC generic communications, department self assessments, licensee audits, operating experience reports, and NRC documented findings as sources to select issues. Additionally, the inspectors reviewed issue reports called CAPs, generated as a result of facility personnel's performance in daily plant activities. In addition, the inspectors reviewed CAPs and a selection of completed investigations from the licensee's various investigation methods, which included root causes, apparent causes, equipment apparent causes, and common cause investigations.

A 5 year review of emergency diesel generator (EDG) crankcase pressure issues was also undertaken to assess the licensee staff's efforts in monitoring for system degradation due to aging aspects. The inspectors also performed a partial system walkdowns of the EDGs.

During the reviews, the inspectors evaluated the licensee staff's actions to comply with the facility's corrective action program and 10 CFR Part 50, Appendix B requirements. Specifically, the inspectors evaluated if licensee personnel were identifying plant issues at the proper threshold, entering the plant issues into the station's CA program in a timely manner, and assigning the appropriate prioritization for resolution of the issues. The inspectors also evaluated 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, including Non-Cited Violations.

Assessment

(1) Effectiveness of Problem Identification

In general, problem identification was adequate and at the right threshold. The sample of issues reviewed by inspectors that were entered into the CA program indicated a low threshold, with a steady generation of CAPs on a monthly basis. CAP generation numbers appeared representative of a good problem identification ethic. Other safety conscious work environment (SCWE) indications such as surveys and interviews indicated willingness to identify issues and capture them in the CAP. However, there were several previous NRC findings that demonstrated elements of failure to identify an issue through generating a CAP. Examples included not recognizing wooden tables used in an area of safety-related equipment as a fire load; operators proceeding with use of non-aligned procedures which resulted in an unplanned automatic start of a diesel fire pump; and use of inadequate procedures for feedwater heater drain pump swaps (see the finding below). Other examples included performance indicator data for several NRC performance indicators which were not accurately reported. This was also a repeat issue. Inspectors at the CAP screening meeting observed problem descriptions that were inadequate for screening and evaluating the issues, but went unchallenged by the committee. Other issues were raised, but were not addressed by members. Specific examples included ownership of equipment specifications for security equipment, and a request for an operability evaluation for some uncontrolled acetone used in the plant. The inspectors concluded that improved standards and expectations, and increased accountability, were required for effective performance of the screening committee.

Findings

Failure to Follow Procedures for Heater Drain Pump Swaps

Introduction: The inspectors identified a finding of very low significance and a Non-Cited Violation (NCV) of Technical Specification 5.4.1.a for failure to obtaining a temporary or permanent procedure change, as required by the "Procedure Use and Adherence" procedure, prior to implementing a procedure when it was determined that a swap of two heater drain pumps could not be completed using the applicable section of the operating procedure.

Description: On June 2, 2009, the operating crew was tasked with changing the heater drain pump line-up utilizing operating procedure 2C28.4, "Unit 2 Heater Drains." The normal heater drain pump configuration for full power operations consists of two of the three heater drain pumps operating, with one heater drain pump secured. The actual evolution to be performed consisted of changing the heater drain tank pump configuration of the operating heater drain pumps from pumps 22 and 23 to pumps 21 and 23. The evolution was to be conducted per section 5.3 (swapping heater drain pumps) of operating procedure 2C28.4.

Shortly after commencing section 5.3, due to a pre-existing equipment deficiency associated with the 23 heater drain pump speed control, the operating crew discovered that they could not place the pump speed selector switch in Auto (as required by step 5.3.5). Licensee procedure FP-G-DOC-03, revision 5, "Procedure Use and Adherence," step 3.3.6 required the following:

“Stop work activity if a procedure deficiency is identified and activities cannot proceed per the procedure. The procedure deficiency SHALL be corrected by initiation of a temporary or permanent procedure change in accordance with FP-G-DOC-04, “Procedure Processing,” prior to proceeding.”

Instead of stopping when confronted with a procedural deficiency, the operating crew decided to use multiple individual sections in the 2C28.4 procedure to accomplish the heater drain tank pump swap. This decision resulted in several additional pump starts and stops in a system which has the potential to directly impact reactivity. After completing the evolution, the operating crew entered the issue into the corrective action program and a condition evaluation was performed. The condition evaluation determined that the procedure deficiency was a human performance error trap and that the additional pump manipulations that were required to perform the heater drain pump swap was an operator challenge. Even after it was determined to be a human performance error trap and an operator challenge, nothing was done to address the procedure deficiency, until after inspectors questioned the licensee, approximately 2 months later.

Analysis: The inspectors determined that the failure of the licensee to implement their Procedure Use and Adherence procedure when confronted with an operating procedure that could not be performed, as written, constituted a performance deficiency warranting significance evaluation in accordance with Inspection Manual Chapter (IMC) 0612, Appendix B, “Issue Disposition Screening.” The inspectors determined the performance deficiency to be more than minor, because if left uncorrected, the issue had the potential to lead to a more significant safety concern. The inspectors evaluated the finding using IMC 0609, Appendix A, Attachment 1, “Significance Determination of Reactor Inspection Findings for At-Power Situations,” using the Phase 1 Worksheet for the Initiating Events Cornerstone. Since the finding did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions will not be available, the inspectors concluded that the finding was of very low safety significance (GREEN). The inspectors determined that the performance deficiency affected the cross-cutting area of Human Performance, having work practices components, and involving aspects associated with personnel following procedures. (H.4(b))

Enforcement: Technical Specification 5.4.1.a requires that written procedures shall be established, implemented, and maintained covering applicable procedures recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978. The Administrative Procedures section of Regulatory Guide 1.33 specifically mentions procedures for “Procedure Adherence and Temporary Change Method.” FP-G-DOC-03, revision 5, “Procedure Use and Adherence, step 3.3.6 requires, in part that the licensee stops the work activity if a procedure deficiency is identified and activities cannot proceed per the procedure and that the procedure deficiency SHALL be corrected by initiation of a temporary or permanent procedure change in accordance with FP-G-DOC-04, “Procedure Processing,” prior to proceeding. Contrary to this requirement, on June 2, 2009, the licensee did not obtain a temporary or permanent procedure change prior to proceeding when it was determined that they could not complete a required swap of two heater drain pumps on Unit 2 using the applicable section of the appropriate operating procedure. Because this violation was of very low safety significance and it was entered into the licensee’s corrective action program (CAP 1192435), it is being treated as an NCV, consistent with Section VI.A.1 of the NRC Enforcement Policy. (NCV 05000306/2009009-01)

(2) Effectiveness of Prioritization and Evaluation of Issues

Assessment

The inspectors determined that the overall performance in prioritization and evaluation of issues was acceptable, but marginal. Some corrective actions are years old and completion priority is not linked to potential safety significance. For example, a final White finding for the inadequate design of the component cooling water system (second quarter 2009) was initially discovered by the licensee in completing a corrective action which was over 3 years old. The issues in the CA program were being prioritized by significance (root cause, apparent cause, common cause, fix) and by due dates. This made it difficult to prioritize most routine issues assigned only due dates. The licensee was applying a safety related (condition adverse to quality (CAQ)) versus non-safety related (not a condition adverse to quality (NCAQ)) screening criteria to assist with prioritization. Inspectors noted that this approach did not address the risk to plant operations and was not always accurately applied, although all issues were addressed. In addition, several issues in the inspection period occurred which had been identified earlier, but were not corrected in time to prevent recurrence. These issues included: Technical Support Center (TSC) dampers, underground cable failures (for which corrective actions had been identified but not completed), and insulation on auxiliary feedwater piping which was an issue in a previous outage.

While most evaluations were good, some evaluation weaknesses observed by inspectors could be characterized as addressing the symptoms rather than the causes. Several other issues had been identified in the inspection period where questioning by inspectors resulted in significant changes to the evaluations and ultimately NRC findings. Specifically, inspectors questioned evaluations on employee respirator qualifications, a control room chill water pump mission time, and an event concerning a release of hydrazine and others. Most weaknesses identified by inspectors could be generally attributed to a lack of rigor in the analysis.

Observations

Operator Burdens

Corrective actions for operator burdens have not been adequately prioritized or effective in maintaining operator burdens at a minimized level. The inspectors evaluated how the licensee was handling selected long-term equipment issues and operator burdens and the licensee's efforts to reduce the numbers of each. A general assessment of key areas is as follows:

- 5 of the top 10 equipment issues have been on the list for between 3 and 6 years;
- there are currently in excess of 70 work request stickers in the control room;
- 5 of the 7 Operator Workarounds are in excess of 2 years old;

There are currently approximately 81 Operator Burdens. These burdens consist of 7 operator workarounds; 22 operator challenges; 38 control room deficiencies; and 14 long term installed clearances. The overall number of Operator Burdens also could include temporary modifications which impact operations, but the inspector did not evaluate this component and their number is not reflected in the 81 Operator Burdens.

The licensee has significantly exceeded their Operator Burden performance indicator goal (<37) for at least the past 8 months.

Based on an increasing trend in the numbers of Operator Burdens over the past 2 months, the licensee has not successfully implemented corrective actions to reduce and manage the number of existing Operator Burdens. Some observations associated with specific Operator Burdens are as follows:

There is an operator workaround associated with each of the main turbine turning gears failing to engage in automatic [schedule dates for repair are 12/7/2009 for 11, and 5/10/2010 for 21]. Since the failure of the 11 turning gear to engage following the July 2008 reactor trip forced the licensee to break condenser vacuum and significantly impacted the trip response and recovery, the inspectors questioned the priority placed on remedying these deficiencies.

There is an Operator Challenge associated with each of the Instrument Air (IA) Compressors (121/122/123) aftercooler cooling water control valve having to be manually bypassed, due to the control valves being obsolete and non-functional. For each compressor, the operators are tasked with maintaining the cooling water pressure in a band higher than 60 psig, but less than the system relief pressure of 75 psig. Exacerbating this condition is the fact that some of the piping is experiencing periodic silting, which also impacts the ability to maintain the appropriate pressure band to the IA compressors. The inspectors were informed that the aftercooler cooling water control valves would not be repaired since a major instrument air modification was being planned. Since the IA system has some risk significance, the inspectors questioned the decision to live with this operator challenge until the IA modification was completed (currently scheduled for July 2010).

There was an Operator Challenge associated with the operation of heater drain pumps. A finding associated with this issue in Section 40A2.a(1).

Foxboro H-Line Modules

Another long term equipment issue evaluated by the inspectors was associated with the Foxboro H-Line modules which are used in reactor protection, reactor control, and balance of plant applications. These components were first identified in 1985 for replacement to be completed by 1995. Instead of replacement, they were reclassified as run to failure. Since that time, the licensee has considered several options to address the obsolescence of these modules. During July 2008, a plant trip occurred as a result of the failure of one of these modules, coincident with reactor protection system (RPS) testing. In summary, the licensee continues to be at risk for a plant trip during their monthly RPS testing. No long term corrective action to address the obsolete Foxboro modules has been implemented. The licensee currently has funded a project designed to replace the obsolete modules.

Findings

Inadequate Technical Support Center Ventilation System Testing

Introduction: The inspectors identified a Non-Cited Violation (NCV) of 10 CFR 50.47(b)(8) having a very low safety significance (Green) for failing to maintain the portion of the emergency plan in effect regarding the adequate maintenance of the TSC emergency facility. Specifically, the implementation of procedure steps in Surveillance Procedure (SP) 1689, "TSC Ventilation System Operability Check," on January 25, 2009, resulted in the licensee's failure to test the TSC ventilation system in its as-found condition. As a result, the TSC ventilation system and an emergency preparedness planning standard were unknowingly degraded between July 26, 2008 and January 25, 2009.

Description: The Prairie Island TSC is a two story structure within the turbine building. The upper floor is the TSC proper and the lower floor is an overflow area that is used as the work control center during normal operation. The TSC ventilation system consists of separate upper and lower trains that, in the normal mode, draws in outside air through two large dampers, blows the air through an air handler for heating or cooling, and then recirculates the air through the structure and back to the air handlers through return ducts. When switched to the emergency mode, which is required during TSC activation, the normal outside air dampers would close, and a smaller outside air damper would modulate open to supply air through particulate and charcoal filters to the air handlers. In addition, some of the air in the return ducts would also be directed through the filters. The air handler fans remain on to recirculate the air.

As part of this inspection, the inspectors reviewed the corrective actions associated with Non-Cited Violation 05000282/2008002-01; 05000306/2008002-01. During this review, the inspectors identified that operations personnel were verifying the position of four manual TSC ventilation system dampers as discussed in SP 1689, "TSC Ventilation System Operability Check." If any of the dampers were found in an unexpected position, SP 1689 allowed the dampers to be repositioned prior to performing the system operability test. Based upon the information discussed above, the inspectors were concerned that the licensee was potentially pre-conditioning the TSC ventilation system. This pre-conditioning could result in the failure to demonstrate the continued functionality of the TSC ventilation system due to the failure to test the system in the as-found configuration.

The inspectors reviewed the results of TP/SP 1689 performed between March 5, 2008, and July 31, 2009. The inspectors identified that two of the manual dampers were re-positioned prior to performing SP 1689 on January 25, 2009. As a result, the inspectors were concerned that the TSC may have been non-functional for approximately 6 months during the timeframe mentioned above. The inspectors determined that the TSC was currently functional due to the successful completion of SP 1689 (without any damper adjustments) on July 31, 2009.

The inspectors discussed this issue with operations and engineering personnel. The licensee conducted a functionality review and determined that the TSC ventilation system was functional but degraded from July 26, 2008 through January 25, 2009 due to the failure to test the TSC ventilation system in its as-found configuration. The licensee

also implemented a procedure change request to remove the procedure steps that allowed the dampers to be repositioned prior to performing SP 1689.

Analysis: The inspectors concluded that the failure to test the TSC ventilation system in a manner that supported emergency response activities was a performance deficiency because it could result in the failure to maintain TSC habitability, and a failure to ensure adequate protection of emergency response personnel from airborne contamination during an actual emergency.

The inspectors concluded that the finding did not have actual safety consequences because there were no events that resulted in a radioactive release between July 2008 and January 2009. The finding did not affect the NRC's ability to perform its regulatory function and was not willful. The inspectors applied the Significance Determination Process (SDP) to the finding and determined it was associated with a failure to meet a regulatory requirement in the emergency preparedness cornerstone. The finding was more than minor because it was associated with the attribute of meeting the planning standards of 10 CFR 50.47(b) and affected the cornerstone objective of ensuring that the licensee was capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency.

In accordance with the SDP Phase 1 Screening Worksheet of Inspection Manual Chapter (IMC) 0609, the inspectors applied Appendix B, "Emergency Preparedness Significance Determination Process," and determined that Section 4.8 applied. The TSC function was degraded for a period of longer than 7 days from the time of discovery as defined in the emergency preparedness SDP. Although not specifically discussed in Section 4.8 of the SDP, a finding involving a degraded planning standard was one color lower in significance than a finding involving a loss of the planning standard. Since a loss of the TSC for more than 7 days from the time of discovery would have been a White finding under Section 4.8, a degraded TSC was determined to be a Green finding. This was supported by the flow chart on Sheet 1 of Section 4.8 by answering "yes" to the planning standard problem decision point, "no" to the risk significant planning standard problem decision point, "no" to the planning standard functional failure decision point, and thus arriving at the Green result box. This finding was also related to the cross-cutting area of Human Performance, Resources because procedure SP 1689 was not complete and accurate (H.2(c)).

Enforcement: Part 50.54(q) of 10 CFR required that licensee's follow and maintain in effect emergency plans which meet the standards in 10 CFR 50.47(b). Part 50.47(b)(8) of 10 CFR required that adequate emergency facilities and equipment to support the emergency response be provided and maintained. Prairie Island Nuclear Generating Plant Emergency Plan, Revision 40, Section 7.1.1, required that the TSC have a shielding and ventilation cleanup system to provide habitability under accident conditions. Contrary to the above, the licensee failed to maintain the portion of their emergency plan in effect regarding the adequate maintenance of the TSC emergency facility. Specifically, the implementation of procedure steps in SP 1689 on January 25, 2009, resulted in the licensee's failure to test the TSC ventilation system in its as-found condition. As a result, the TSC ventilation system and an emergency preparedness planning standard were unknowingly degraded between July 26, 2008 and January 25, 2009. The licensee entered this issue into their corrective action system as CAP 1192415. The licensee also initiated a procedure change request to ensure that the TSC ventilation system was tested in its as-found configuration in the future.

Because this violation was of very low safety significance and was entered into the licensee's corrective action program, this violation is being treated as a Non-Cited Violation consistent with Section VI.A of the NRC Enforcement Policy (**NCV 05000282/2009009-02; 05000306/2009009-02**). Corrective actions for this issue consisted of ensuring that the TSC ventilation system was appropriately tested in July 2009 and revising SP 1689 to ensure that the TSC ventilation system was appropriately tested in the future.

(3) Effectiveness of Corrective Actions

While the majority of issues were effectively resolved, a significant number of repetitive issues were reviewed by inspectors during the inspection period. A lack of consistent effectiveness was evident in repeated issues with very high radiation area keys, security weapons controls, check valve SI-9 5, and roll-up door compensatory actions. Additionally, many long term issues lingered. Issues considered by inspectors to be lacking resolution included the turbine turning gears on both units, operator burdens, Foxboro controller issues, TSC dampers, and air compressor aftercooler cooling water control valves.

Work load appeared to be a factor in corrective action effectiveness by impacting the timeliness of the implementation of actions. The station had backlogs in corrective actions as well as work requests, engineering requests and other work items. Backlogs existed at the time of the last PI&R and have not improved. Some backlogs have increased.

Observations

Five Year Historical Review – D5/D6 Emergency Diesel Generator Crankcase Pressure Issues

In the late 1990s the licensee began experiencing high crankcase pressure conditions on the D5 and D6 emergency diesel generators during routine surveillance testing. This condition has resulted in the entry into numerous unplanned limiting conditions for operation and a Unit 2 shutdown. During this inspection, the inspectors reviewed a sampling of corrective action program documents regarding this issue that were generated between the years 2004 and 2009. The inspectors also discussed this issue with operations, engineering, and management personnel. The corrective action documents indicated that the elevated crankcase pressure condition was caused by the reduction in diesel fuel oil sulfur content. Based upon this information, the licensee had pursued two courses of action to resolve the crankcase pressure condition. The first course of action involved modifying the engine crankcase breather system. The second course of action involved increasing the sulfur content of the diesel fuel oil. In 2009, the licensee began introducing an additive to the diesel fuel oil to increase the sulfur content. The licensee referred to this action as fuel oil doping. Although the fuel oil doping had resulted in a reduction in engine crankcase pressure for the D5 and D6 emergency diesel generators, the licensee was continuing to monitor engine performance. The licensee planned to make a decision regarding the need for the breather system modification after obtaining additional engine performance data.

Findings

No findings of significance were identified.

b. Assessment of the Use of Operating Experience

1) Inspection Scope

The inspectors reviewed the licensee's implementation of the facility's Operating Experience (OE) program. Specifically, the inspectors reviewed implementing operating experience program procedures, attended CA program meetings to observe the use of OE information, reviewed completed evaluations of OE issues and events, and reviewed selected monthly assessments of the OE composite performance indicators. 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 implemented.

2) Assessment

The inspectors determined that the overall performance of the operating experience program was acceptable, but that a negative trend in the use of Operating Experience needs to be promptly addressed. The licensee utilized a program that was structured and established reasonable objectives. The licensee used its screening meetings to select relevant OE and direct them to the appropriate department. The inspectors did identify, by reviewing the Operating Experience procedure, that the licensee had committed to assess its program every 2 years, but the licensee had not performed a self-assessment since 2005. This information was provided to the licensee and is being addressed by the licensee's corrective action program. Two key observations and a finding, discussed below, indicate the licensee is not being proactive in its use of OE. Nuclear Oversight (NOS) performed independent assessments of the site. They appeared to identify some negative trends. Additionally, the evaluations of external OE and NRC generic communications the inspectors reviewed seemed to appropriately address some issues identified in the OE. However, the NRC, not the site, identified the trend that OE was not being effectively used at the site.

3) Observations

Tracking of Vendor Manual Changes

It was noted during this inspection that vendor manual changes were difficult to track through the corrective action program. The inspector reviewed the Vendor Manual Procedure to evaluate the process by which the vendor manual changes are incorporated into the appropriate procedures, and also interviewed the Vendor Information Coordinator (VIC) to further understand the process. The procedure guided the VIC to use the corrective action program to process changes to procedures, but the inspector was not able to find any open vendor manual changes. The VIC noted that the person assigned the action would know it, but the inspector noted that for every one else

it is difficult to find. The inspector concluded there was a vulnerability in the tracking system since there is a potential to not complete the changes by the due date. In addition, the staff may not know what changes are being processed through the corrective action program. One NRC identified and several licensee identified instances were found in which vendor manual changes had not being incorporated into procedures. The VIC noted that an action had been recently implemented to add a method to track the vendor manual changes, and it was entered into the licensee's corrective action program.

Untimely Implementation of Operating Experience

During the inspection period the inspectors reviewed a previously identified trend regarding the untimely implementation of OE (see NRC inspection report 05000282/2009003; 05000306/2009003). The trend had five new examples of untimely operating experience that led to operational challenges and equipment failures. For example, actions from the lessons learned on long standing issues for Unit 1 cavity leakage were still open and had not been implemented. In addition, several OE sources for flooding and high energy line breaks were not effective in identifying potential issues at the site until brought to the attention by the NRC. Through the review of various OE evaluations, the inspectors agreed with the identified trend that there is a weakness related to the implementation of OE that could lead to additional equipment failures or failure to identify an adverse condition. A condition report was initiated to address the trend of untimely implementation of corrective actions, but it was too soon to see if the actions taken have been effective.

Additionally, during this inspection the inspector identified another example of untimely implementation of OE in that a number of safety-related breakers were past their qualified life, as mentioned in the OE Evaluation of a Technical Bulletin from Westinghouse. The condition had not been addressed or corrected. This issue is discussed in the findings section.

4) Findings

Failure to Qualify Safety-Related Molded Case Circuit Breakers

Introduction: The inspectors identified a Non-Cited Violation (NCV) of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Actions," for the failure to promptly correct a condition adverse to quality regarding the expired qualification of safety-related molded case circuit breakers.

Description: On August 3, 2009, the inspectors identified that the licensee had deferred the preventive maintenance for five safety-related HFB Molded Case Circuit Breakers (MCCBs) beyond 125 percent of the required 5 year frequency. The inspectors questioned the reason for the deferral, and also requested that the licensee provide the life expectancy of the MCCBs, as well as the duration that these breakers had been in service. The licensee stated that the deferral was due to unanticipated complications encountered in the engineering change process associated with the selection of an acceptable replacement model, as well as parts availability. It was also stated that there was no indication of any age-related degradation in the operation of the breakers. The licensee also stated that, per Westinghouse Technical Bulletin-06-02 (TB-06-02), dated March 10, 2006, the life expectancy for these breakers was 20 years due to the type of

grease and oil used in them, which were found to be limiting factors for continued operability within published specifications. At the time the bulletin was received, the breakers in question had been in service for 23 years. At the time of this inspection, those breakers had been in service for 26 years.

The licensee had entered the 2006 bulletin into their corrective action program as AR 01019169. The licensee's evaluation of the bulletin determined that a total of 89 MCCBs of the affected style (both safety and non-safety related) were in use at Prairie Island at the time. As a result, the licensee developed a corrective action to replace the safety-related MCCBs every 15 years going forward; however, they failed to evaluate the acceptability of operation of the currently installed MCCBs that were beyond their 20 year life expectancy. The licensee also failed to extend the qualified life by meeting the requirements of TB-06-2 by using a combination of preventive maintenance and aging management.

As of August 06, 2009, the licensee had 13 safety-related MCCBs that were older than 20 years for which the licensee had not performed an evaluation to provide reasonable assurance that these circuit breakers could perform their safety function until replacement. Some examples of the affected breakers include: BKR-112G-1 to the Shield Building Gas Radiation Monitor, BKRG-12 121 to the Control Room Chilled Water Pump and BKRG-122G-15 to the Control Room Air Handler and Fan.

On August 9, 2009 the licensee performed an operability determination and determined that the HFB breakers were operable, but non-conforming, based on acceptable performance history of the breakers during past preventive maintenance and no in-service failures. Based on discussion with Westinghouse, the licensee tested three MCCBs (10 percent of the population) to support that the breakers had not been affected by binding or sluggish operation. The three MCCBs were selected based on the length of time since their last test. The results showed trip times in the appropriate range. The licensee stated that they plan to test the rest of the breakers before the next refueling outage in October 2009.

Analysis: The inspectors determined that the failure to promptly correct a condition adverse to quality regarding the expired qualification of safety-related molded case circuit breakers was a performance deficiency. Specifically, the licensee failed to evaluate extending the service for safety-related molded case circuit breakers beyond the 20 year life expectancy, a condition adverse to quality. The finding was determined to be more than minor in accordance with IMC 0612, Appendix B, "Issue Screening," dated December 4, 2008, because the finding was associated with the Mitigating Systems Cornerstone attribute of equipment performance and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, an unqualified safety-related molded case circuit breaker could lead to higher trip times and potential unavailability of safety-related components associated with the bus when a circuit fault is present.

The inspectors determined the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 - Initial Screening and Characterization of Findings," Table 3b for the Mitigating System Cornerstone. Although the molded case circuit breakers associated with this performance deficiency affected systems and components in the Mitigating System,

Occupational Radiation Safety and the Containment Barrier Cornerstones, the number of mitigating systems affected was significantly higher than the systems associated with the Containment Barrier and Occupational Radiation Safety Cornerstones and was used to evaluate the significance of the finding. The finding screened as of very low safety significance (Green) because the finding was a qualification deficiency confirmed not to result in loss of operability or functionality.

This finding had a cross-cutting aspect in the area of Problem Identification and Resolution, operating experience, because the licensee failed to implement maintenance information through changes to station processes and procedures to address the qualification of the breakers from Vendor Technical Bulletin 06-2 (P.2(b)).

Enforcement: 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," requires, in part, that measures be established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformance are promptly identified and corrected. Contrary to the above, from March 10, 2006 to August 9, 2009, the licensee failed to promptly correct a condition adverse to quality regarding the expired qualification of safety-related molded case circuit breakers. Specifically, although the bulletin was in their corrective action program as AR0119169, the licensee failed to evaluate extending the service for safety-related molded case circuit breakers beyond the 20 year life expectancy. Because this violation was of very low safety significance and was entered into the licensee's corrective action program as AR 1192430, this violation is being treated as an NCV, consistent with Section VI.A.1 of the NRC Enforcement Policy (**NCV 05000282/2009009-03; 05000306/2009009-03**). Corrective actions included conducting an operability determination and setting a program in place to test the remaining breakers.

c. Assessment of Self-Assessments and Audits

1) Inspection Scope

The inspectors assessed the licensee's ability to identify and enter issues into the station CAP, prioritize and evaluate issues, and implement effective corrective actions, through efforts from departmental and nuclear oversight (NOS) assessments. The inspectors assessed the licensee's ability to properly capture the documented deficiencies from assessments into CAP items. The inspectors reviewed the focused self-assessment performed on the corrective action program early in 2009.

2) Assessment

While the licensee has programs and processes in place to conduct meaningful assessments and audits, full benefits of these programs were not realized due to their limited application and ineffective corrective actions. Organizational self assessments were limited to assessments conducted prior to audits by external organizations. While problem identification was reasonable and many issues were resolved, the program was driven by external schedules that may not address station weaknesses. Backlogs of other work products were a limiting factor in assigning resources to perform self assessments. Also, the station was not responding rigorously to issues identified by NOS (see the observations below) such that some NOS identified issues were not corrected before NRC inspectors identified and evaluated them.

The site performed a 2009 PI&R self-assessment of the CA program and determined, although several areas needed improvement, the station was adequately implementing the CA program. The assessment documented issues in the major areas of cause analysis, safety culture, effectiveness of performance indicators, management oversight, timely and effective execution of corrective actions and completion dates based on the significance of issues. The CAP overall effort was hindered by having no simple mechanism to identify ineffective corrective actions. Although the causes were generally found, most apparent cause evaluations tended to be short and did not always examine the issue in sufficient depth to resolve the issue fully. Backlog in the work products including the CA program work products remained high. The site did not consistently set due dates for corrective actions that are commensurate with the significance of issues, leading to having repeat issues.

Generally, the assessment identified issues that were consistent with the conclusions of the inspectors. The inspectors held discussions with the NOS Manager regarding NOS activities with respect to the station's performance in CA program. The inspectors concluded that although the station has had improvement programs and effort toward CA program improvement since the last PI&R, recognizable improvement in most areas was lacking.

3) Observations

Nuclear Oversight Assessments

The inspectors considered the quality of the NOS assessments to be adequate. However, the inspectors were concerned that several NOS identified issues have remained open and unresolved for an extended period of time. Specifically, the first quarter 2009 NOS Assessment Report identified that the station's radiation protection program had been assessed as "below expectations" since the fourth quarter of 2006. The station's corrective actions program had been assessed by NOS as performing "below expectations" for over 3 1/2 years. The site has one White finding in the public radiation cornerstone from the first quarter 2009. In discussions with the NOS staff, it was identified that although there were processes in place to escalate specific and discrete issues, a similar process for programmatic issues was just recently implemented. This change in the NOS program was designed to increase the focus on resolving long-standing programmatic issues through accountability of the line organization. Requiring the line organizations that are assessed as "below expectations" for two consecutive quarters to develop recovery plans that are reviewed and approved by the line managers, the site vice president, and the NOS manager, should drive correction of the actual performance deficiency and facilitate the timely resolution of issues.

Additionally, further review by NRC inspectors identified that some of the issues chronically identified by NOS lacked consistent performance deficiency specificity. For example, while the NOS reports state that the radiation protection program was performing "below expectations," the actual deficiencies described in each report varied. The first quarter 2009 report identified the radiation protection areas of concern as human performance events and the key control program. In the third quarter 2008 report, the areas of concern were identified as ALARA planning, personal contamination events, and the trip ticket program. The escalation process described above is designed to focus the line organization around solving specific issues, while more clearly defining

the systemic concerns that NOS may have with any particular program. Additionally, there is evidence that the line organization is slow to respond and resolve issues identified by the NOS organization. Specifically, NOS recognized issues associated with respirator qualifications, the load sequencer and compensatory measures with the roll up door, prior to these issues being identified and issued as violations by the NRC.

4) Findings

No findings of significance were identified.

d. Assessment of Safety Conscious Work Environment (SCWE)

1) Inspection Scope

The inspectors assessed the licensee's safety conscious work environment through the reviews of the facility's employee concerns program (ECP) implementing procedures, postings for maintaining employee awareness of the ECP program, literature, discussions with the ECP coordinator, interviews with personnel from various departments, and reviews of issue reports. The inspectors reviewed the results from an August 2008 Safety Culture Survey, and reviewed corrective actions taken in response to an order issued to Nuclear Management Company LLC dated January 3, 2007.

2) Assessment

The licensee maintains an accessible, functioning ECP program, promotes a safety conscious work environment to employees, and periodically assesses employee attitudes through email surveys and a safety culture assessment by an outside team from the Utilities Service Alliance. Based on the CAPs generated at the plant, discussions with employees, and survey results, the SCWE at the plant appeared adequate and no concerns were identified by the inspectors.

3) Observations

Safety Conscious Work Environment

The ECP procedure does not reference 10 CFR 50 Appendix B. Employees raising concerns through the ECP program may identify a condition adverse to quality, a condition that must be corrected. The ECP coordinator was aware that conditions adverse to quality were to be entered into the CA program for correction, and records indicated that no conditions adverse to quality were identified that had not had a CAP written.

Confirmatory Order EA-06-178

(Discussed) Corrective Actions for Confirmatory Order for NMC Re: 10 CFR 50.7 Violation (EA 2006-178) Inspectors reviewed the CAPs initiated to address the Order. The biennial PI&R inspection of 2007 (inspection report 2007006) reviewed SCWE training material, which had been developed in response to NRC Confirmatory Order Enforcement Action (EA-06-178). Actions were completed in 2008 addressing a safety conscious work environment in all organizations of the plant, including the appropriate headquarters personnel. Corrective actions included periodic training requirements so

new employees would be trained and existing employees retrained on a programmed schedule. Effectiveness reviews were also performed. The inspectors concluded that the actions appeared thorough and complete such that the issues of the order were adequately addressed for Prairie Island Nuclear Generating Plant.

4) Findings

No findings of significance were identified.

4OA6 Management Meetings

Exit Meetings Summaries

On August 7, 2009, the inspectors presented some of the inspection results to M. Wadley (then Vice President), 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.

On August 13, inspectors conducted an exit by telephone with licensee staff and presented the final determination of NCV 05000282/2009009-03; 05000306/2009009-03, Molded Case Circuit Breaker Qualification. In the previous week, the licensee tested a sample of breakers, confirming the proper functional capability (see Section 4OA2.b.4, Assessment of the Use of Operating Experience).

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee

D. Koehl, Chief Nuclear Officer, Excel Energy *

M. Wadley, Site Vice President +

B. Sawatzke, Director Site Operations +

K. Ryan, Plant Manager +

D. Albarado, Organizational Effectiveness

J. Anderson, Regulatory Affairs Manager +

T. Bacon, Ops Support Manager

B. Boyer, RP Supervisor

M. Brassart, Engineering Supervisor +

H. Butterworth, Operations Support Fleet Director Operations Standards

L. Clewett, Business Support Manager +

M. Davis, Regulatory Compliance Analyst +

C. England, RP/Chemistry Manager Acting

B. Flynn, Safety and Human Performance Manager

S. Ford, Design Engineering Supervisor

D. Hartinger, System Engineering Supervisor

R. Hite, Radiation Protection and Chemistry Manager

M. Hopman, Engineering Supervisor

S. Ingalls, Operations Shift Manager +

B. Kappes, Nuclear Oversight Assessor

D. Kettering, Site Engineering Director +

J. Kivi, Employee Concerns Program Manager

L. Koehl, Communications *

S. Lappegaard, On-line Manager

J. Lash, Operations Manager

G. Lenertz, Maintenance Engineer

L. Lisson, IT

R. Madjerich, Production Planning Manager +

S. Martin, Nuclear Oversight

S. McCall, Engineering Manager, plant and System Engineering

K. Mews, Regulatory Affairs Engineer +

J. Muth, Nuclear Oversight Manager

S. Myers, Design Engineering Manager +

C. Nash, Chemistry General Supervisor

S. Northard, Performance Improvement Manager

S. Oswald, Regulatory Analyst

K. Petersen, Performance Assessment

A. Pullam, Training Supervisor

B. Rogers, Training Supervisor +

M. Schmidt, Maintenance Manager

S. Skoyen, Engineering programs Manager

J. Sternisha, Training Manager

J. Verbout, IT

J. Windschill, Fleet Performance Assessment Manager

- + August 7 and 13, exits
- * August 13, 2009 teleconference exit

Nuclear Regulatory Commission

J. Giessner, Branch Chief, Branch 4 Division of Reactor Projects, Region III
 P. Zurawski, Resident Inspector, Prairie Island

LIST OF ITEMS OPENED, CLOSED AND DISCUSSED

Opened

05000306/2009009-01	NCV	Failure to Follow Procedures for Heater Drain Pump Swaps
05000282/2009009-02; 05000306/2009009-02	NCV	Inadequate Technical Support Center (TSC) Ventilation System Testing
05000282/2009009-03; 05000306/2009009-03	NCV	Failure to Qualify Safety-Related Molded Case Circuit Breakers

Closed

05000306/2009009-01	NCV	Failure to Follow Procedures for Heater Drain Pump Swaps
05000282/2009009-02; 05000306/2009009-02	NCV	Inadequate Technical Support Center (TSC) Ventilation System Testing
05000282/2009009-03; 05000306/2009009-03	NCV	Failure to Qualify Safety-Related Molded Case Circuit Breakers

Discussed

EA 2006-178	ORD	Confirmatory Order for NMC 10 CFR 50.7 Violation (EA 2006-178)
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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.

OPERATING EXPERIENCE		
<u>Number</u>	<u>Description or Title</u>	<u>Date or Revision</u>
N/A	OE's discussed during 7/23/09 OE Screening Meeting	07/23/2009
01019169	Westinghouse TB-06-2 Aging Issues and Subsequent Operating issues for Breakers that are at their 20 Year Design/Qualified Lives	05/14/2006
01114450	OE25538- Emergency Diesel Generator Starting Air Check Valve Failure	01/07/2008
01114820	NRC in 2007-28: Potential Common	12/11/2007
01125130	SOER 2007-01 Initial Review	06/14/2008
01125290	Potential Trend in SOER implementation quality	03/15/2008
01129444	Conduct FSA – SOER 99-01 and 01-03 review	07/02/2009
01133930	SOER 96-1 Implementation and Effectiveness Review	02/20/2009
01133939	SOER 03-1 Implementation and Effectiveness Review	04/06/2009
01133941	SOER 93-1 Implementation and Effectiveness Review	02/28/2009
01133942	SOER 96-2 Implementation and Effectiveness Review	04/06/2009
01133947	SOER 97-1 Implementation and Effectiveness Review	04/09/2008
01133949	SOER 98-1 Implementation and Effectiveness Review	02/28/2009
01133954	SOER 87-1 Implementation and Effectiveness Review	11/22/2008
01133958	SOER 02-4 Implementation and Effectiveness Review	05/06/2009
01133963	SOER 95-1 Implementation and Effectiveness Review	12/22/2008
01137327	SOER 07-02, Intake Cooling Blockage	05/15/2008
01141208	Actions not fully implemented for SOER 03-02	02/03/2009
01143220	SOER FSA: Analysis of a Single point vulnerability	07/03/2008

OPERATING EXPERIENCE		
<u>Number</u>	<u>Description or Title</u>	<u>Date or Revision</u>
01143430	SOER FSA: Sustainability of SOER actions	09/24/2008
01156119	Part 21 issue with Gaskets	10/19/2008
01169744	SOER 90-2 Implementation and Effectiveness Review	04/06/2009
01169746	SOER 91-1 Implementation and Effectiveness Review	04/30/2009
01175087	FBM: Lifting and Rigging and evaluate SOER 06-01 Actions	03/26/2009

PLANT PROCEDURES		
<u>Number</u>	<u>Description or Title</u>	<u>Date or Revision</u>
2C28.4	Unit 2 Heater Drains	Rev. 26
5AWI 3.10.8	Equipment Problem Resolution Process	Rev. 13
5AWI 3.15.5	Operability determinations	Rev. 14
DP-NO-IA-01	Internal Assessments	Rev. 04
DP-NO-IA-01	Internal Assessments	Rev. 01
DP-NO-IA-03	Internal Assessment Issue Characterization and Tracking	Rev. 05
DP-NO-IA-06	Stop Work Order	Rev. 01
DP-NO-IA-07	Internal Assessment: Topic Selection, Scheduling, and Quarterly Reporting	Rev. 04
FG-PA-CAE-01	Corrective Action Effectiveness Review Manual	Rev. 06
FG-PA-DRUM-01	Department Roll Up Meeting (DRUM) Manual – Department Performance Trending	Rev. 08
FP-EC-ECP-01	Employee Concerns Program	Rev. 03
FP-E-VEN-01	Vendor Manual Control	Rev. 02
FP-G-DOC-03	Procedure Use and Adherence	Rev. 05
FP-OP-OB-01	Operator Burden Program	Rev. 00
FP-PA-ARP-01	Cap Action Request Process	Rev. 22
FP-PA-OE-01	Operating Experience	Rev. 12
FP-PA-SA-01	Focused Self-Assessment Planning, Conduct and Reporting	Rev. 09
FP-PA-SA-02	Focused Self-Assessment and Formal Benchmarking Scheduling	Rev. 05

CORRECTIVE ACTION PROGRAM DOCUMENTS REVIEWED		
CR Number	Description or Title	Date or Revision
0831627	D5 Slow Start Surveillance Terminated Due To High Crankcase Pressure	04/11/2005
0833665	Unexpected Signs of Wear on D5 Engine 1 Cylinder	04/15/2005
0864735	Opportunities are Being Missed to Improve Equipment Performance via the Corrective Action Program	07/07/2005
01013473	D6 Experienced High Crankcase Pressure	02/04/2006
01035981	Speed Control Problems with 23 Charging Pumps Resulted in Flow Variations to Reactor Coolant System and Charging Line High Pressure Alarms	06/18/2006
01040613	Inadequate Implementation of Welding Program	07/20/2006
01055847	Evaluate NRC IN- 2006-22; New Ultra-Low-Sulfur Fuel Could Adversely Impact Diesel Engine Performance	10/16/2006
01059041	Manage D5/D6 Enhancements Identified by Root Cause	11/01/2006
01074017	Vendor Manual XH 52-32 is not up to date	01/26/2007
01082591	Xcel Energy Truck Struck a Tower in Prairie Island Switchyard	03/16/2007
01088616	Operations Adverse Trend in Human Performance	07/22/2009
01094238	D5 Engine 2 Elevated Crankcase Pressure During Post Maintenance Testing	05/28/2007
01095381	D6 Crankcase Breather Imbalance	06/05/2007
01099211	2007 System Trending and Monitoring Focused Self Assessment	12/16/2007
01106329	SOER 07-1 Reactivity Management	07/23/2009
01109480	EA (SBO) Components with incorrect quality level	08/31/2007
01111011	MRE 01100534-02 incomplete	09/12/2007
01114156	Root Cause Evaluation; VHRA Key RCE Inadequate	10/05/2007
01115585	Root Cause Report for D5 Inoperability (Equipment Root Cause and Organizational Root Cause)	10/22/2007
01118522	Significant OE Issues	03/12/2008
01070334	NRC Confirmatory Order EA-06-178	01/05/2007
01133384	Excel and NMC EE may not have SCWE training	04/04/2008
01135591	Contractors not trained on policy on writing CAPs	04/24/2008
01119052;	Shackle came apart and hit Crane; Work Not Stopped	11/26/2007

CORRECTIVE ACTION PROGRAM DOCUMENTS REVIEWED		
CR Number	Description or Title	Date or Revision
01121442	D5 Engine 1 Gen Bearing Vibration above alarm set point	03/08/2008
01123680	D2 Diesel Generator Lube Oil Cooling Water Side Leak	01/14/2008
01125087	Shortfalls in SOER 2007-01 Assessment	02/27/2008
01125903	TSC Normal Ventilation Performance Challenged	02/01/2008
01126006	Vendor Info not included in Maintenance Procedure	02/04/2008
01127120	MR Unavailability for 11 CL Pump 334.5 Hours not documented in MR	02/13/2008
01127570	TSC Ventilation Temperature Control Challenged	02/16/2008
01128432	Evaluate TSC Ventilation Function with Damper Not Full Closed	02/23/2008
01128817	Adverse Trend in Outage Related Isolations	02/26/2008
01129236	During PM Motor Driven Aux Feedwater Pump 12 and 21 noted MSIP 1001 indicated oil is Heavy Medium while D18 Lubrication specified Mobil DTE Light	02/29/2008
01129421	TSC Lower Level HVAC Will Not Control Temperature	03/01/2008
01129623	Control Room Alarm Diesel Room Vent System Trouble coming in and out	03/03/2008
01129731	TSC Ventilation System Challenged	03/04/2008
01131494	Ineffective Corrective Actions for TSC Ventilation	03/18/2008
01132293	Programmatic Issues Regarding TSC Ventilation	03/25/2008
01132717	Root Cause Report for SI-9-5 Check Valve Failure	06/30/2009
01132717	Apparent Cause Report for SI-9-5 Check Valve Failure	05/09/2008
01135172	TSC Ventilation Roll Up CAP	04/21/2008
01135817	121 MD CLP has a declining pump performance trend	04/28/2008
01137253	Engineering CAP Backlog Reduction Effort Needs Goal	05/09/2008
01140557	TSC System Could Not Maintain Required Vacuum	06/11/2008
01141755	Root Cause Evaluation; Cross-Cutting Aspects	06/23/2008
01142664	Flexible Electrical Conduit Accidentally Pinched resulting in a Small Amount of Oil into the Transfer Canal	06/30/2008
01143721	Training to comply with Confirmatory Order not timely	07/10/2008

CORRECTIVE ACTION PROGRAM DOCUMENTS REVIEWED		
CR Number	Description or Title	Date or Revision
01144249	TSC Vent System Issues, Not Operating Properly	07/15/2008
01146105	Deviation from EPRI guidelines	09/05/2008
01146374	Root Cause Evaluation; Hydrazine Event	Rev. 0
01147180	Secondary Chemistry does not meet EPRI guidelines	09/16/2008
01147573	RPIP 3005 Procedure compliance issue	09/08/2008
01151789	10 CFR Part 21 Relays installed on D5 and D6	05/29/2009
01152814	Evaluate need for airborne hydrazine and ammonia testing	10/07/2008
01157554	Hydrazine Concentration falls below spec in 21 SG	11/01/2008
01160372	Root Cause Evaluation; Refuel Cavity Leakage	11/24/2008
01165133	Root Cause Evaluation; Cross-Cutting Themes	01/12/2009
01165257	MREP moved SSC from a(1) – a(2) w/o revised a(1) Action Plan	01/13/2009
01166375	Production Planning DRUM identified potential trend in schedule development accuracy for both online and outage schedules	01/22/2009
01166830	Root Cause Evaluation; Corrective Action Program	01/26/2009
01167124	Effectiveness Review Determined Corrective Actions to Prevent Recurrence Were Ineffective	01/28/2009
01167466	Adverse Trend Identified with Engineering CAP Self Identification Problem Ratio	01/30/2009
01167806	D6, Engine 1 Crankcase Pressure High	02/02/2009
01169214	Unit 2 Turbine Building Crane Cracking	03/22/2009
01169490	D5 – Response to Monitoring Requirement from CAP 1115585-11	02/15/2009
01171115	D5 Crankcase Pressure Exceeded 20 mm Water	02/27/2009
01171319	Unit 2, D6 Engine 1 Crankcase Pressure High	03/01/2009
01173309	ABB Part 21 Notification Deviation	03/17/2009
01175335	Work Order 332186 Strainer Backwash Replacement had not been through Planning even though on workweek schedule.	03/27/2009
01175917	Potential Inadequate Resolution of SOER 02-04 issues	03/31/2009
01176383	MR Unavailability Data Collection for July 2009	04/02/2009
01176851	April 2009 Documentation of Engine Crank Case Pressure During Monthly Run	04/05/2009
01180912	RHR procedures are not adequate in Modes 3 and 4	05/05/2009
01181122	Can't Procedurally Swap HDT Pumps	

CORRECTIVE ACTION PROGRAM DOCUMENTS REVIEWED		
CR Number	Description or Title	Date or Revision
01181967	U2 Condensate oxygen above EPRI diagnostic parameter	07/08/2009
01181983	U2 Unplanned Secondary Action Level 1	05/26/2009
01183067	Ineffective Resolution of OE 15095	05/24/2009
01183142	Trend in ineffective Resolution of OE items	05/26/2009
01184607	Self Assessment Programmatic Weaknesses	06/05/2009
01184643	U2 Entered AL 1 for FW Hydrazine Less than 8X Cond O2	07/20/2009
01187837	Adverse Trend in Governing and Oversight of PARB	10/30/2009
01190271	Revise to use the CAP process to review and disposition vendor information	07/21/2009
01191042	Post Maintenance Testing for TSC Ventilation System Did Not Meet Acceptance Criteria	07/27/2009
01191165	SP 1689 TSC Vent System Operability Test Failed Acceptance Criteria	07/28/2009
01192415	Functionality Review for TSC Ventilation System	08/06/2009

AUDITS, ASSESSMENTS AND SELF-ASSESSMENTS		
Number	Description or Title	Date or Revision
	Nuclear Safety Culture Assessment	August 2009
NOS Observation Report	Corrective Action Program	12/20/2007
NOS Observation Report	Corrective Action Program	02/29/2008
NOS Observation Report	Operating Experience and Self Assessment	01/06/2009
NOS Observation Report	CAP Assessment	02/29/2008
NOS Observation Report	Security	09/02/2008
Nuclear Oversight	4 th Quarter 2007 Assessment Report	02/08/2008
Nuclear Oversight	1 st Quarter 2008 Assessment Report	05/23/2008
Nuclear Oversight	2 nd Quarter 2008 Assessment Report	08/13/2008
Nuclear Oversight	3 rd Quarter 2008 Assessment Report	11/14/2008
Nuclear Oversight	4 th Quarter 2008 Assessment Report	02/20/2009
Nuclear Oversight	1 st Quarter 2009 Assessment Report	06/03/2009
01088616	Snap Shot Report: Procedure Use and Adherence	09/24/2008
01116150	Operations Training	10/26/2007
01121615	Radiation Program Annual Review	12/18/2007
01124352	Training DRUM	01/21/2008
01124941	HRA/LHRA/VHRA Controls	01/25/2008

AUDITS, ASSESSMENTS AND SELF-ASSESSMENTS		
<u>Number</u>	<u>Description or Title</u>	<u>Date or Revision</u>
01128817	Snapshot Report: Worker Protective Tagging	06/15/2009
01129439	Emergency Preparedness	03/01/2008
01129444	SOER 99-01	03/01/2008
01129451	Focused Self-Assessment MOV – Motor Operated Valve Program	08/22/2008
01129453	Focused Self-Assessment Fire Protection Appendix R;	08/29/2008
01129453	Focused Self-Assessment TDAFW 95001 Inspection Preparation	06/05/2009
01129460	Outage Readiness	03/01/2008
01129463	Safety Culture	03/01/2008
01141307	Emergency Preparedness NEI Forum	06/18/2008
01143359	Training	07/07/2008
01146374	Hydrazine Issue	04/16/2009
01149046	High Radiation Area	08/29/2008
01118231	FTFSA-08-02	02/15/2008
01121596	Focused Self Assessment on 50.59 Program	12/18/2007
01129439	Emergency Preparedness Exercise Inspection and Performance Indicator Verification	09/22/2008
01141307	Informal Benchmarking of Emergency Preparedness	01/19/2009
01155350	Snapshot Report: Security Training	10/07/2008
01158973	Emergency Preparedness	10/21/2008
01158973	Focused Self Assessment of Emergency Preparedness	12/18/2008
01160507	Snapshot Report: Procedures and Work Instructions	4/30/2009
01169735	Snapshot Report: Worker Protective Tagging	07/02/2009
01174895	Training	03/25/2009
01174995	Radiation Protection / Chemistry Organization	03/26/2009
01175030	Focused Self Assessment of Pre-NRC Emergency Preparedness Routine Inspection	06/08/2009
01175071	Focused Self Assessment on System Trending and Monitoring	07/26/2007
01175930	Emergency Preparedness	03/31/2009
01185859	Snapshot Self Assessment on OE	06/17/2009
01189843	DRUM Security	07/17/2009

MISCELLANEOUS		
Number	Description or Title	Date or Revision
01192324	Procedure Change Request for SP 1689	08/04/2009
D86	Protection of Pre, Absolute, and Charcoal Ventilation Filters from Contamination	Rev. 07
EC11098	Equivalency Evaluation	Rev. 00
Equipment Performance	Period Report U2C24	03/30/2009
Health and Status Report	AF Auxiliary Feedwater	07/02/2009
Health and Status Report	CT External Circulating Water	07/02/2009
Health and Status Report	D5 Diesel Generator	07/02/2009
Health and Status Report	4.16 kV Electrical	07/02/2009
Health and Status Report	FW Feedwater	07/02/2009
Health and Status Report	Reactor Protection	07/02/2009
Health and Status Report	SA Station and Instrument Air	07/02/2009
Health and Status Report	ZH Safeguards Chilled Water	07/02/2009
IN- 2006-22	New Ultra-Low-Sulfur Fuel Could Adversely Impact Diesel Engine Performance	10/12/2006
Maintenance Rule a(1) Action Plan	Station Air	06/25/2009
Maintenance Rule a(1) Action Plan	Auxiliary Feedwater	08/21/2008
Maintenance Rule a(1) Action Plan	EA System 4,160 VAC	11/22/2007
Maintenance Rule a(1) Action Plan	D5 Diesel Generator	04/21/2009
Maintenance Rule a(1) Action Plan	RP System F delta Controller	02/10/2009
Maintenance Rule a(1) Action Plan	Safeguards Chilled Water System 2H	04/16/2009
N/A	NOS Operating Experience Assessment	2008
SA037271	Operating Experience Program	2005
SWI GSE-27	Conduct of System Engineering	Rev. 08
TP 1689	TSC Ventilation System Operability Check	Rev. 17
WO 107758	PE MCC 1T2-A4/BKR 122G-21	
WO 107786	PE MCC 1T2-A3/BKR 122G-20	
WO 107787	PE MCC 1T2-B2/BKR 122G-13	
WO 328804	PE MCC 1T2-B3/BKR 122G-5	

MISCELLANEOUS		
<u>Number</u>	<u>Description or Title</u>	<u>Date or Revision</u>
WO 352844	PE MCC-W5 BKR 122G-12	
WO 355100	Replace Variable Frequency	03/10/2008
WO 371819	Perform SP 1689 – TSC Ventilation System Operability Check	01/28/2009
WO 378154	Perform SP 1689 – TSC Ventilation System Operability Check	07/28/2009
WO 387170	Perform SP 1689 – TSC Ventilation System Operability Check	07/8/2009
WO 388060	Perform SP 1689 – TSC Ventilation System Operability Check	07/31/2009
WR 34472	Mark TSC Ventilation Damper Position	
	CAP Screen Team Meeting Package	08/04/2009
	Leadership Alignment Meeting Package	08/04/2009
	Management Review Meeting Package; Rev.01	July 2009
	Operator Burden List	08/04/2009
	Prairie Island Top Ten Equipment Issue List	Undated
	Reactor Protection Health and Status Report	07/02/2009
	Station and Instrument Air Health and Status Report	07/02/2009
	Team Notes	03/10/2009

CAPs Written as a Result of the Inspection		
<u>Number</u>	<u>Description or Title</u>	<u>Date or Rev</u>
1190255	Repeat Task Instruction Found in PMQR	07/21/2009
1190416	SAR 01141307 Did Not Contain Share Point Attachment	07/22/2009
1190448	Initial NRC Submittal Incorrectly CT as MR at (1)	07/22/2009
1190547	OE Program Requirements Not Followed	07/22/2009
1190598	B Level CAP 011882867 Has no ACE or Deviation Listed	07/23/2009
1190625	NRC Feedback on AR Screening Performance	07/23/2009
1191839	Updates to PMs Not Initiated for Vendor Documents Change	07/31/2009
1192375	Perform PRA Review of Operator Work Around	08/05/2009
1192387	Improper Place-keeping During SP 1689 TSC Vent Oper Check	08/05/2009
1192415	SP 1689 TSC Ventilation Operability Ck Promotes Preconditioning	08/05/2009

1192430	Safety Related Westinghouse HFB Breakers Past 20 Year Life	08/05/2009
1192435	Need TCE for Swapping Heater Drain Tank Pumps	08/05/2009
1192456	Breaker PMID on MCC 1T1/1T2 Improperly Set to Retire	08/06/2009

LIST OF ACRONYMS USED

AC	Alternating Current
ADAMS	Agencywide Document Access Management System
ALARA	As-Low-As-Is-Reasonably-Achievable
CA	Corrective Action
CFR	Code of Federal Regulations
DC	Direct Current
DG	Diesel Generator
DRP	Division of Reactor Projects
EDG	Emergency Diesel Generator
EPRI	Electric Power Research Institute
FSAR	Final Safety Analysis Report
FW	Feedwater
IMC	Inspection Manual Chapter
IP	Inspection Procedure
kV	Kilovolt
LLC	Limited Liability Corporation
MOV	Motor-Operated Valve
NCV	Non-Cited Violation
NEI	Nuclear Energy Institute
NOS	Nuclear Oversight
NRC	U.S. Nuclear Regulatory Commission
PARS	Publicly Available Records
PI	Performance Indicator
PI&R	Problem Identification and Resolution
PM	Planned or Preventative Maintenance
RFP	Reactor Feed Pump
RP	Radiation Protection
RPS	Radiation Protection Specialist
RPS	Reactor Protection System
SBO	Station Blackout
SDP	Significance Determination Process
SSC	Systems, Structures, and Components
SW	Service Water