



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**

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

October 23, 2011

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

**SUBJECT: PRAIRIE ISLAND NUCLEAR GENERATING PLANT, UNITS 1 AND 2,  
INTEGRATED INSPECTION REPORT 05000282/2011004; 05000306/2011004**

Dear Mr. Schimmel:

On September 30, 2011, the U.S. Nuclear Regulatory Commission (NRC) completed an integrated inspection at your Prairie Island Nuclear Generating Plant, Units 1 and 2. The enclosed report documents the results of this inspection, which were discussed on October 13, 2011, with you 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 results of this inspection, one self-revealed and two NRC-identified findings of very low safety significance were identified. Two of these findings involved violations of NRC requirements. In addition, two NRC-identified Severity Level IV violations were identified. 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 Sections 2.3.2 and 6.1 of the NRC Enforcement Policy. Additionally, a licensee-identified violation is listed in Section 4OA7 of this report.

If you contest the subject or severity of any NCV, 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 cross-cutting aspect assigned to 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.

M. Schimmel

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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 document system (ADAMS). ADAMS is accessible from the NRC Website 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 05000282/2011004; 05000306/2011004  
w/Attachment: Supplemental Information

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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: 05000282/2011004; 05000306/2011004

Licensee: Northern States Power Company, Minnesota

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

Location: Welch, MN

Dates: July 1 through September 30, 2011

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Approved by: John B. Giessner, Chief  
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Division of Reactor Projects

Enclosure

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## SUMMARY OF FINDINGS

IR 05000282/2011004; 05000306/2011004; 07/01/2011 – 09/30/2011; Prairie Island Nuclear Generating Plant, Units 1 and 2; Maintenance Effectiveness, Problem Identification and Resolution, and Event Follow-up.

This report covers a 3-month period of inspection by resident inspectors and announced baseline inspections by regional inspectors. The inspectors identified three Green findings and two Severity Level IV violations. Two of the green findings were determined to be non-cited violations (NCVs) 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.

### A. NRC-Identified and Self-Revealed Findings

#### Cornerstone: Initiating Events

- Green. A self-revealed finding of very low safety significance was identified by the inspectors due to personnel incorrectly implementing Procedure FP-G-DOC-03, "Procedure Use and Adherence." Specifically, maintenance personnel failed to adequately review, identify and correct potential problems associated with Procedure 5AWI 15.1.9, "Substation Work Control," to ensure that electrical substation (switchyard) high risk and/or critical activities conducted in November 2010 were appropriately observed. As a result, personnel failed to identify that a wire was not properly installed. The failure to install the wire led to the mis-operation of multiple substation breakers, a turbine trip, and a Unit 2 reactor trip on May 9, 2011. The licensee initiated corrective action documents, Corrective Action Program (CAPs) 1284948 and 1284787, to document this event. Corrective actions for this issue included installing the wire and revising procedures to ensure that vulnerabilities associated with substation high risk/critical work activities were appropriately addressed. No violations of NRC requirements were identified due to substation components being non-safety related.

The inspectors determined that the failure to correctly implement FP-G-DOC-03 was a performance deficiency that required a SDP evaluation. The inspectors determined that this issue was more than minor because it was associated with the protection from external factors attribute of the Initiating Events Cornerstone. This finding also impacted the cornerstone objective of limiting the likelihood of events that upset plant stability and challenged critical safety functions during shutdown as well as power operations. The inspectors determined that this issue was of very low safety significance because it did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment would not be available. The inspectors concluded that this issue was cross-cutting in the Problem Identification and Resolution, CAP area, because the licensee had not implemented and institutionalized operating experience associated with the performance of substation activities through changes to processes, procedures, equipment and training programs (P.2(b)). (Section 40A3.11)

- Severity Level IV. The inspectors identified a Severity Level IV NCV of 10 CFR 50.72(b)(3)(v)(D) for the licensee's failure to report an event or condition that could have prevented the fulfillment of a safety function to the NRC within 8 hours. Specifically, on June 27, 2011, an unexpected lockout of the 2RY transformer rendered one of two required offsite power paths inoperable. A subsequent review of the remaining transmission system capabilities resulted in declaring the second offsite power path inoperable due to inadequate minimum post-trip voltage. However, the licensee failed to recognize that the inoperability of both offsite power paths constituted a loss of safety function that was reportable to the NRC within 8 hours. The licensee initiated a corrective action document, CAP 1292940, for this issue. Corrective actions for this issue included reporting this issue to the NRC on July 1, 2011, revising procedures to ensure that inoperable offsite power paths that remain available were reported to the NRC, and repairing the 2RY transformer.

The inspectors determined that the failure to report required plant events or conditions to the NRC had the potential to impede or impact the regulatory process. As a result, the NRC dispositions violations of 10 CFR 50.72 using the traditional enforcement process instead of the SDP. However, if possible, the underlying technical issue was evaluated using the SDP. In this case, the inspectors determined that the 2RY transformer locked out due to moisture entering a degraded bus duct, which was exposed to the environment. The licensee failed to identify the degraded bus duct earlier due to the inappropriate deferral of preventive maintenance activities. The inspectors determined that this issue was more than minor because it was associated with the protection against external factors attribute of the Initiating Events Cornerstone, and affected the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during power operations. Since the finding contributed to both the likelihood of a plant trip and that mitigating systems equipment or functions would not be available, a Region III Senior Reactor Analyst (SRA) was contacted for assistance. The results of the Phase 3 analysis showed a change in core damage frequency of  $2.4E-8$ /year, which represented a finding of very low safety significance (Green). In accordance with Section 6.1.d.2 of the NRC Enforcement Policy, this violation was categorized as Severity Level IV because the underlying technical issue was evaluated by the SDP and determined to be of very low safety significance. The inspectors concluded that this finding was cross-cutting in the Human Performance, Work Practices area because licensee personnel failed to follow procedures regarding the preventive maintenance deferral process (H.4(b)). (Section 4OA3.1)

#### **Cornerstone: Mitigating Systems**

- Green. The inspectors identified a finding of very low safety significance and a NCV of 10 CFR 50.65 due to the licensee's failure to demonstrate that the performance or condition of the Unit 1 and Unit 2 radiation monitors was effectively controlled through the performance of appropriate preventive maintenance. As a result, the licensee failed to establish goals or monitor the performance of these monitors in accordance with paragraphs (a)(1) and (a)(2) of 10 CFR 50.65. In addition, the licensee also failed to scope radiation monitors used in the emergency operating procedures into the maintenance rule as required by 10 CFR 50.65 (b)(2)(i). The licensee initiated corrective action documents, CAPs 1303302 and 1304984, for these issues. The licensee's corrective actions included reviewing radiation monitoring information to ensure that all

applicable radiation monitors were included in and assessed by the maintenance rule program.

The inspectors determined that this issue was more than minor because actual radiation monitor failures had occurred to the extent that the performance or condition of the monitors was not being effectively controlled through the completion of maintenance. This finding was also associated with the equipment performance attribute of the Mitigating Systems Cornerstone and impacted the cornerstone objective of ensuring the availability, reliability and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors determined that this finding was of very low safety significance because each of the questions provided in IMC 0609, Attachment 0609.04, Table 4a, could be answered "No." This issue was determined to be cross-cutting in the Human Performance, Decision Making area, because the licensee did not appropriately validate their underlying assumptions when determining which radiation monitors needed to be included in the maintenance rule (H.1(b)). (Section 1R12.1)

- Green. The inspectors identified a finding of very low safety significance and an NCV of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," due to the licensee's failure to close corrective action assignments in accordance with procedural requirements. Specifically, the licensee closed several corrective action assignments associated with evaluating and modifying piping and pipe supports without ensuring that the assignments were completed or that justifications were provided for not completing the assignments. The licensee documented this issue in corrective action documents, CAPs 1295772, 1296358 and 1297740. Corrective actions for this issue included evaluating why the procedural requirements were not followed and completing modifications for several feedwater system pipe supports.

The inspectors determined that the failure to ensure that corrective action assignments were closed in accordance with the procedural requirements provided in Procedure FP-PA-ARP-01, "CAP Action Request Process," was a performance deficiency that required an SDP evaluation. The inspectors determined that this finding was more than minor because, if left uncorrected, the failure to properly complete corrective action program assignments in accordance with procedural requirements could result in conditions adverse to quality remaining uncorrected. The inspectors determined that this finding was of very low safety significance because the finding was associated with a design deficiency that did not result in a loss of operability or functionality of the feedwater piping. The inspectors concluded that this finding was cross-cutting in the Human Performance, Work Practices area, because the assignments were not closed properly due to a failure to follow the corrective action procedure (H.4(b)). (Section 4OA2.4)

- Severity Level IV. The inspectors identified a Severity Level IV NCV of 10 CFR 50.9 due to the licensee's failure to provide information to the NRC that was complete and accurate in all material respects. Specifically, Licensee Event Report (LER) 05000282/2011-001-00; 05000306/2011-001-00, stated that the unplanned actuation of the 121 motor driven cooling water pump (MDCLP) was caused by the over tightening of a gasketed connection on the 11 containment and auxiliary building chiller. The results of a subsequent apparent cause evaluation showed that the unplanned actuation of the 121 MDCLP was due to operating the chiller in a manner outside of its design. The licensee initiated corrective action document, CAP 1299410, to document

this issue. Corrective actions for this issue included submitting a revised LER to the NRC and evaluating actions that could be taken to ensure that future chiller operation would not result in actuations of the cooling water pump.

The inspectors determined that this violation was more than minor because the inaccurate information could impede or impact the regulatory process. Specifically, in order for the NRC to determine the acceptability of the licensee's corrective actions as part of the LER review, the licensee was required to provide complete and accurate information regarding the cause of the event. As a result, the NRC dispositions these violations using the traditional enforcement process instead of the SDP. However, if possible, the NRC evaluates the underlying technical issue using the SDP. In this case, the inspectors determined that the failure to operate the 11 containment and auxiliary building chiller in accordance with design could be assessed using IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," Tables 3b and 4a. The inspectors concluded that the finding was of very low safety significance because each of the questions in Table 4a could be answered "No." In accordance with Section 6.1.d.2 of the NRC Enforcement Policy, this violation was categorized as Severity Level IV because the underlying technical issue was evaluated by the SDP and determined to be of very low safety significance. No cross-cutting aspect was assigned to this finding as the reason for operating the chiller outside of its design was not associated with any of the components/aspects provided in NRC IMC 0310, "Components within the Cross-Cutting Areas." (Section 4OA3.9)

**B. Licensee-Identified Violations**

Violations of very low safety significance that were identified by the licensee have been reviewed by inspectors. Corrective actions planned or taken by the licensee have been entered into the licensee's corrective action program. These violations and corrective action tracking numbers are listed in Section 4OA7 of this report.

## REPORT DETAILS

### Summary of Plant Status

Unit 1 began the inspection period operating at or near full power levels. At 3:52 p.m. on July 1, 2011, operations personnel manually tripped the reactor after the right turbine stop valve failed closed. The licensee determined that the turbine stop valve closed due to a leak on the hydraulic system used to control the valve. The licensee repaired the leak and returned Unit 1 to operation approximately 24 hours later. On August 25, 2011, operations personnel began lowering Unit 1 reactor power to minimize the impact of increasing battery room temperatures following the failure of a battery room steam exclusion damper during testing. The lowest power level reached on Unit 1 was approximately 75 percent. The licensee remained at this reduced power level for 11 hours. After repairing the damper, operations personnel returned Unit 1 to full power operating levels on August 26, 2011. Unit 1 remained at full power for the remainder of the inspection period.

Unit 2 also began the inspection period operating at or near full power levels. On August 25, 2011, operations personnel began lowering Unit 2 reactor power to minimize the impact of increasing battery room temperatures following the failure of a battery room steam exclusion damper during testing. The lowest power level reached on Unit 2 was approximately 91 percent. The licensee remained at this reduced power level for 10 hours. After repairing the damper, operations personnel returned Unit 2 to full power operating levels on August 26, 2011. On September 16, 2011, operations personnel lowered reactor power to approximately 98 percent to perform troubleshooting on the 22 heater drain tank pump. Following the troubleshooting activities, operations personnel returned Unit 2 to full power levels. Unit 2 remained at this operating level for the remainder of the inspection period.

### **1. REACTOR SAFETY**

#### **Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity**

#### 1R04 Equipment Alignment (71111.04)

##### .1 Quarterly Partial System Walkdowns

##### a. Inspection Scope

The inspectors performed partial system walkdowns of the following risk-significant systems:

- D5 Fuel Oil System;
- 121 Control Room Chiller; and
- Unit 2 Component Cooling Water Train 'A.'

The inspectors selected these systems based on their risk significance relative to the Reactor Safety Cornerstones at the time they were inspected. The inspectors attempted to identify any discrepancies that could impact the function of the system and, therefore, potentially increase risk. The inspectors reviewed applicable operating procedures, system diagrams, the Updated Safety Analysis Report (USAR), Technical Specification (TS) requirements, outstanding work orders (WOs), corrective action documents, and the impact of ongoing work activities on redundant trains of equipment in order to identify

conditions that could have rendered the systems incapable of performing their intended functions. The inspectors also walked down accessible portions of the systems to verify system components and support equipment were aligned correctly and operable. The inspectors examined the material condition of the components and observed operating parameters of equipment to verify that there were no obvious deficiencies. The inspectors also verified that the licensee had properly identified and resolved equipment alignment problems that could cause initiating events or impact the capability of mitigating systems or barriers and entered them into the corrective action program (CAP) with the appropriate significance characterization. Documents reviewed are listed in the Attachment to this report.

These activities constituted three partial system walkdown samples as defined in Inspection Procedure (IP) 71111.04-05.

b. Findings

No findings were identified.

.2 Semi-Annual Complete System Walkdown

a. Inspection Scope

On July 25, 2011, the inspectors performed a complete system alignment inspection of the Unit 1 Auxiliary Feedwater (FW) System to verify the functional capability of the system. This system was selected because it was considered both safety significant and risk significant in the licensee's probabilistic risk assessment. The inspectors walked down the system to review mechanical and electrical equipment line ups; electrical power availability; system pressure and temperature indications, as appropriate; component labeling; component lubrication; component and equipment cooling; hangers and supports; operability of support systems; and to ensure that ancillary equipment or debris did not interfere with equipment operation. A review of a sample of past and outstanding WOs was performed to determine whether any deficiencies significantly affected the system function. In addition, the inspectors reviewed the CAP database to ensure that equipment alignment problems were being identified and appropriately resolved. Documents reviewed are listed in the Attachment to this report.

These activities constituted one complete system walkdown sample as defined in IP 71111.04-05.

b. Findings

No findings were identified.

1R05 Fire Protection (71111.05)

.1 Routine Resident Inspector Tours (71111.05Q)

a. Inspection Scope

The inspectors conducted fire protection walkdowns which were focused on availability, accessibility, and the condition of firefighting equipment in the following risk-significant plant areas:

- 11 Battery Room (Fire Zone 1);
- Fuel Handling Building Elevations 715' and 735' (Fire Zones 4 and 78);
- Bus 15 Switchgear Room (Fire Zone 11);
- Bus 111 Switchgear Room (Fire Zone 43); and
- Bus 25 Switchgear Room (Fire Zone 97).

The inspectors reviewed areas to assess if the licensee had implemented a fire protection program that adequately controlled combustibles and ignition sources within the plant; effectively maintained fire detection and suppression capability; maintained passive fire protection features in good material condition; and implemented adequate compensatory measures for out-of-service, degraded or inoperable fire protection equipment, systems, or features in accordance with the licensee's fire plan. The inspectors selected fire areas based on their overall contribution to internal fire risk as documented in the licensee's Individual Plant Examination of External Events with later additional insights, their potential to impact equipment which could initiate or mitigate a plant transient, or their impact on the ability to respond to a security event. The inspectors verified that fire hoses and extinguishers were in their designated locations and available for immediate use; that fire detectors and sprinklers were unobstructed; that transient material loading was within the analyzed limits; and fire doors, dampers, and penetration seals appeared to be in satisfactory condition. The inspectors also verified that minor issues identified during the inspection were entered into the licensee's CAP. Documents reviewed are listed in the Attachment to this report.

These activities constituted five quarterly fire protection inspection samples as defined in IP 71111.05-05.

b. Findings

No findings were identified.

1R11 Licensed Operator Requalification Program (71111.11)

.1 Resident Inspector Quarterly Review (71111.11Q)

a. Inspection Scope

On July 19, 2011, the inspectors observed a crew of licensed operators in the simulator to verify that operator performance was adequate, evaluators were identifying and documenting crew performance problems, and training was being conducted in accordance with licensee procedures. The inspectors evaluated the following areas:

- licensed operator performance;
- crew's clarity and formality of communications;
- ability to take timely actions in the conservative direction;
- prioritization, interpretation, and verification of annunciators;
- correct use and implementation of abnormal and emergency procedures;
- control board manipulations;
- oversight and direction from supervisors; and
- ability to identify and implement appropriate TS actions and Emergency Plan actions and notifications.

The crew's performance in these areas was compared to pre-established expectations and successful critical task completion requirements. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one quarterly licensed operator requalification program sample as defined in IP 71111.11.

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness (71111.12)

.1 Routine Quarterly Evaluations (71111.12Q)

a. Inspection Scope

The inspectors evaluated performance issues involving the following system:

- Radiation Monitors.

The inspectors reviewed events, such as where ineffective equipment maintenance had resulted in valid or invalid automatic actuations of maintenance rule equipment, and independently verified the licensee's actions to address system performance or condition problems in terms of the following:

- implementing appropriate work practices;
- identifying and addressing common cause failures;
- scoping of systems in accordance with 10 CFR 50.65(b) of the maintenance rule;
- characterizing system reliability issues for performance;
- charging unavailability for performance;
- trending key parameters for condition monitoring;
- ensuring 10 CFR 50.65(a)(1) or (a)(2) classification or re-classification; and
- verifying appropriate performance criteria for structures, systems, and components (SSCs)/functions classified as (a)(2), or appropriate and adequate goals and corrective actions for systems classified as (a)(1).

During this inspection period, the inspectors also reviewed the following Maintenance Rule a(3) document:

- Prairie Island Nuclear Generating Plant (PINGP) Equipment Performance Period Report U2C25, dated October 5, 2010.

The inspectors assessed performance issues with respect to the reliability, availability, and condition monitoring of the system. In addition, the inspectors verified that maintenance effectiveness issues were entered into the CAP with the appropriate significance characterization. Documents reviewed are listed in the Attachment to this report.

This inspection constituted two quarterly maintenance effectiveness samples as defined in IP 71111.12-05.

b. Findings

Introduction: The inspectors identified a finding of very low safety significance (Green) and a non-cited violation (NCV) of 10 CFR 50.65 due to the licensee's failure to demonstrate that the performance or condition of the Unit 1 and Unit 2 radiation monitors was effectively controlled through the performance of appropriate preventive maintenance. As a result, the licensee failed to establish goals or monitor the performance of these monitors in accordance with paragraphs (a)(1) and (a)(2) of 10 CFR 50.65. In addition, the licensee also failed to scope radiation monitors used in the emergency operating procedures (EOPs) into the Maintenance Rule as required by 10 CFR 50.65 (b)(2)(i).

Description: The inspectors reviewed the maintenance effectiveness for the radiation monitoring system, including system scoping information. The inspectors accomplished this by reviewing "Maintenance Rule System Specific Bases Document," Revision 14, and by reviewing the licensee's evaluation of equipment failures. During the review, the inspectors noted that several radiation monitors for both units, including R11 (the containment air particulate monitor) and R12 (the containment gas radioactivity monitor), were included within the scope of the rule. Through the performance of daily plant status activities and corrective action document reviews, the inspectors were also aware that these radiation monitors were frequently out-of-service. The inspectors reviewed the radiation monitor system health report and noticed that this report indicated that the maintenance rule status for the radiation monitoring system was "green." Per the licensee's procedural guidance, a green maintenance rule status indicated that effective maintenance was being performed and that the system was being monitored as required by 10 CFR 50.65(a)(2).

The inspectors reviewed control room logs and corrective action documents for approximately the last 24 months and confirmed that failures of the R11 and R12 radiation monitors for both units had occurred. However, these failures were not being included as maintenance rule functional failures due to other documents that indicated that the R11 and R12 monitors were not within the Maintenance Rule scope. The specific failures included the following:

- CAP 1222564, "1R-11 and 1R-12 Sample Pump Failure," April 24, 2010;
- CAP 1256861, "1R-11 Pump Seized," January 5, 2011;
- CAP 1260395, "2R-11 Pump Motor Failed," May 6, 2011; and
- CAP 1283792, "1R-11/1R-12 Pump Failed during Performance of 1C19.2," June 1, 2011.

The inspectors questioned licensee personnel as to why the failures were not evaluated as required by the Maintenance Rule. The licensee stated that the safety function of the R11 and R12 monitors was to give signals to containment isolation valves if high radiation levels were detected when the containment vessel purge and inservice purge systems were in service. Normally, these systems were only in service during reactor operation in Modes 5-6. In Operating Modes 1 through 4, the licensee installed blind flanges to serve the containment integrity function. The inspectors provided information to the licensee which showed that the R11 and R12 radiation monitors were also used in Step 12 of EOP E-0 to diagnose a loss of coolant accident. As a result, the radiation monitors were required to be within the scope of the Maintenance Rule and the 1R11 monitor was required to be monitored using a(1) goals.

The inspectors also noted that the licensee had a prior opportunity to identify the inadequate scoping for the R11 radiation monitors in April 2009 when an action was created to review the Maintenance Rule Bases Document for R11 as part of CAP 1169792. The licensee's review focused on the leak detection function of the monitors and concluded, based upon industry benchmarking, that the leakage detection function was outside the scope of the rule. However, this conclusion did not consider the fact that the monitors were used in the EOPs to diagnose an accident.

The inspectors reviewed the control room logs and corrective action documents for each of the radiation monitors specified in the licensee's Maintenance Rule Bases Document. The inspectors identified multiple radiation monitor failures. Most notably, the inspectors found that radiation monitors 1R50 and 2R50 (the shield building high range radiation detectors for each unit) had each failed three times within a 24 month period. However, the licensee had not assessed the performance of these radiation monitors as required by 10 CFR 50.65(a)(1) or (a)(2) due to weaknesses in the current system function and functional failure descriptions.

Lastly, the inspectors identified several additional EOP-related radiation monitors that were not included in the Maintenance Rule scope. For example, the licensee had not included monitors used to confirm high radiation levels in the auxiliary building or the monitors used to diagnose a steam generator tube rupture within the scope of the Maintenance Rule. The licensee's preliminary review of EOP-related radiation monitors identified an additional twelve monitors that were not currently included in or assessed by the Maintenance Rule Program. As a result, the licensee was not demonstrating that the performance or condition of these monitors was being effectively controlled through the performance of appropriate preventive maintenance.

Analysis: The inspectors determined that the licensee's failure to demonstrate that the performance or condition of the Unit 1 and Unit 2 radiation monitors, specifically 1R50 and 2R50, was effectively controlled through the performance of appropriate preventive maintenance, and that the monitors such as 1R15 and 2R15 were properly scoped into the rule, as required by 10 CFR 50.65, was a performance deficiency that required evaluation using the SDP. The inspectors determined that although this issue was similar to Example 7.d provided in IMC 0612, Appendix E, the issue was more than minor because actual failures of the scoped and non-scoped radiation monitors had occurred and because equipment performance problems were such that effective control of the performance or condition through appropriate preventive maintenance could not be demonstrated. The performance deficiency impacted the equipment performance attribute of the Mitigating Systems Cornerstone, and it affected the cornerstone objective

of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding also impacted the SSC and barrier performance attribute of the Barrier Integrity Cornerstone by affecting the reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents and events.

The inspectors performed a Phase 1 SDP screening and determined that a Phase 2 evaluation was needed because the finding affected more than one cornerstone. The inspectors contacted a Region III Senior Reactor Analyst (SRA) for additional assistance. The SRA determined that a Phase 2 evaluation was not necessary because there was no change in core damage frequency or large early release frequency as a result of the finding. The SRA also concluded that this finding should be assessed under the Mitigating Systems Cornerstone. The SRA re-performed the Phase 1 SDP evaluation using IMC 0609, Attachment 0609.01, Table 4a, and determined that this finding was of very low safety significance because each of the screening questions under the mitigating systems column could be answered "No." The inspectors concluded that this finding was cross-cutting in the Human Performance, Decision Making, Conservative Assumptions area because the licensee did not appropriately validate their underlying assumptions when determining which radiation monitors needed to be included in the Maintenance Rule (H.1.(b)).

Enforcement: Title 10 CFR 50.65(a)(1), requires, in part, that the holders of an operating license shall monitor the performance or condition of SSCs within the scope of the rule as defined by 10 CFR 50.65(b), against licensee-established goals, in a manner sufficient to provide reasonable assurance that such SSCs are capable of fulfilling their intended functions.

Title 10 CFR 50.65(a)(2) states, in part, that monitoring as specified in 10 CFR 50.65(a)(1) is not required where it has been demonstrated that the performance or condition of an SSC is being effectively controlled through the performance of appropriate preventive maintenance, such that the SSC remains capable of performing its intended function.

Title 10 CFR 50.65(b)(2)(i) requires, in part, that the scope of the Maintenance Rule Program include non-safety related SSCs that are relied upon to mitigate transients or are used in the EOPs.

Contrary to the above, as of September 30, 2011, the licensee failed to include all plant radiation monitors used in the EOPs into the scope of the Maintenance Rule Program. In addition, the licensee was not demonstrating that the performance or condition of radiation monitors included within the scope of the Maintenance Rule Program was being effectively controlled through the performance of preventive maintenance. As a result, the performance of some radiation monitors was not being assessed against licensee-established goals to provide reasonable assurance that the monitors were capable of performing their intended functions. Because this violation was of very low safety significance, and it was entered into your corrective action program as CAPs 1303302 and 1304984, this violation is being treated as a NCV consistent with Section 2.3.2 of the NRC Enforcement Policy. (**NCV 05000282/2011004-01; 05000306/2011004-01; Radiation Monitors Not Fully Scoped Into or Assessed by the Maintenance Rule Program**).

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13)

.1 Maintenance Risk Assessments and Emergent Work Control

a. Inspection Scope

The inspectors reviewed the licensee's evaluation and management of plant risk for the maintenance and emergent work activities listed below to verify that the appropriate risk assessments were performed prior to removing equipment from service:

- Response to a Yellow Grid Condition on July 21, 2011;
- Planned Maintenance on the 12 Component Cooling Water Pump, 12 Motor-Driven Auxiliary FW Pump, and 11 Charging Pump with the Presence of Severe Weather on August 31, 2011;
- Emergent Work on the D6 Emergency Diesel Generator, the 22 Charging Pump, the Battery Room Steam Exclusion Damper and 11 Steam Generator Power Operated Relief Valve Controller the week of August 22, 2011; and
- Risk Assessment for Missed Surveillances on Check Valves RH-3-1 and RH-3-2.

These activities were selected based on their potential risk significance relative to the Reactor Safety Cornerstones. As applicable for each activity, the inspectors verified that risk assessments were performed, as required by 10 CFR 50.65(a)(4), and were accurate and complete. When emergent work was performed, the inspectors verified that the plant risk was promptly reassessed and managed. The inspectors reviewed the scope of maintenance work, discussed the results of the assessment with the licensee's probabilistic risk analyst or shift technical advisor, and verified plant conditions were consistent with the risk assessment. The inspectors also reviewed TS requirements and walked down portions of redundant safety systems, when applicable, to verify risk analysis assumptions were valid and applicable requirements were met.

These maintenance risk assessments and emergent work control activities constituted four samples as defined in IP 71111.13-05.

b. Findings

No findings were identified.

1R15 Operability Determinations and Functional Assessments (71111.15)

.1 Operability Evaluations

a. Inspection Scope

The inspectors reviewed the following issues:

- Operability Recommendation (OPR) 1290929 - Void at Location 1RH-09;
- CAP 1291415 - Blast Shield not Installed on Motor Valve MV-32023;
- OPR 1230185, Revision 1 – Potential for Emergency Core Cooling System Air Ingestion during Transfer to Sump Recirculation;
- Continued Operability of Safety-related Equipment with Cooling Water Temperatures Greater than 85 Degrees; and

- OPR 1291154 – 11 Safety Injection Accumulator Leakage.

The inspectors selected these potential operability issues based on the risk significance of the associated components and systems. The inspectors evaluated the technical adequacy of the evaluations to ensure that TS operability was properly justified and the subject component or system remained available such that no unrecognized increase in risk occurred. The inspectors compared the operability and design criteria in the appropriate sections of the TS and USAR to the licensee's evaluations to determine whether the components or systems were operable. Where compensatory measures were required to maintain operability, the inspectors determined whether the measures in place would function as intended and were properly controlled. The inspectors determined, where appropriate, compliance with bounding limitations associated with the evaluations. Additionally, the inspectors reviewed a sampling of corrective action documents to verify that the licensee was identifying and correcting any deficiencies associated with operability evaluations. Documents reviewed are listed in the Attachment to this report.

This operability inspection constituted five samples as defined in IP 71111.15-05.

b. Findings

No findings were identified.

1R19 Post-Maintenance Testing (71111.19)

.1 Post-Maintenance Testing

a. Inspection Scope

The inspectors reviewed the following post-maintenance activities to verify that procedures and test activities were adequate to ensure system operability and functional capability:

- 122 Diesel Driven Fire Pump Return to Service Under Work Request (WR) 70053;
- 22 Diesel Driven Cooling Water Pump Return to Service Under WO 351762;
- 11 Component Cooling Water Pump Return to Service Under WO 395876;
- Motor Damper 32224 Return to Service Under WR 70451; and
- D6 Overspeed Switch Return to Service Under WO 438256

These activities were selected based upon the SSCs ability to impact risk. The inspectors evaluated these activities for the following (as applicable): the effect of testing on the plant had been adequately addressed; testing was adequate for the maintenance performed; acceptance criteria were clear and demonstrated operational readiness; test instrumentation was appropriate; tests were performed as written in accordance with properly reviewed and approved procedures; equipment was returned to its operational status following testing (temporary modifications or jumpers required for test performance were properly removed after test completion); and test documentation was properly evaluated. The inspectors evaluated the activities against TSs, the USAR, 10 CFR Part 50 requirements, licensee procedures, and various NRC generic communications to ensure that the test results adequately ensured that the

equipment met licensing basis and design requirements. In addition, the inspectors reviewed corrective action documents associated with post-maintenance testing to determine whether the licensee was identifying problems and entering them in the CAP and that the problems were being corrected commensurate with their importance to safety. Documents reviewed are listed in the Attachment to this report.

This inspection constituted five post-maintenance testing samples as defined in IP 71111.19-05.

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22)

.1 Surveillance Testing

a. Inspection Scope

The inspectors reviewed the test results for the following activities to determine whether risk-significant systems and equipment were capable of performing their intended safety function and to verify testing was conducted in accordance with applicable procedural and TS requirements:

- SP 1080.2 – 12 Shield Building Ventilation Filter Removal Test (Routine);
- SP 1112 – Steam Exclusion Monthly Damper Test (Routine);
- SP 1155B – Component Cooling Water System Quarterly Test Train ‘B’ (Routine);
- SP 2035A – Reactor Protection Logic Test at Power Train ‘A’ (Routine);
- SP 2090A - 21 Containment Spray Pump Quarterly Test (Inservice Testing (IST)); and
- SP 2130A - Train ‘A’ Containment Vacuum Breakers Quarterly Test (Routine).

The inspectors observed in-plant activities and reviewed procedures and associated records to determine the following:

- did preconditioning occur;
- were the effects of the testing adequately addressed by control room personnel or engineers prior to the commencement of the testing;
- acceptance criteria were clearly stated, demonstrated operational readiness, and were consistent with the system design basis;
- plant equipment calibration was correct, accurate, and properly documented;
- as-left setpoints were within required ranges; and the calibration frequency was in accordance with TSs, the USAR, procedures, and applicable commitments;
- measuring and test equipment calibration was current;
- test equipment was used within the required range and accuracy; applicable prerequisites described in the test procedures were satisfied;
- test frequencies met TS requirements to demonstrate operability and reliability; tests were performed in accordance with the test procedures and other applicable procedures; jumpers and lifted leads were controlled and restored where used;

- test data and results were accurate, complete, within limits, and valid;
- test equipment was removed after testing;
- where applicable for IST activities, testing was performed in accordance with the applicable version of Section XI, American Society of Mechanical Engineers code, and reference values were consistent with the system design basis;
- where applicable, test results not meeting acceptance criteria were addressed with an adequate operability evaluation or the system or component was declared inoperable;
- where applicable for safety-related instrument control surveillance tests, reference setting data were accurately incorporated in the test procedure;
- where applicable, actual conditions encountering high resistance electrical contacts were such that the intended safety function could still be accomplished;
- prior procedure changes had not provided an opportunity to identify problems encountered during the performance of the surveillance or calibration test;
- equipment was returned to a position or status required to support the performance of its safety functions; and
- all problems identified during the testing were appropriately documented and dispositioned in the CAP.

Documents reviewed are listed in the Attachment to this report.

This inspection constituted five routine surveillance testing samples and one IST sample as defined in IP 71111.22, Sections -02 and -05.

b. Findings

No findings were identified.

1EP2 Alert and Notification System Evaluation (71114.02)

.1 Alert and Notification System Evaluation

a. Inspection Scope

The inspectors held discussions with Emergency Preparedness (EP) staff regarding the operation, maintenance, and periodic testing of the Alert and Notification System (ANS) in the PINGP's plume pathway Emergency Planning Zone. The inspectors reviewed monthly trend reports and siren test failure records from September 2009 through July 2011. Information gathered during document reviews and interviews was used to determine whether the ANS equipment was maintained and tested in accordance with Emergency Plan commitments and procedures. Documents reviewed are listed in the Attachment to this report.

This ANS inspection constituted one sample as defined in IP 71114.02-05.

b. Findings

No findings were identified.

1EP3 Emergency Response Organization Augmentation Testing (71114.03)

.1 Emergency Response Organization Augmentation Testing

a. Inspection Scope

The inspectors reviewed and discussed with the licensee's EP staff the emergency plan commitments and procedures that addressed the primary and alternate methods of initiating an Emergency Response Organization (ERO) activation to augment the on shift ERO as well as the provisions for maintaining the plant's ERO emergency telephone book. The inspectors reviewed reports and a sample of CAP records of unannounced off hour augmentation tests, which were conducted between September 2009 and July 2011, to determine the adequacy of post drill critiques and associated corrective actions. The inspectors also reviewed a sample of the EP training records for 12 ERO members assigned to key and support positions to determine the status of their training as it related to their assigned ERO positions. Documents reviewed are listed in the Attachment to this report.

This ERO augmentation testing inspection constituted one sample as defined in IP 71114.03-05.

b. Findings

No findings were identified.

1EP4 Emergency Action Level and Emergency Plan Changes (71114.04)

.1 Emergency Action Level and Emergency Plan Changes

a. Inspection Scope

Since the last NRC inspection of this program area, Revisions 41, 42, and 43 of the Emergency Plan and Revisions 5 and 6 of the Emergency Action Levels were implemented based on the determination, in accordance with 10 CFR 50.54(q), that the changes resulted in no decrease in effectiveness of the Plan and that the revised Plan as changed continued to meet the requirements of 10 CFR 50.47(b) and Appendix E to 10 CFR Part 50. The inspectors conducted a sampling review of the Emergency Plan changes and a review of the Emergency Action Level changes made between December 2010 and September 2011 to evaluate for potential decreases in effectiveness of the Plan. However, this review did not constitute formal NRC approval of the changes. Therefore, these changes remain subject to future NRC inspection in their entirety.

This emergency action level and emergency plan changes inspection constituted one sample as defined in IP 71114.04-05.

b. Findings

No findings were identified.

1EP5 Correction of Emergency Preparedness Weaknesses and Deficiencies (71114.05)

.1 Correction of Emergency Preparedness Weaknesses and Deficiencies

a. Inspection Scope

The inspectors reviewed a sample of Quality Assurance audits of the licensee's EP program conducted in 2010 and 2011 to determine whether these independent assessments met the requirements of 10 CFR 50.54(t). The inspectors also reviewed critique reports and samples of CAP records associated with the 2010 Biennial Exercise, as well as various EP drills conducted in 2009, 2010 and 2011, in order to determine whether the licensee fulfilled its drill commitments and to evaluate the licensee's efforts to identify, track, and resolve concerns identified during these activities.

The inspectors reviewed a sample of EP items and corrective actions related to the licensee's EP program and activities between September 2009 and July 2011 to determine whether corrective actions were completed in accordance with the CAP. Documents reviewed are listed in the Attachment to this report.

This correction of EP weaknesses and deficiencies inspection constituted one sample as defined in IP 71114.05-05.

b. Findings

No findings were identified.

**2. RADIATION SAFETY**

**Cornerstones: Public Radiation Safety**

2RS7 Radiological Environmental Monitoring Program (71124.07)

This inspection constituted one complete sample as defined in IP 71124.07-05.

.1 Inspection Planning (02.01)

a. Inspection Scope

The inspectors reviewed the annual radiological EOPs and the results of any licensee assessments since the last inspection to verify that the radiological environmental monitoring program was implemented in accordance with the TSs and Offsite Dose Calculation Manual (ODCM). This review included report changes to the ODCM with respect to environmental monitoring, commitments in terms of sampling locations, monitoring and measurement frequencies, land use census, inter-laboratory comparison program, and analysis of data.

The inspectors reviewed the ODCM to identify locations of environmental monitoring stations.

The inspectors reviewed the USAR for information regarding the environmental monitoring program and meteorological monitoring instrumentation.

The inspectors reviewed quality assurance audit results of the program to assist in choosing inspection “smart samples” and audits and technical evaluations performed on the vendor laboratory program.

The inspectors reviewed the annual effluent release report and the 10 CFR Part 61, “Licensing Requirements for Land Disposal of Radioactive Waste,” report, to determine if the licensee was sampling, as appropriate, for the predominant and dose-causing radionuclides likely to be released in effluents.

b. Findings

No findings were identified.

.2 Site Inspection (02.02)

a. Inspection Scope

The inspectors walked down select air sampling stations and thermoluminescent dosimeter monitoring stations to determine whether they were located as described in the ODCM and to determine the equipment material condition. Consistent with smart sampling, the air sampling stations were selected based on the locations with the highest X/Q, D/Q wind sectors, and thermoluminescent dosimeters were selected based on the most risk-significant locations (e.g., those that have the highest potential for public dose impact).

For the air samplers and thermoluminescent dosimeters selected, the inspectors reviewed the calibration and maintenance records to verify that they demonstrated adequate operability of these components. Additionally, the review included the calibration and maintenance records of select composite water samplers.

The inspectors performed an assessment of whether the licensee had initiated sampling of other appropriate media upon loss of a required sampling station.

The inspectors observed the collection and preparation of environmental samples from different environmental media (e.g., ground and surface water, milk, vegetation, sediment, and soil) as available to verify that environmental sampling was representative of the release pathways as specified in the ODCM and that sampling techniques were in accordance with procedures.

Based on direct observation and review of records, the inspectors assessed whether the meteorological instruments were operable, calibrated, and maintained in accordance with guidance contained in the USAR, NRC Regulatory Guide 1.23, “Meteorological Monitoring Programs for Nuclear Power Plants,” and licensee procedures. The inspectors assessed whether the meteorological data readout and recording instruments in the control room and, if applicable, at the tower were operable.

The inspectors evaluated whether missed and/or anomalous environmental samples were identified and reported in the annual environmental monitoring report. The inspectors selected events that involved a missed sample, inoperable sampler, lost thermoluminescent dosimeter, or anomalous measurement to verify that the licensee had identified the cause and had implemented corrective actions. The inspectors reviewed the licensee’s assessment of any positive sample results (i.e., licensed

radioactive material detected above the lower limits of detection) and reviewed the associated radioactive effluent release data that was the source of the released material.

The inspectors selected SSCs that involved or could reasonably involve licensed material for which there was a credible mechanism for licensed material to reach ground water, and assessed whether the licensee had implemented a sampling and monitoring program sufficient to detect leakage of these SSCs to ground water.

The inspectors evaluated whether records, as required by 10 CFR 50.75(g), of leaks, spills, and remediation since the previous inspection were retained in a retrievable manner.

The inspectors reviewed any significant changes made by the licensee to the ODCM as the result of changes to the land census, long-term meteorological conditions (3-year average), or modifications to the sampler stations since the last inspection. The inspectors reviewed technical justifications for any changed sampling locations to verify that the licensee performed the reviews required to ensure that the changes did not affect the ability to monitor the impacts of radioactive effluent releases on the environment.

The licensee used a vendor laboratory to analyze the radiological environmental monitoring program samples so the inspectors reviewed the results of the vendor's quality control program, including the inter-laboratory comparison, to assess the adequacy of the vendor's program.

The inspectors reviewed the results of the licensee's inter-laboratory comparison program to verify the adequacy of environmental sample analyses performed by the licensee. The inspectors assessed whether the inter-laboratory comparison test included the media/nuclide mix appropriate for the facility. If applicable, the inspectors reviewed the licensee's determination of any bias to the data and the overall effect on the radiological environmental monitoring program.

b. Findings

No findings were identified.

.3 Identification and Resolution of Problems (02.03)

a. Inspection Scope

The inspectors assessed whether problems associated with the radiological environmental monitoring program were being identified by the licensee at an appropriate threshold and were properly addressed for resolution in the licensee's CAP. Additionally, the inspectors assessed the appropriateness of the corrective actions for a selected sample of problems documented by the licensee that involved the radiological environmental monitoring program.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

**Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity, Emergency Preparedness, Public Radiation Safety, Occupational Radiation Safety, and Physical Protection**

4OA1 Performance Indicator Verification (71151)

.1 Mitigating Systems Performance Index - Heat Removal System

a. Inspection Scope

The inspectors sampled licensee submittals for the Mitigating Systems Performance Index (MSPI) - Heat Removal System performance indicator (PI) for Units 1 and 2 for the period from the third quarter of 2010 through the second quarter of 2011. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance contained in the Nuclear Energy Institute (NEI) Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6, dated October 2009, was used. The inspectors reviewed the licensee's operator narrative logs, CAPs, MSPI derivation reports, event reports and NRC Integrated Inspection Reports for the period provided to validate the accuracy of the submittals. The inspectors reviewed the MSPI component risk coefficient to determine if it had changed by more than 25 percent in value since the previous inspection, and if so, that the change was in accordance with applicable NEI guidance. The inspectors also reviewed the licensee's CAP database to determine if any problems had been identified with the PI data collected or transmitted for this indicator. Documents reviewed are listed in the Attachment to this report.

This inspection constituted two MSPI heat removal system samples as defined in IP 71151-05.

b. Findings

No findings were identified.

.2 Mitigating Systems Performance Index - Emergency AC Power System

a. Inspection Scope

The inspectors sampled licensee submittals for the MSPI - Emergency Alternating Current (AC) Power System PI for Units 1 and 2 for the period from the third quarter of 2010 through the second quarter of 2011. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance contained in the NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6, dated October 2009, was used. The inspectors reviewed the licensee's operator narrative logs, MSPI derivation reports, CAPs, event reports and NRC Integrated Inspection Reports for the period provided above to validate the accuracy of the submittals. The inspectors reviewed the MSPI component risk coefficient to determine if it had changed by more than 25 percent in value since the previous inspection, and if so, that the change was in accordance with applicable NEI guidance. The inspectors also reviewed the licensee's CAP database to determine if any problems had been identified with the PI data collected or transmitted for this indicator. Documents reviewed are listed in the Attachment to this report.

This inspection constituted two MSPI emergency AC power system samples as defined in IP 71151-05.

b. Findings

No findings were identified.

.3 Drill/Exercise Performance

a. Inspection Scope

The inspectors sampled licensee submittals for the Drill/Exercise PI for the period from the third quarter 2010 through second quarter 2011. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance contained in the NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6, dated October 2009, were used. The inspectors reviewed the licensee's records associated with the PI to verify that the licensee accurately reported the indicator in accordance with relevant procedures and the NEI guidance. Specifically, the inspectors reviewed licensee records and processes including procedural guidance on assessing opportunities for the PI; assessments of PI opportunities during pre-designated control room simulator training sessions; performance during the 2010 biennial exercise; and performance during other drills. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one drill/exercise performance sample as defined in IP 71151-05.

b. Findings

No findings were identified.

.4 Emergency Response Organization Drill Participation

a. Inspection Scope

The inspectors sampled licensee submittals for the ERO Drill Participation PI for the period from the third quarter 2010 through second quarter 2011. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance contained in the NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6, dated October 2009, were used. The inspectors reviewed the licensee's records associated with the PI to verify that the licensee accurately reported the indicator in accordance with relevant procedures and the NEI guidance. Specifically, the inspectors reviewed licensee records and processes including procedural guidance on assessing opportunities for the PI; performance during the 2010 biennial exercise and other drills; and revisions of the roster of personnel assigned to key ERO positions. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one ERO drill participation sample as defined in IP 71151-05.

b. Findings

No findings were identified.

.5 Alert and Notification System

a. Inspection Scope

The inspectors sampled licensee submittals for the ANS PI for the period from the third quarter 2010 through second quarter 2011. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance contained in the NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6, dated October 2009, were used. The inspectors reviewed the licensee's records associated with the PI to verify that the licensee accurately reported the indicator in accordance with relevant procedures and the NEI guidance. Specifically, the inspectors reviewed licensee records and processes including procedural guidance on assessing opportunities for the PI, and results of periodic ANS operability tests. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one ANS sample as defined in IP 71151-05.

b. Findings

No findings were identified.

.6 Occupational Exposure Control Effectiveness

a. Inspection Scope

The inspectors sampled licensee submittals for the Occupational Radiological Occurrences PI for the period from the third quarter 2010 through the second quarter 2011. The inspectors used PI definitions and guidance contained in the NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6, dated October 2009, to determine the accuracy of the PI data reported during those periods. The inspectors reviewed the licensee's assessment of the PI for occupational radiation safety to determine if indicator-related data was adequately assessed and reported. In order to assess the adequacy of the licensee's PI data collection and analyses, the inspectors discussed the scope and breadth of the data review with the radiation protection staff. The inspectors independently reviewed electronic personal dosimetry dose rate and accumulated dose alarms, dose reports, and the dose assignments for any intakes that occurred during the time period reviewed to determine if there were potentially unrecognized occurrences. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one occupational exposure control effectiveness sample as defined in IP 71151-05.

b. Findings

No findings were identified.

.7 Radiological Effluent Technical Specification/Offsite Dose Calculation Manual  
Radiological Effluent Occurrences

a. Inspection Scope

The inspectors sampled licensee submittals for the Radiological Effluent Technical Specification (RETS)/ODCM radiological effluent occurrences PI for the period from the third quarter 2010 through the second quarter 2011. The inspectors used PI definitions and guidance contained in the NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6, dated October 2009, to determine the accuracy of the PI data reported during those periods. The inspectors reviewed the licensee's CAP database and selected individual reports generated since this indicator was last reviewed to identify any potential occurrences such as unmonitored, uncontrolled, or improperly calculated effluent releases that may have impacted offsite dose. The inspectors reviewed gaseous effluent summary data and the results of associated offsite dose calculations for selected dates between the third quarter 2010 through the second quarter 2011 to determine if indicator results were accurately reported. The inspectors also reviewed the licensee's methods for quantifying gaseous and liquid effluents and determining effluent dose. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one RETS/ODCM radiological effluent occurrences sample as defined in IP 71151-05.

b. Findings

No findings were identified.

40A2 Identification and Resolution of Problems (71152)

.1 Routine Review of Items Entered into the Corrective Action Program

a. Inspection Scope

As part of the baseline inspection procedures discussed in previous sections of this report, the inspectors routinely reviewed issues during baseline inspection activities and plant status reviews to verify that the issues were being entered into the licensee's CAP at an appropriate threshold, that adequate attention was being given to timely corrective actions, and that adverse trends were identified and addressed. Attributes reviewed included: identification of the problem was complete and accurate; timeliness was commensurate with the safety significance; evaluation and disposition of performance issues, generic implications, common causes, contributing factors, root causes, extent-of-condition reviews, and previous occurrences reviews were proper and adequate; and that the classification, prioritization, focus, and timeliness of corrective actions were commensurate with safety and sufficient to prevent recurrence of the issue. Minor issues entered into the licensee's CAP as a result of the inspectors' observations are included in the Attachment to this report.

These routine reviews for the identification and resolution of problems did not constitute any additional inspection samples. Instead, by procedure they were considered an integral part of the inspections performed during the quarter and documented in Section 1 of this report.

b. Findings

No findings were identified.

.2 Daily Corrective Action Program Reviews

a. Inspection Scope

In order to assist with the identification of repetitive equipment failures and specific human performance issues for follow-up, the inspectors performed a daily screening of items entered into the licensee's CAP. This review was accomplished through inspection of the licensee's daily CAP packages.

These daily reviews were performed by procedure as part of the inspectors' daily plant status monitoring activities and, as such, did not constitute any separate inspection samples.

b. Findings

No findings were identified.

.3 Selected Issue Follow-Up Inspection: Review of Licensee Actions for Corrective Action Program 1292766

a. Inspection Scope

On June 30, 2011, the licensee initiated CAP 1292766 due to the voltage on Bus 25 (a safety-related 4.16 KV bus) not being recognized by the synch check relay during a transfer of Bus 25 to an alternate source. The inspectors reviewed the licensee's immediate corrective actions to ensure that compliance with TS requirements was maintained. The inspectors also reviewed multiple electrical and logic diagrams to ensure that this condition did not impact the ability of the D5 emergency diesel generator to supply power to Bus 25 following a loss of offsite power. Documents reviewed are listed in the Attachment to this report.

This review constituted one in-depth problem identification and resolution sample as defined in IP 71152-05.

b. Findings

No findings were identified.

.4 Selected Issue Follow-Up Inspection: Review of Corrective Actions Associated with the Feedwater Piping Analysis

a. Inspection Scope

From July 5 through July 9, 2011, the inspectors conducted a corrective action review for several CAPs related to the FW system piping analysis. The inspectors specifically reviewed the licensee's completion of the corrective actions associated with CAPs 1045044 and 1071995, as well as CAPs identifying similar deficiencies on the

FW systems and other system piping and supports. Documents reviewed are listed in the Attachment to this report.

This review constituted one in-depth problem identification and resolution sample as defined in IP 71152-05.

b. Findings

Assignments Closed Without Completion of the Tasks

Introduction: A finding of very low safety significance (Green) and an associated NCV of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified by the inspectors due to the licensee's failure to follow the CAP procedural requirements when closing corrective action assignments.

Description: The inspectors identified two examples of the licensee's failure to follow CAP procedural requirements during the closure of corrective action assignments related to FW piping and pipe support issues. The examples included:

1. In August 2006, the licensee initiated CAP 1045044 to document eight issues associated with a review of the FW piping analysis for piping located between the containment anchor and the FW heater outlet nozzles. The analysis was classified as safety-related and the issues involved use of incorrect modeling or inputs for component weights, hot gaps, seismic response spectra inputs and displacements, support boundary conditions, etc. Subsequently, CAP 1071995 was initiated in January 2007 when additional issues were identified with the analyses performed to address the concerns identified in CAP 1045044. The January 2007 CAP issues included missing support calculations; incorrect valve weights and center of gravity inputs; use of incorrect stress acceptance criteria; inadequate documentation of anchor bolt analyses; and a number of documentation issues.

The licensee performed a condition evaluation (CE) for CAP 1071995 and noted that in addition to the issues identified in the FW piping analyses, the licensee had identified a number of issues with the piping stress analyses through calculation self assessments, license renewal efforts, steam generator replacement efforts, and power uprate reviews as documented in nine additional CAPs. These additional CAPs involved systems such as cooling water, residual heat removal (RHR), reactor coolant, and nitrogen supply. The CE recommended that a comprehensive and intrusive review of the piping stress calculations be performed. To complete this review, the licensee needed to create an Engineering Assistance Request (EAR) followed by a study and implementation of any needed modifications.

An EAR was generated for presentation to the Project Review Group (PRG). The EAR listed ten significant errors and omissions identified in the previous pipe stress analyses and noted that:

"Problems found with feedwater pipe stress analyses may be indicative of the quality of other pipe stress analyses, based on problems found with other analyses within the past few months, there is a cause for concern and it needs to be quantified."

The EAR also recommended sampling criteria for a review of 30 piping and 30 support calculations associated with various plant systems. However, the EAR was not presented to the PRG for funding. Instead it was determined that the actions described in the EAR would be included in the Calculation Reconstitution and Improvement Project (CRIP) scope.

The licensee opened corrective action assignment 1071995-05 to track completion of the CRIP and the work above. This assignment was subsequently cancelled to CAP assignment 1117824-04 with the completion note stating that assignment 1071995-05 was a duplicate of 1117824-04. The inspectors found that while the two assignments were similarly worded, assignment 1117824-04 did not address the scope of work or the issues identified within CAP 1071995. The inspectors noted that while assignment 1117824-04 was not closed, most of the specified actions were completed. Based on a review of the completion notes, the remaining open assignments did not include any piping calculations reviews. Therefore, the inspectors concluded that no actions were taken to perform an additional review of piping calculations per the CE, no justification was provided for not needing the review, and there were no open CAP assignments tracking such actions.

The inspectors also noted that the closure of CAP assignment 1071995-05 to CAP assignment 1117824-04 was not completed in accordance with the licensee's procedural requirements. Specifically, Section 5.15.5 of FP-PA-ARP-01, "CAP Action Request Process," Revision 27, required that the consolidated assignment be cross-referenced and that the remaining open assignment be updated to include the scope from the closed assignment. The inspectors found that the assignments were not cross-referenced and the intended scope of the closed assignment to review the piping calculations for potential deficiencies was not added to the remaining open assignment. The licensee initiated CAP 1295772 to document the deficiency and for evaluating the need for performance of the recommended evaluation.

2. During preparation of calculations PI-996.1-P01 and PI-996.1-P02 for the evaluation of the FW piping outside the Unit 1 and Unit 2 containments, a number of supports were identified as needing modifications to meet the design basis due to the anchor bolts not meeting the design basis acceptance criteria. These anchor bolts met the acceptance criteria for operability. A number of CAPs were initiated to ensure and track installation of the required modifications. The inspectors reviewed these CAPs and found the following:
  - CAP 1091596, originated on May 8, 2007, required modifications of 11 Unit 1 FW supports. The licensee initiated corrective action assignment 1091596-02 to track completion of the engineering change needed for implementing the modifications. The inspectors found that this corrective action assignment was closed on March 19, 2008, without the modifications being installed.
  - CAP 1061819, originated on November 15, 2006, required modifications of three supports in Unit 2. The licensee initiated corrective action assignment 1061819-01 to correct this condition. The inspectors found that this corrective action assignment was closed on December 19, 2008, without the modifications being installed.

- CAP 1053226, originated on October 2, 2006, required modifications of seven supports in Unit 2. The licensee initiated corrective action assignment 1053226-02 to document this condition. The inspectors found that this corrective action assignment was closed on December 19, 2008, without the modifications being installed.

In all the above cases the assignment completion notes stated that the supports were acceptable based on the calculations noted above. The inspectors reviewed these calculations and determined that these calculations actually indicated that the supports did not meet the design basis acceptance criteria.

The inspectors identified that the closure of the corrective action assignments noted above was also not performed in accordance with the licensee's CAP procedure. Section 5.16 of Procedure FP-PA-ARP-01, Revisions 18 and 20, the revisions in effect at the time of the assignment closures, required that the assignment not be submitted for completion until the requested work had been performed. As a result of not following this requirement, the supports did not get modified and there were no open actions to correct the non-conforming conditions. The licensee initiated CAPs 1296358 and 1297740 to document the deficiency and for initiating corrective actions.

The inspectors noted that the calculations for the FW piping described above were safety-related. The piping included Design Class (DC) I as well as DC III portions; however, they were all within the DC1 analytical boundary. Failure of the supports identified above could result in damage to the containment isolation valves and could also lead to increases in piping stresses and consequently changes in the pipe break locations used in the high energy line break (HELB) analyses. The additional reviews recommended in CAP 1071995 could also affect safety-related systems such as the reactor coolant and RHR systems.

Analysis: The inspectors determined that the failure to ensure that corrective action assignments were completed as assigned, or that a justification was provided to address why the completion of the assignment was not needed, was a performance deficiency that required an evaluation using the SDP.

The finding was determined to be more than minor because, if left uncorrected, the issue would become a more significant safety concern. Specifically, potential deficiencies in piping analyses for other systems could affect their safety-related functions while the failure to modify the FW piping supports to meet the design basis acceptance criteria would result in reduced design safety factors. The inspectors concluded this finding was associated with the Mitigation Systems Cornerstone.

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 4a, for the Mitigation Systems Cornerstone. The inspectors determined that this finding was of very low safety significance (Green) because the finding was a design control issue that was confirmed not to result in the loss of operability. The inspectors determined that this finding had a cross-cutting aspect in the Human Performance, Work Practices area, because the licensee did not ensure procedural compliance. Specifically, the licensee personnel failed to meet the procedural requirements for closure of corrective action assignments

that would have ensured completion of work associated with the recommended evaluations and modifications (H.4(b)).

Enforcement: Title 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," requires in part, that activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings.

Procedure FP-PA-ARP-01, "CAP Action Request Process," Revision 27, Section 5.15.5, requires, in part, that if a CAP has similar related or repetitive assignments, then these may be consolidated into a single assignment for tracking purposes if the following criteria are met:

- Consolidated assignments are cross referenced; and
- The remaining open assignment is updated to include any details of the expanded scope of requested work being added from the assignment being closed.

Procedure FP-PA-ARP-01, "CAP Action Request Process," Revisions 18 and 20, Attachment 4.16.1 states in part:

"The Assigned to SHALL perform and complete the Assignment as stated; and

The assignment SHALL NOT be submitted as complete until the requested work has been completed."

Contrary to the above, during the period between March 2008 and August 2010, the licensee failed to follow the requirements of FP-PA-ARP-01. Specifically, for CAPs 1071995, 1091596, 1061819, and 1053226, the licensee failed to perform activities in accordance with their CAP Action Request Process as indicated in the following:

The Licensee,

- On August 16, 2010, closed out CAP assignment 1071995-05 to CAP assignment 1117824-04 without a cross-reference in the open assignment and without updating the scope of the open assignment to include the intended scope (review of the piping calculations) of the closed assignment;
- On March 19, 2008, closed out CAP assignment 1091596-02 without performing work. This CAP assignment was initiated to track the completion of Engineering Change 11187 for repairing a number of Unit 1 FW piping supports;
- On December 19, 2008, closed out CAP assignment 1061819-01 to modify a number of Unit 2 FW piping supports without performing the work; and
- On December 19, 2008, closed out CAP assignment 1053226-02 to modify a number of Unit 2 FW piping supports without performance of work.

Because this violation was of very low safety significance and it was entered into the licensee's corrective action program as CAPs 1295772, 1296358, and 1297740, this

violation is being treated as an NCV, consistent with Section 2.3.2 of the NRC Enforcement Policy (**NCV 05000282/2011004-02; 05000306/2011004-02, Corrective Action Assignments Closed Without Completion of Tasks**). Corrective actions included evaluating why the corrective actions were closed without meeting procedural requirements and acquiring funding for the repair of the subject FW piping.

40A3 Follow-Up of Events and Notices of Enforcement Discretion (71153)

.1 Loss of 2RY Transformer and Failure to Report Unit 2 Offsite Power Sources/Paths Inoperable as Required

a. Inspection Scope

On June 27, 2011, operations personnel declared both of the Unit 2 offsite power paths inoperable. The first path became inoperable due to a lockout condition on the 2RY transformer. The second path was declared inoperable after determining that the required minimum post-trip voltage provided by the transmission system would not be adequate. The inspectors observed actions taken to restore both of the offsite paths to an operable status. These actions consisted of observing maintenance work in progress and reviewing alternate electrical configurations, plant procedures and transmission system voltage assessments. The inspectors also reviewed the licensee's causal evaluation to determine whether the transformer lockout was caused by a performance deficiency. Documents reviewed as part of this inspection are listed in the Attachment.

This event follow-up review constituted one sample as defined in IP 71153-05.

b. Findings

Introduction: The inspectors identified a Severity Level IV NCV of 10 CFR 50.72(b)(3)(v) due to the licensee's failure to report an event or condition that, at the time of discovery, could have prevented the fulfillment of a safety function to the NRC within eight hours. Although the licensee had declared both Unit 2 offsite paths inoperable, they failed to recognize this condition as loss of safety function.

Description: At 1:10 p.m. on June 27, 2011, the 2RY transformer experienced a lockout due to a ground fault. Operations personnel immediately entered TS 3.8.1, Condition A, for Unit 2 due to the loss of one of the two required offsite power paths. The operators also initiated actions to determine whether the remaining offsite power source/path remained operable.

At 1:44 p.m. the operators declared the second Unit 2 offsite power source inoperable after determining that the post-trip voltage available to Unit 2 equipment would not be adequate. Based upon this information, operations personnel entered TS 3.8.1, Condition C, which required one offsite path to be restored to an operable status within 24 hours. Over the next several hours, personnel performed activities that resulted in reducing the total voltage needed to power safety-related equipment post-trip. These actions allowed the licensee to restore one offsite power path to an operable status. The second path of offsite power was restored at approximately 11:43 a.m. on June 30.

As part of the initial response to this event, the inspectors reviewed the reportability requirements provided in 10 CFR 50.72. Based upon this review, the inspectors determined that the inoperability of both offsite power paths was required to be reported

to the NRC within eight hours. The inspectors questioned licensee personnel approximately four hours into the event to determine whether the loss of both offsite power paths had been formally reported to the NRC. The licensee stated they did not believe that the inoperability of both offsite power paths was required to be reported to the NRC because a loss of offsite power had not occurred.

The inspectors reviewed the event reporting guidelines contained in NUREG-1022, "Event Reporting Guidelines 10 CFR 50.72 and 50.73," Revision 2. During this review the inspectors noted that Example 4 of Section 3.2.7 stated that a loss of either the onsite or offsite power system was reportable as a condition that at the time of discovery could have prevented the fulfillment of a safety function needed to shut down the reactor. This section also stated that offsite and onsite electrical power were considered to be separate functions. After several additional discussions with the licensee regarding reportability requirements, the licensee formally reported the inoperability of both Unit 2 offsite power paths to the NRC on July 1, 2011.

The licensee performed troubleshooting activities to determine the cause of the 2RY transformer lockout and ground fault. The licensee discovered that a gasket on the lower vertical section of the 2RY transformer bus duct exposed to the environment had failed. The gasket failure allowed moisture to enter the transformer and create a path for the electrical fault to occur. The licensee reviewed the bus duct maintenance history and identified that the gasket failed due to not performing preventive maintenance at the specified frequency. Specifically, the licensee was supposed to perform preventive maintenance on the 2RY transformer every six years. This preventive maintenance activity included the completion of an inspection to look for any degradation of transformer materials. A review of maintenance records showed that this preventive maintenance activity was last performed in February 2002. This meant the performance of the next preventive maintenance activity was due in November 2008 and would have been considered late if it was not performed by May 2010. The inspectors found that the performance of the November 2008 preventive maintenance activity had been deferred twice. The first deferral allowed the preventive maintenance completion date to be extended until December 31, 2010. The second deferral approved changing the completion date to the end of 2011.

The inspectors reviewed Procedure FP-PE-PM-01, "Preventive Maintenance Program," and determined that the deferral of preventive maintenance activities was allowed as long as the deferral acceptance and approval process was followed. Step 5.5.4.4.a of FP-PE-PM-01 stated that preventive maintenance activities could be deferred if the probability of failure was acceptably low for the requested duration of the deferral. The probability of failure was determined by completing Preventive Maintenance Deferral Form QF-0922. The inspectors determined that the licensee had made the initial preventive maintenance deferral decisions without completing Form QF-0922. However, a QF-0922 justifying the deferral was completed in May 2011. The inspectors reviewed the QF-0922 and found that questions used to determine the probability and consequence of a failure were answered incorrectly. Due to the incorrect answers, the decision to defer the preventive maintenance activity on the 2RY transformer did not receive the appropriate approvals.

Analysis: The inspectors determined that the failure to report a condition, which at the time of discovery, could have prevented the fulfillment of a safety function as required 10 CFR 50.72 (b)(3)(v) was a performance deficiency. The inspectors reviewed this

issue in accordance with IMC 0612, Appendix B, and the discussion for Block 7, Figure 2, Paragraph 2.a.v., and determined that a failure to report was an example of a violation that impacted the regulatory process and was subject to traditional enforcement. However, if possible, the underlying technical issue was required to be evaluated using the SDP. The NRC used the SDP results to determine the severity of the traditional enforcement violation.

The inspectors determined that the technical issue regarding failure to appropriately defer preventive maintenance activities associated with the 2RY transformer in accordance with procedures was a performance deficiency that could be evaluated using the SDP. The inspectors determined that this issue was more than minor because it was associated with the protection against external factors attribute of the Initiating Events Cornerstone and affected the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during power operations. The inspectors evaluated the finding in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 Initial Screening and Characterization of Findings," Table 4a, for the Initiating Events Cornerstone. Since the finding contributed to both the likelihood of a plant trip and that mitigating systems equipment or functions would not be available, a Region III SRA was contacted.

The Region III SRA performed a Phase 2 and Phase 3 evaluation of the finding assuming that the loss of offsite power initiating event frequency was increased. For the Phase 2 evaluation, the SRA assumed that the initiating event frequency was increased by one order of magnitude in accordance with IMC 0609, Appendix A, Attachment 2, "Site Specific Risk Informed Notebook Usage Rules." The period of time the 2RY transformer was out of service was used as the exposure period. This was approximately three days. The result of the Phase 2 SDP was "6" using the counting rule, which represented a White finding. The SRA determined that this result was overly conservative and that a Phase 3 SDP evaluation was necessary.

The Phase 3 SDP evaluation was performed using the Standardized Plant Analysis Risk (SPAR) model for Prairie Island. The same Phase 2 usage rule of increasing the IE frequency and the same exposure time were used. The result was a delta core damage frequency of  $2.4E-8/\text{yr}$ , which represented a finding of very low safety significance (Green). The dominant sequence was loss of offsite power, failure of all onsite alternating current power, and the failure to recover offsite or onsite power prior to battery depletion.

The inspectors also concluded that this finding was cross-cutting in the Human Performance, Work Practices area because licensee personnel failed to follow the requirements specified in FP-PE-PM-01 when making decision regarding the deferral of preventive maintenance (H.4(b)).

**Enforcement:** Title 10 CFR 50.72 (b)(3)(v) requires, in part, that the licensee report, within 8 hours any event or condition that, at the time of discovery, could have prevented the fulfillment of a safety function needed to shutdown the reactor. Contrary to the above, on June 27, 2011, the licensee failed to report within 8 hours an event or condition that, at the time of discovery, could have prevented the fulfillment of a safety function needed to shutdown the reactor. Specifically, the licensee failed to report that both Unit 2 paths of offsite power had become inoperable and could not fulfill their safety function. The licensee subsequently reported this condition to the NRC on July 1, 2011.

In accordance with the Enforcement Policy, this violation was classified as a Severity Level IV violation because the underlying technical issue was of very low risk significance. Because this issue was of a very low safety-significance, was not repetitive or willful, and was entered into the licensee's CAP as CAP 1292940, this violation is being treated as an NCV, consistent with Section 2.3.2 and Section 6.9 of the NRC Enforcement Policy (**NCV 05000306/2011004-03; Failure to Make 8 Hour Report Pursuant to 10 CFR 50.72**). Corrective actions for this issue included reporting this issue to the NRC on July 1, 2011; revising procedures to ensure that this type of condition is reported to the NRC in the future; repairing the degraded components which caused the 2RY transformer to lock out; and ensuring that preventive maintenance deferral requests contain the appropriate and applicable supporting information.

Because the finding discussed above was evaluated separately using the SDP, it was required to be tracked separately and will be given a separate tracking number (**FIN 05000306/2011004-04; Failure to Make 8 Hour Report Pursuant to 10 CFR 50.72**). Corrective actions for this issue included repairing the failed bus duct and reinforcing the importance of proper risk justification in the evaluation for preventive maintenance deferrals.

.2 Review of Actions Associated with Battery Room Steam Exclusion Damper Failure

a. Inspection Scope

During normal operation, the steam exclusion dampers remained open to provide normal ventilation to various areas of the plant. Following a steam line break, the associated steam exclusion dampers would close to protect safety-related equipment from the effects of high temperature steam. During steam exclusion damper testing performed on August 24, 2011, licensee personnel identified the presence of gaps along the mating surface of specific damper blades. The operations staff immediately entered the applicable Technical Requirements Manual (TRM) Limiting Condition for Operation which required that the redundant steam exclusion damper be closed within 24 hours if repairs were not completed. The inspectors observed the activities completed by the licensee to identify and repair the cause of the damper failure. The inspectors also reviewed the licensee's contingency actions to ensure that the actions were in compliance with the TRM.

b. Unresolved Item

Introduction: An unresolved item (URI) was identified to review the sequence of events which led to not incorporating the results of Engineering Change 17949 into OPR 1265904.

Description: As discussed above, a battery room steam exclusion damper failed to fully close during routine testing conducted on August 24, 2011. The failure of the damper to fully close during the test was concerning to both the licensee and NRC personnel as subsequent actions needed to repair the damper could result in stopping all air flow into the battery rooms, raising battery room temperatures, and rendering equipment in the battery rooms inoperable.

During the early morning hours of August 25, the inspectors observed maintenance activities in the battery room and discussed contingency actions with personnel located in the outage control center (OCC). The OCC personnel initially informed the inspectors

that there were no plans to close the redundant steam exclusion damper once the 24 hours allowed by the TRM had elapsed. This concerned the inspectors as TRM Action 3.0.b stated that "Upon discovery of a failure to meet a TLCO [TRM Limiting Condition for Operation], the Required Actions of the associated Conditions shall be met, except as provided in TLCO 3.0.e."

The inspectors discussed their concern with several members of licensee management. After several additional discussions with NRC management, the licensee indicated that the redundant battery room steam exclusion damper would be closed when the 24 hours elapsed. In addition, the licensee took actions to reduce reactor power on both units in an effort to minimize the potential battery room temperature increase. The inspectors monitored the reactor power reductions and the increasing battery room temperatures from the control room. Battery room temperatures increased and stabilized below the equipment operability limits. Based upon this information, the inspectors concluded that the licensee complied with the TRM requirements.

On August 26, 2011, the licensee initiated CAP 1300997 to document that personnel had not incorporated the results of a previously completed engineering change document into a current OPR regarding battery room temperatures. Specifically, on January 11, 2011, the licensee identified inconsistencies with the calculations performed to determine the battery room heat up following a high energy line break in the turbine building via CAP 1265904. The licensee evaluated the condition discussed in CAP 1265904 by performing an OPR. The results of the OPR showed that as long as the battery room temperatures were maintained less than 89 degrees the equipment located in the battery rooms would remain operable following a HELB. The licensee used the OPR temperature limitations as a basis for reducing reactor power, and therefore reducing equipment operating and battery room temperatures, following the steam exclusion damper failure. Information provided in CAP 1300997 indicated that an engineering evaluation completed on April 4, 2011, allowed the battery room temperature to be as high as 95 degrees prior to the HELB without impacting equipment operability. However, this information had not been incorporated into the OPR associated with CAP 1265904. As a result, the licensee may have unnecessarily placed each unit in an increased risk condition due to reducing reactor power when it may not have been required. The licensee was continuing to evaluate this issue at the conclusion of the inspection period. Based upon this, the inspectors were unable to determine whether a performance deficiency existed. This item was determined to be unresolved pending a review of the licensee's causal evaluation for this issue **(URI 05000282/2011004-05; 05000306/2011004-05: Failure to Incorporate Revised Battery Room Temperature Information into Existing Operability Recommendation).**

.3 (Closed) Licensee Event Report 05000282/2009-004-01; 05000306/2009-004-01: Residual Heat Removal System Inoperability While in Mode 4 Due to Potential Steam Voiding

a. Inspection Scope

On July 12, 2010, while reviewing Licensee Event Report (LER) 05000282/2009-004-00; 05000306/2009-004-00, the inspectors noted that the licensee did not completely identify a problem associated with the potential for void formation in the RHR system while in Modes 3 and 4. Specifically, the inspectors identified that the RHR system

could experience flash evaporation during a loss of coolant accident that initiated at reactor coolant system temperatures less than the operability limit value established by the licensee. The inspectors were concerned that this condition could lead to steam binding the RHR pumps and/or an adverse water hammer following system realignment to its emergency core cooling mode of operation. This issue was dispositioned as a finding of very low safety significance (Green) in NRC Inspection Report 05000282/2010004; 05000306/2010004. The licensee performed another analysis that determined that the additional RHR failure mode was reportable to the NRC as LER 05000282/2009-004-01; 05000306/2009-004-01. The inspectors reviewed the licensee's corrective action documents and the implementation of compensatory actions needed to address the condition described in the supplement. The inspectors also confirmed that the licensee was in the process of developing permanent changes that included a license amendment as part of their corrective actions. This inspection was completed through an in-office review of documents and discussions with engineering personnel.

Documents reviewed as part of this inspection are listed in the Attachment to this report. This LER is closed.

This event follow-up review constituted one sample as defined in IP 71153-05.

b. Findings

No findings were identified.

.4 (Closed) Licensee Event Report 05000282/2009-006-02; 05000306/2009-006-02: Unanalyzed Condition Due to Potential Safety System Susceptibility to Turbine Building Flooding Due to a Postulated High Energy Line Break

The inspectors reviewed the LER information and determined that it was associated with an inspection of turbine building HELB and internal flooding vulnerabilities performed by the NRC in 2009 and 2010. The results of this inspection were documented in NRC Inspection Reports 2009003, 2009005, 2010010, 2010011 and 2011008. As discussed in NRC Inspection Report 2011008, the NRC determined that a violation of NRC requirements occurred because safety-related equipment was not adequately protected from the affects of a HELB or an internal flood. However, the NRC granted the licensee enforcement discretion for this issue because the cause of the violation was associated with matters not reasonably within the licensee's ability to foresee and correct. Because the condition discussed in this LER was evaluated and dispositioned as part of the NRC Inspection Reports listed above, no further enforcement action was required.

Documents reviewed as part of this inspection are listed in the Attachment to this report. This LER is closed.

This event follow-up review constituted one sample as defined in IP 71153-05.

.5 (Closed) Licensee Event Report 05000282/2010-001-00; 05000306/2010-001-00: Unanalyzed Condition Due to Postulated High Energy Line Break On Cooling Water System

On March 5, 2010, the licensee discovered that the cooling water system may not provide sufficient water to required loads during certain events. The inspectors reviewed the LER information and determined that it was associated with an inspection of turbine building HELB and internal flooding vulnerabilities performed by the NRC in 2009 and 2010. The results of this inspection were documented in NRC Inspection Reports 2009003, 2009005, 2010010, 2010011 and 2011008. As discussed in Section 4OA3.4 above, the NRC determined that a violation of NRC requirements occurred because safety-related equipment was not adequately protected from the affects of a HELB or an internal flood. However, the NRC granted the licensee enforcement discretion for this issue because the cause of the violation was associated with matters not reasonably within the licensee's ability to foresee and correct. Because the condition discussed in this LER was evaluated and dispositioned as part of the NRC Inspection Reports listed above, no further enforcement action was required.

Documents reviewed as part of this inspection are listed in the Attachment to this report. This LER is closed.

This event follow-up review constituted one sample as defined in IP 71153-05.

.6 (Closed) Licensee Event Report 05000282/2010-001-01; 05000306/2010-001-01: Unanalyzed Condition Due to Postulated High Energy Line Break On Cooling Water System

On July 2, 2010, the licensee supplemented information contained in LER 2010-01-00. Specifically, the licensee documented that the unanalyzed condition reported in the LER had not been discovered earlier due to historical inadequate management of the HELB analyses. As discussed in Section 4OA3.1 above, the LER supplemental information was associated with an inspection of turbine building HELB and internal flooding vulnerabilities performed by the NRC in 2009 and 2010. The results of this inspection were documented in NRC Inspection Reports 2009003, 2009005, 2010010, 2010011 and 2011008. As discussed in Section 4OA3.4 above, the NRC determined that a violation of NRC requirements occurred because safety-related equipment was not adequately protected from the affects of a HELB or an internal flood. However, the NRC granted the licensee enforcement discretion for this issue because the cause of the violation was associated with matters not reasonably within the licensee's ability to foresee and correct. Because the condition discussed in this LER was evaluated and dispositioned as part of the NRC Inspection Reports listed above, no further enforcement action was required.

Documents reviewed as part of this inspection are listed in the Attachment to this report. This LER is closed.

This event follow-up review constituted one sample as defined in IP 71153-05.

.7 (Closed) Licensee Event Report 05000282/2010-003-00; 05000306/2010-003-00: Postulated Flooding of Battery Rooms Due To Inadequate Battery Room Door Threshold Seals

On June 9, 2010, the licensee discovered that the condition of the battery room door threshold seals could allow the introduction of water into the Unit 1 and Unit 2 battery rooms during a turbine building internal flood. The introduction of water could result in the inoperability of the Unit 1 and Unit 2 batteries. The inspectors reviewed the LER information and determined that it was associated with an inspection of turbine building HELB and internal flooding vulnerabilities performed by the NRC in 2009 and 2010. The results of this inspection were documented in NRC Inspection Reports 2009003, 2009005, 2010010, 2010011 and 2011008. As discussed in Section 4OA3.4 above, the NRC determined that a violation of NRC requirements occurred because safety-related equipment was not adequately protected from the affects of a HELB or an internal flood. However, the NRC granted the licensee enforcement discretion for this issue because the cause of the violation was associated with matters not reasonably within the licensee's ability to foresee and correct. Because the condition discussed in this LER was evaluated and dispositioned as part of the NRC Inspection Reports listed above, no further enforcement action was required.

Documents reviewed as part of this inspection are listed in the Attachment to this report. This LER is closed.

This event follow-up review constituted one sample as defined in IP 71153-05.

.8 (Closed) Licensee Event Report 05000282/2010-003-01; 05000306/2010-003-01: Postulated Flooding of Battery Rooms Due To Inadequate Battery Room Door Threshold Seals

On March 31, 2011, the licensee provided an LER supplement to the NRC regarding the discovery of degraded battery room door threshold seals and the potential for the safety-related batteries to be rendered inoperable following a turbine building internal flood. Specifically, this LER supplement was provided to inform the NRC of the causes of this condition. The inspectors reviewed the information provided in the supplement and determined that it was associated with an inspection of turbine building HELB and internal flooding vulnerabilities performed by the NRC in 2009 and 2010. The results of this inspection were documented in NRC Inspection Reports 2009003, 2009005, 2010010, 2010011 and 2011008. As discussed in Section 4OA3.4 above, the NRC determined that a violation of NRC requirements occurred because safety-related equipment was not adequately protected from the affects of a HELB or an internal flood. However, the NRC granted the licensee enforcement discretion for this issue because the cause of the violation was associated with matters not reasonably within the licensee's ability to foresee and correct. Because the condition discussed in this LER was evaluated and dispositioned as part of the NRC Inspection Reports listed above, no further enforcement action was required.

Documents reviewed as part of this inspection are listed in the Attachment to this report. This LER is closed.

This event follow-up review constituted one sample as defined in IP 71153-05.

.9 (Closed) Licensee Event Report 05000282/2011-001-00; 05000306/2011-001-00: Unplanned Actuation of 121 Motor Driven Cooling Water Pump

a. Inspection Scope

On December 23, 2010, operations personnel experienced an automatic start of the 121 motor driven cooling water pump (MDCLP). The inspectors reviewed control room logs, corrective action documents, maintenance work records and training information to determine the sequence of events that resulted in the pump start. Documents reviewed as part of this inspection are listed in the Attachment to this report. This LER is closed.

This event follow-up review constituted one sample as defined in IP 71153-05.

b. Findings

Introduction: A Severity Level IV NCV of 10 CFR 50.9 was identified by the inspectors due to the licensee's failure to provide information to the NRC that was complete and accurate in all material respects. Specifically, LER 05000282/2011-001-00 stated that the unplanned actuation of the 121 MDCLP was caused by the over tightening of a gasketed connection on the 11 containment and auxiliary building chiller. The results of a subsequent apparent cause evaluation showed that the unplanned actuation of the 121 MDCLP was due to operating the chiller in a manner outside of its design.

Description: On December 23, 2010, the 121 MDCLP automatically started, as designed, due to the receipt of a low cooling water header pressure signal. The low cooling water header pressure was caused by an unexpected shutdown of the 11 containment and auxiliary building chiller. The licensee initiated CAP 1266075 to document this issue. The licensee conducted an initial review of the issue and determined that the chiller shut down due to a low flow condition in the evaporator header. The licensee concluded that the low flow condition was caused by water leaking past the evaporator due to a failed head gasket. The licensee believed that the head gasket failed due to being over tightened during an October 2010 maintenance activity. This information was communicated to the NRC on April 26, 2011, via LER 05000282/2011-001-00.

The inspectors reviewed the applicable maintenance documents and identified that the licensee had used a specific type of gasket sealant on the chiller even though the use of the sealant was prohibited by Preventive Maintenance Procedure PM 3535-2-11, "11 Containment and Auxiliary Building Chiller Annual Inspection." The inspectors also reviewed information provided by the sealant manufacturer. This information indicated that the sealant should not be used with rubber gaskets because it had the potential to lead to gasket failure. The inspectors performed an additional review of the maintenance work documents and determined that a rubber gasket had been used during the maintenance activity. Based upon this information, the inspectors questioned whether the cause of the 121 MDCLP automatic start as provided in the LER was correct. The inspectors also reviewed the licensee's screening results for CAP 1266075. The inspectors found that the licensee had initially assigned an apparent cause evaluation to this CAP. However, this assignment was changed from an apparent cause evaluation to a condition evaluation (a less rigorous type of evaluation) because the licensee believed that the cause of the pump automatic start was simple and known. Based upon information provided by the inspectors as discussed above, the licensee re-opened CAP 1266075 and performed an apparent cause evaluation.

On July 29, 2011, the licensee determined that the 121 MDCLP automatically started due to the receipt of a low cooling water header pressure condition. The low header pressure condition occurred due to the unexpected shut down of the 11 containment and auxiliary building chiller. The licensee reviewed internal operating experience associated with the chiller and determined that the chiller shut down because it was being operated in a manner that was outside of its design. Specifically, the licensee operated the chiller at very low load during the winter months to minimize the potential for biologically induced pipe degradation. Operation at these low loads created a condition which exceeded the chiller evaporator's low temperature setpoint, which caused the chiller to shut down.

Analysis: The inspectors concluded that the licensee had reasonable opportunity to foresee and correct the inaccurate/incomplete information discussed above prior to the information being submitted to the NRC. As a result, this issue was considered a performance deficiency. The inspectors reviewed this issue in accordance with IMC 0612, Appendix B, and discussion item 2.a.i for Block 7 of Figure 2. The inspectors determined that the failure to provide complete and accurate information to the NRC was considered to be an example of a violation that impacted the regulatory process and was subject to traditional enforcement. Specifically, in order for the NRC to determine the acceptability of the licensee's corrective actions, the licensee was required to provide complete and accurate information regarding the cause of issues or events. However, if possible, the underlying technical issue was required to be evaluated using the SDP. The NRC used the SDP results to determine the severity of the violation.

The inspectors determined that the technical issue regarding operation of the 11 containment and auxiliary building chiller and the subsequent unplanned start of the 121 MDCLP could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process." The inspectors determined that this issue was more than minor because, if left uncorrected, the operation of the 11 containment and auxiliary building chiller in a manner outside of its design could result in additional unplanned actuations of the 121 MDCLP (an engineering safeguards features piece of equipment). Over time, these unplanned actuations could contribute to increased degradation of the 121 MDCLP resulting in increased unavailability and unreliability (a more significant safety issue). The inspectors performed a Phase 1 SDP screening using IMC 0609, Attachment 0609.04, "Phase 1 - Initial Screening and Characterization of Findings," Table 4a for the Mitigating Systems Cornerstone, dated January 10, 2008. The inspectors answered "No" to each question contained under the Mitigating Systems Cornerstone column of the Phase 1 worksheet. Based upon this Phase 1 screening, the inspectors concluded that the issue was of very low safety significance (Green). No cross-cutting aspect was assigned to this finding as the reason for operating the chiller outside of its design was not associated with any of the components/aspects provided in NRC IMC 0310, "Components Within the Cross-Cutting Areas."

Enforcement: Title 10 CFR 50.9 requires that information provided the NRC be complete and accurate in all material respects. Contrary to the above, on April 26, 2011, the licensee provided information as part of LER 05000282/2011-001-00 which was not complete and accurate in all material respects. Specifically, information within the LER stated that the unplanned actuation of the 121 MDCLP was caused by the over tightening of a gasketed connection on the 11 containment and auxiliary building chiller. After questioning by the NRC during an inspection to close this LER, the licensee performed an apparent cause evaluation and determined that the 121 MDCLP had

actuated due to operating the 11 containment and auxiliary building chiller in a manner that was outside of the equipment's design.

In accordance with the Enforcement Policy, this violation was classified as a Severity Level IV violation because the underlying technical issue was of very low risk significance. Because this violation was of a very low safety-significance, was not repetitive or willful, and was entered into the licensee's CAP as CAP 1299410, this violation is being treated as an NCV, consistent with Section 2.3.2 of the NRC Enforcement Policy (**NCV 05000282/2011004-06; 05000306/2011004-06: Failure to Provide Complete and Accurate Information in an LER**). Corrective actions for this issue included performing an apparent cause evaluation and submitting a supplement to the LER.

Because the finding discussed above was evaluated separately using the SDP, it is required to be tracked separately and will be given a separate tracking number (**FIN 05000282/2011004-07; 05000306/2011004-07: Failure to Provide Complete and Accurate Information in an LER**). Since the chiller is non-safety related, there was no violation of NRC requirements for the underlying ROP issue. Corrective actions for this issue included reviewing the operation of the chillers and the cooling water system to reduce the potential for unplanned pump starts.

.10 (Closed) Licensee Event Report 05000282/2011-001-01; 05000306/2011-001-01: Unplanned Actuation of 121 Motor Driven Cooling Water Pump

a. Inspection Scope

As discussed in Section 4OA3.8 of this report, the inspectors identified that information provided by the licensee on April 26, 2011, was not complete and accurate. The licensee provided LER 2011-001-01 to the NRC on August 11, 2011. The inspectors reviewed the LER to ensure that the licensee had corrected the inaccurate information provided previously.

Documents reviewed as part of this inspection are listed in the Attachment to this report. This LER is closed.

This event follow-up review constituted one sample as defined in IP 71153-05.

b. Findings

The inspectors identified that the information provided in the LER supplement was not fully complete. Specifically, the LER contained information regarding that the 121 MDCLP had automatically started due to the 11 containment and auxiliary building chiller tripping. However, the licensee failed to provide information regarding the cause of the chiller trip. As a result, the inspectors determined that the licensee had failed to provide complete and accurate information to the NRC as part of this LER. A separate violation was not written as this item was considered an additional example of the violation of 10 CFR 50.9 discussed in Section 4OA3.8. The licensee planned to provide an additional LER supplement to the NRC in the near future.

.11 (Closed) Licensee Event Report 05000306/2011-002-00: Unit 2 Trip as a Result of a Weather Related Turbine Trip

a. Inspection Scope

On May 9, 2011, PINGP Unit 2 automatically tripped from 100 percent power due to receiving a turbine trip signal. The inspectors reviewed the licensee's LER and the root cause evaluation report to determine whether a performance deficiency led to the condition that caused the turbine trip and reactor trip.

Documents reviewed as part of this inspection are listed in the Attachment to this report. This LER is closed.

This event follow-up review constituted one sample as defined in IP 71153-05.

b. Findings

Introduction: A self-revealing finding of very low safety significance (Green) was identified due to the failure to correctly implement FP-G-DOC-03, "Procedure Use and Adherence." Specifically, the licensee failed to adequately review, identify and correct potential problems associated with Procedure 5AWI 15.1.9, "Substation Work Control," prior to performing substation maintenance in November 2010. As a result, personnel failed to identify that a wire was not properly installed. The failure to install the wire led to the mis-operation of multiple substation breakers, a turbine trip, and a reactor trip during a subsequent thunderstorm.

Description: On May 9, 2011, the area surrounding the PINGP was experiencing severe thunderstorms. During this storm, operations personnel received multiple alarms due to the operation of several substation breakers, the receipt of a turbine trip and a subsequent reactor trip. The inspectors were in the control room when the trip occurred. The inspectors monitored alarms, reviewed procedures, and observed the licensed operators during the trip. Through these observations, the inspectors concluded that the licensed operators and all safety-related systems had responded appropriately.

The licensee determined that the turbine trip and the reactor trip occurred due to the mis-operation of several substation breakers. The mis-operation of the breakers was caused by the failure to properly install a wire during the installation of substation panels in November 2010.

The licensee concluded that the wiring issue was caused by the failure of substation personnel to utilize human performance tools during their work activities. Procedure 5AWI 15.1.9 required that substation high risk and/or critical activities be appropriately observed. However, the procedure failed to provide guidance regarding the types of activities that were high risk/critical and the observation criteria. The inspectors determined that procedural deficiencies should have been identified since Step 3.3.1 of Procedure FP-G-DOC-03 required personnel to adequately review, identify and correct potential procedure problems prior to performing work. In addition, the inspectors and licensee found that industry operating experience had not been incorporated into procedures to ensure that vulnerabilities in the performance and oversight of substation work activities were addressed.

Analysis: The inspectors determined that the failure to adequately review, identify and correct potential problems associated with Procedure 5AWI 15.1.9, "Substation Work Control," as required by FP-G-DOC-03 was a performance deficiency that required an SDP evaluation. The inspectors determined that this issue was more than minor because it was associated with the protection from external factors attribute of the Initiating Events Cornerstone. This finding also impacted the cornerstone objective of limiting the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. The inspectors evaluated this issue further using NRC IMC 0609, Attachment 4, Tables 3b and 4a, and determined that this issue was of very low safety significance (Green) because it did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment would not be available. The inspectors determined that this issue was cross-cutting in the Problem Identification and Resolution, Corrective Action Program area, because the licensee had not implemented and institutionalized operating experience through changes to processes, procedures, equipment and training programs (P.2(b)).

Enforcement: The inspectors determined that a violation of NRC requirements did not occur due to the substation equipment, and the associated procedures, being non-safety related. **(FIN 05000306/2011004-08: Unit 2 Reactor Trip due to Mis-operation of Substation Breakers)**. Corrective actions for this issue included re-installing the wire and revising procedures to ensure that vulnerabilities associated with substation work activities were appropriately addressed.

.12 (Closed) Licensee Event Report 05000282/2011-002-00: Unit 1 Reactor Manually Tripped in Response to An Inadvertent Turbine Stop Valve Closure

a. Inspection Scope

The inspectors reviewed the LER, the licensee's causal evaluation, maintenance work records, vendor information, and corrective action documents to determine if a performance deficiency led to an inadvertent turbine stop valve closure and the need to manually trip the Unit 1 reactor on July 1, 2011.

Documents reviewed during this inspection are listed in the Attachment to this report. This LER is closed.

This event follow-up review constituted one sample as defined in IP 71153-05.

b. Findings

No findings were identified.

.13 (Closed) Licensee Event Report 05000306/2011-003-00: Unit 2 Offsite Power Sources Declared Inoperable As A Consequence of the Loss of the 2RY Transformer Bus Duct

a. Inspection Scope

The inspectors reviewed information contained in the licensee's causal evaluation and in the LER to determine whether a performance deficiency caused the event listed above.

Documents reviewed as part of this inspection are listed in the Attachment to this report. This LER is closed.

This event follow-up review constituted one sample as defined in IP 71153-05.

b. Findings

An inspector-identified Severity Level IV violation was identified as discussed in Section 4OA3.1 of this report.

4OA5 Other Activities

.1 (Closed) Uresolved Item 05000306/2011003-03: Unit 2 Reactor Trip During Severe Weather

This issue was discussed in Section 4OA3.10 of this inspection report. One self-revealed finding of very low safety significance was identified. Documents reviewed during this inspection are listed in the Attachment to this report. This URI is closed.

.2 (Closed) Uresolved Item 05000282/2011003-04; 05000306/2011003-04: Multiple Severe Accident Management Guideline Procedures not Consistent with Industry Guidance

a. Inspection Scope

While performing inspections directed by Temporary Instruction (TI) 2515/184, "Availability and Readiness Inspection of Severe Accident Management Guidelines (SMAG)," the inspectors identified an unresolved item due to the discovery that some of the SAMG procedures had not been revised to include the most recent Westinghouse Owners Group guidance. The inspectors reviewed licensee documents and interviewed operations procedure writers to determine whether a performance deficiency existed.

b. Findings

The inspectors determined that the licensee had not performed the biennial review of the SAMG procedures as required by the Quality Assurance Program between 2002 and 2004. The inspectors also determined that the failure to comply with the Quality Assurance Manual requirements constituted a violation of NRC requirements. However, this violation was determined to be of minor significance, and not subject to enforcement action, in accordance with the NRC's Enforcement Policy since none of the SAMG procedures were found to be technically deficient. Documents reviewed during this inspection are listed in the Attachment to this report. This URI is closed.

.3 (Closed) Unresolved Item 05000282/2009004-03; 05000306/2009004-03, Potential Testing Emergency Response Organization Callout and Augmentation Process Performance Deficiency

a. Inspection Scope

The inspectors completed an evaluation of URI 05000282/2009004-03; 05000306/2009004-03, regarding a potential testing ERO callout and augmentation process performance deficiency.

Specifically, the licensee's process for testing its capability to callout the ERO and ensure timely augmentation of response capabilities was evaluated through the review

of the April 2007 through April 2009 off-hours, unannounced, callout tests. The inspectors determined the previous inconsistencies with the licensee's augmentation drill evaluation methods were resolved and that the results of these tests supported the emergency plan's commitment to have the capability for augmenting additional personnel within 30 and 60 minutes of notification with no resultant findings.

Furthermore, the inspectors noted the corrective actions associated with CAP 1189478, generated with the URI, provided a number of enhancements to the ERO staffing and augmentation methods. These improvements were observed by the inspectors during the August 2, 2011, Emergency Plan Off-Hours Drive-In Drill. The inspectors also evaluated whether the PINGP staff had properly critiqued and identified further deficiencies that could impact the ERO augmentation process by review of the licensee's critique and drill report associated with the August 2011 drill. The inspectors determined that the licensee's capability to timely augment response capabilities was maintained as stated in 10 CFR 50.47(b)(2). In addition, the licensee provided an adequate critique of the emergency response capabilities as stated in 10 CFR 50.47(b)(14). Documents reviewed during this inspection are listed in the Attachment to this report. This URI is closed.

b. Findings

No findings were identified.

4OA6 Management Meetings

.1 Exit Meeting Summary

On October 13, 2011, the inspectors presented the inspection results to Mr. M. Schimmel and other members of the licensee's staff. The licensee acknowledged the issues presented. The inspectors confirmed that none of the potential report input discussed was considered proprietary.

.2 Interim Exit Meetings

Interim exits were conducted for the following inspections:

- On August 9, 2011, the inspectors presented the results of a Problem Identification and Resolution Selected Sample Inspection performed between July 5 and July 9, 2011, to Mr. K. Petersen and other members of the PINGP staff;
- On August 11, 2011, the results of the Emergency Preparedness Program Inspection were discussed with Mr. J. Sorensen;
- On August 26, 2011, the inspectors presented the Radiation Protection Inspection results to Plant Manager, Mr. K Davison;
- On August 29, 2011, the results of the Unresolved Item Inspection discussed in Section 4OA5.3 were discussed with Mr. J. Sorensen; and
- The results of the Emergency Preparedness Program Inspection were discussed with Ms. K. DeFusco on September 28, 2011.

The licensee acknowledged the issues presented. The inspectors confirmed that none of the potential report input discussed was considered proprietary and that no proprietary material was received during the inspection.

#### 4OA7 Licensee-Identified Violations

The following violation of very low significance (Green) was identified by the licensee and is a violation of NRC requirements which meets the criteria of the NRC Enforcement Policy for being dispositioned as an NCV.

- Title 10 CFR 20.1302, "Compliance with Dose Limits for Individual Members of the Public" states, in part, that "the licensee shall make or cause to be made, as appropriate, surveys of radiation levels in effluents released to unrestricted and controlled areas and radioactive materials in effluents released to unrestricted and controlled areas to demonstrate compliance with the dose limits for individual members of the public in §20.1301. Contrary to the above, on February 7, 2011, and again on July 23, 2011, it was identified that slightly radioactive material was inappropriately released by the licensee into the station's septic system. The issue was documented in the licensee's corrective action program as CAP 1295889. Corrective actions included changes to plant processes for the release of potentially radioactive materials.

The work practices that created unauthorized and unmonitored release paths into the station's septic system is a performance deficiency as defined in IMC 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening." The inspectors determined that the finding was more than minor because, if left uncorrected, the performance deficiency had the potential to lead to a more significant safety concern. The finding was reviewed for significance in accordance with IMC 0609, Appendix D, "Public Radiation Safety Significance Determination Process," and determined to be of very low safety significance because it involved radioactive material control, did not involve radioactive material transportation, and the dose impact to a member of the public was less than 5 millirem.

ATTACHMENT: SUPPLEMENTAL INFORMATION

## SUPPLEMENTAL INFORMATION

### KEY POINTS OF CONTACT

#### Licensee

M. Schimmel, Site Vice President  
K. Davison, Plant Manager  
P. Huffman, Site Engineering Director  
S. Sharp, Assistant Plant Manager  
T. Allen, Senior Manager Site Engineering  
J. Anderson, Regulatory Affairs Manager  
C. Bough, Chemistry and Environmental Manager  
B. Boyer, Radiation Protection Manager  
K. DeFusco, Emergency Preparedness Manager  
D. Goble, Safety and Human Performance Manager  
J. Hamilton, Security Manager  
J. Kivi, Employee Concerns Program Manager  
J. Lash, Nuclear Oversight Manager  
J. Mestad, Employee Concerns Program Manager - Monticello  
M. Milly, Maintenance Manager  
J. Muth, Operations Manager  
K. Peterson, Business Support Manager  
A. Pullam, Training Manager  
J. Sorensen, VP Operations Support  
R. Womack, Acting Production Planning Manager

#### Nuclear Regulatory Commission

J. Giessner, Chief, Reactor Projects Branch 4  
T. Wengert, NRR Project Manager

### LIST OF ITEMS OPENED, CLOSED AND DISCUSSED

#### Opened

05000282/2011004-01; 05000306/2011004-01	NCV	Radiation Monitors Not Fully Scoped Into or Assessed by the Maintenance Rule Program (Section 1R12.1)
05000282/2011004-02; 05000306/2011004-02	NCV	Corrective Action Assignments Closed Without Completion of Tasks (Section 4OA2.4)
05000306/2011004-03	NCV	Failure to Make Eight Hour Report Pursuant to 10 CFR 50.72 (Section 4OA3.1)
05000306/2011004-04	FIN	Failure to Make Eight Hour Report Pursuant to 10 CFR 50.72 (Section 4OA3.1)
05000282/2011004-05; 05000306/2011004-05	URI	Failure to Incorporate Revised Battery Room Temperature Information into Existing Operability Recommendation (Section 4OA3.2)
05000282/2011004-06; 05000306/2011004-06	NCV	Failure to Provide Complete and Accurate Information in a Licensee Event Report (Section 4OA3.9)

05000282/2011004-07; 05000306/2011004-07	FIN	Failure to Provide Complete and Accurate Information in a Licensee Event Report (Section 4OA3.9)
05000306/2011004-08	FIN	Unit 2 Reactor Trip due to Mis-operation of Substation Breakers (4OA3.11)

Closed

05000282/2011004-01; 05000306/2011004-01	NCV	Radiation Monitors Not Fully Scoped Into or Assessed by the Maintenance Rule Program (Section 1R12.1)
05000282/2011004-02; 05000306/2011004-02	NCV	Corrective Action Assignments Closed Without Completion of Tasks (Section 4OA2.4)
05000306/2011004-03	NCV	Failure to Make Eight Hour Report Pursuant to 10 CFR 50.72 (Section 4OA3.1)
05000306/2011004-04	FIN	Failure to Make Eight Hour Report Pursuant to 10 CFR 50.72 (Section 4OA3.1)
05000282/2011004-06; 05000306/2011004-06	NCV	Failure to Provide Complete and Accurate Information in a Licensee Event Report (Section 4OA3.9)
05000282/2011004-07; 05000306/2011004-07	FIN	Failure to Provide Complete and Accurate Information in a Licensee Event Report (Section 4OA3.9)
05000306/2011004-08	FIN	Unit 2 Reactor Trip due to Mis-operation of Substation Breakers (4OA3.11)
05000282/2009-004-01; 05000306/2009-004-01	LER	Residual Heat Removal System Inoperability while in Mode 4 Due to Potential Steam Voiding – Supplement 1 (Section 4OA3.3)
05000282/2009-006-02; 05000306/2009-006-02	LER	Unanalyzed Condition Due to Potential Safety System Susceptibility to Turbine Building Flooding Due to a Postulated High Energy Line Break – Supplement 2 (Section 4OA3.4)
05000282/2010-001-00; 05000306/2010-001-00	LER	Unanalyzed Condition Due to Postulated High Energy Line Break on Cooling Water System (Section 4OA3.5)
05000282/2010-001-01; 05000306/2010-001-01	LER	Unanalyzed Condition Due to Postulated High Energy Line Break on Cooling Water System – Supplement 1 (Section 4OA3.6)
05000282/2010-003-00; 05000306/2010-003-00	LER	Postulated Flooding of Battery Rooms Due to Inadequate Battery Room Door Threshold Seals (Section 4OA3.7)
05000282/2010-003-01; 05000306/2010-003-01	LER	Postulated Flooding of Battery Rooms Due to Inadequate Battery Room Door Threshold Seals – Supplement 1 (Section 4OA3.8)
05000282/2011-001-00; 05000306/2011-001-00	LER	Unplanned Actuation of 121 Motor Driven Cooling Water Pump (Section 4OA3.9)
05000282/2011-001-01; 05000306/2011-001-01	LER	Unplanned Actuation of 121 Motor Driven Cooling Water Pump – Supplement 1 (Section 4OA3.10)
05000306/2011-002-00	LER	Unit 2 Trip as a Result of a Weather Related Turbine Trip (Section 4OA3.11)

05000282/2011-002-00	LER	Unit 1 Reactor Manually Tripped in Response to an Inadvertent Turbine Stop Valve Closure (Section 4OA3.12)
05000306/2011-003-00	LER	Unit 2 Offsite Power Sources Declared Inoperable as a Consequence of the Loss of the 2RY Transformer Bus Duct (Section 4OA3.13)
05000306/2011003-03	URI	Unit 2 Reactor Trip During Severe Weather (Section 4OA5.1)
05000282/2011003-04; 05000306/2011003-04	URI	Multiple SAMG Procedures not Consistent with Industry Guidance (Section 4OA5.2)
05000282/2009004-03; 05000306/2009004-03	URI	Potential Testing Emergency Response Organization Callout and Augmentation Process Performance Deficiency (Section 4OA5.3)

## List of Documents Reviewed

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

### 1R04 Equipment Alignment

- C28-2; Auxiliary Feedwater System Unit 1; Revision 49
- C28-17; 11 Turbine Driven Auxiliary Feedwater Pump; Revision 7
- C28-15; 12 Motor Driven Auxiliary Feedwater Pump; Revision 7
- C1.1.14-2; Unit 2 Component Cooling System; Revision 33
- C.1.1.38-2; D5/D6 Fuel Oil System Status; Revision 10
- NF-118248; Fuel Oil System D5; Revision 76
- NF-118252; D5/D6 Diesel Generator Fuel Oil System; Revision 78
- C37.11-1; Chilled Water Safeguards System; Revision 19
- Component Cooling Water System Health Report

### 1R05 Fire Protection

- Fire Hazards Analysis; Various Revisions
- Procedure F5, Appendix A; Fire Zone Plans and Maps; Various Revisions
- CAP 1299801; Minor Repairs Needed to Steam Exclusion Seals; August 18, 2011
- CAP 1390015; Step 7.1.1 Not Marked as Complete in ICPM 0-001; August 18, 2011
- CAP 1300018; Risk Attributes Not Identified in Work Order; August 18, 2011
- ICPM 0-001; Fire Detection Zone Detector Calibration/Repair; Revision 14
- Safe Shutdown Analysis
- SP 2107A D5/D6 Fire Detection of Deluge Trip Devices Test; Revision 7
- SP 2107B D5/D6 Fire Detection Test of Non-Trip Devices; Revision 5
- WO 377930; SP 2107B D5/D6 Fire Detection Test of Non-Trip Devices; December 29, 2009
- WO 387938; ICPM 0-001.43, Fire Detection Unit 2 Mezzanine FI 4kV Switchgear Room; June 8, 2010
- WO 392293; ICPM 0-001.1, Fire Detection Unit 1 Battery Room; June 1, 2010
- WO 398487; ICPM 0-001.11, Fire Detection Unit 1 Mezzanine FI 4kV Switchgear Room; December 15, 2010
- WO 407583; SP 2107B D5/D6 Fire Detection Test of Non-Trip Devices; December 10, 2010
- WO 407584; SP 2107A D5/D6 Fire Detection Deluge Trip Devices Test; December 9, 2010
- WO 417236; SP 2107B D5/D6 Fire Detection Test of Non-Trip Devices; June 12, 2011
- WO 417237; SP 2107A D5/D6 Fire Detection Deluge Trip Devices Test; June 11, 2011
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### 1R12 Maintenance Effectiveness

- USAR Sections 7.5.2.2-7.5.2.3; R -11 and R-12; Revision 28
- 1E-0; Reactor Trip or Safety Injection; Revision 27
- Maintenance Rule System Specific Design Basis Document; Rad Monitoring; Revision 14
- CAP 1222564; Unplanned Entry into T.S. LCO 3.4.16; March 24, 2010
- CAP 1260395; 2R-11 Sample Pump Motor Failed; May 6, 2011
- CAP 1283792; 1R-11/1R-12 Pump Failed During Performance of 1C19.2; June 1, 2011

- CAP 1256861; 1R-11 Pump Seized; January 1, 2011
- CAP 1270241; 1R-11/12 Rad Monitor Appears to Have Failed; February 10, 2011
- CAP 1169792; Review the MRule Basis Document for RD (R11); April 6, 2009
- CAP 1275734; 2R-11 Sample Pump Motor Would not Start; March 23, 2011
- CAP 1289829; 2R-22 Failed; June 6, 2011
- RCE 1270241-01; R-11/R-12 Radiation Monitor Project has not Resulted in the Expected Improvement in the Reduction of Unplanned LCOs; April 15, 2011
- CAP 1291415; The Blast Shield is not Installed on MV-32023; June 21, 2011

### 1R13 Maintenance Risk Assessment and Emergent Work

- ESO 6.400P; System Operating Code Response; Revision 5.1
- CAP 1295662; MISO Issued a Max Generation Alert and Then a Warning; July 27, 2011
- H24.1; Assessment and Management of Risk Associated with Maintenance Activities; Revision 15
- H24.1 Appendix A; Phase 1 Risk Assessment Preparation; Revision 6
- Work Schedules and Daily Risk Assessment Results; various dates

### 1R15 Operability Evaluations

- USAR Appendix I.4.3; Encapsulation Sleeves and Impingement Barriers; Revision 31
- CAP 1291415; The Blast Shield is not Installed on MV-32023
- NSC PIP-M-S2R-4; Main Steam Final Report Pipe Rupture Analysis; Revision 1
- OPR 1291233-01; Gas Void at Location 1 RH-21; Revision 0
- TP 1468; Unit 1 GL-08-01 Inspections; Revision 1
- BOP-VE-11-010; Ultrasonic Examination Results; March 16, 2011
- BOP-VE-10-082; Ultrasonic Examination Results; December 15, 2010
- BOP-VE-10-072; Ultrasonic Examination Results; September 15, 2010
- BOP-VE-10-057; Ultrasonic Examination Results; July 16, 2010
- BOP-VE-10-028; Ultrasonic Examination Results; May 12, 2010
- BOP-VE-10-008; Ultrasonic Examination Results; February 17, 2010
- BOP-VE-09-133; Ultrasonic Examination Results; October 22, 2010
- OPR 1290929; Void at Location 1RH-09; Revision 0
- CAP 1299490; 11 SI Accumulator In Leakage is Thermal Fatigue Pipe Failure Risk; August 15, 2011
- CAP 1152486; In Leakage On 11 Accumulator; September 28, 2008
- CAP 1291154; 11 SI Accumulator Has In Leakage Of Approximately 4 Percent Per Day; June 19, 2011
- CAP 1009698; 12 SI Accumulator ERCS High Level Alarm Received; January 6, 2006
- CAP 1296950; 11 SI Accumulator In Leakage Has Increased; July 29, 2011
- 1C18; Engineered Safeguards System – Unit 1; Revision 25

### 1R19 Post Maintenance Testing

- WO 70053; SP-1524 122 Diesel Fire Pump Weekly Test; Revision 38
- CAP 01299599; Scaffold Clearance Issues to CC Line; August 16, 2011
- D80; Scaffolding, Ladders and Cable Trays Platforms; Revision 24
- DBD SYS 14; Component Cooling System; Revision 5
- SP 1121; 11 Component Cooling Pump Low Pressure Switch Calibration; Revision 10
- WO 395876; 11 CC Pump Low Pressure Auto Start PS Calibration; August 16, 2011
- WO 414172; Replace Pressure Switches During NG 1R27; August 16, 2011

- WO 438256; D6 Generator Trip; August 22, 2011
- CAP 01300370; D6 Generator Trip; August 22, 2011

#### 1R22 Surveillance Test

- SP 2053A; Reactor Protection Logic Test at Power; Revision 41
- SP 1112; Steam Exclusion Monthly Damper Test; Revision 54
- C37.9-1; Control Relay and Computer Room Ventilation; Revision 12
- SP 2130A; Train A Containment Vacuum Breakers Quarterly Tests; Revision 12
- WO 4420814; SP 2130A Train A Containment Vacuum Breakers Quarterly; August 18, 2011

#### 1EP2 Alert and Notification System Testing (71114.02)

- Federal Emergency Management Agency PINGP Plant Public ANS Upgrade Approval Letter; April 10, 2003
- Federal Emergency Management Agency Public ANS Approval Letter; October 1, 1985
- Selected Documentation of ANS Repair and Annual Preventative Maintenance; September 2009 to July 2011

#### 1EP3 Emergency Response Organization Augmentation (71114.03)

- F3-6; Activation and Operation of Technical Support Center; Revision 23
- F3-7; Activation and Operation of Operational Support Center; Revision 21
- F8-3; Activation and Operation of the EOF; Revision 11
- Emergency Response Organization Off-hours, Unannounced, Augmentation Response Test Records; September 2009 - July 2011
- 08/02/11 Emergency Plan Off-Hours Drive in Drill Report

#### 1EP4 Emergency Action Level and Emergency Plan Changes (71114.04)

- 10 CFR 50.54(q) Evaluation Package; F3-2; PINGP Emergency Plan; Revision 41
- 10 CFR 50.54(q) Evaluation Package; F3-2; PINGP Emergency Plan; Revision 42
- 10 CFR 50.54(q) Evaluation Package; F3-2; PINGP Emergency Plan; Revision 43
- 10 CFR 50.54(q) Evaluation Package; F3-2; Classifications of Emergencies; Revision 41
- 10 CFR 50.54(q) Evaluation Package; F3-10; Personnel Accountability; Revision 24
- 10 CFR 50.54(q) Evaluation Package; F3-8; Recommendations for Offsite Protective Actions; Revision 30
- 10 CFR 50.54(q) Evaluation Package; F3-8; Recommendations for Offsite Protective Actions; Revision 31
- 10 CFR 50.54(q) Evaluation Package; F3-8; Recommendations for Offsite Protective Actions; Revision 32
- 10 CFR 50.54(q) Evaluation Package; F3-2.1; Emergency Action Level Technical Bases; Revision 5
- 10 CFR 50.54(q) Evaluation Package; F3-2.1; Emergency Action Level Technical Bases; Revision 6
- 10 CFR 50.54(q) Evaluation Package; F3-1; Onsite Emergency Organization; Revision 25
- 10 CFR 50.54(q) Evaluation Package; F3-12; Emergency Exposure Control; Revision 22
- 10 CFR 50.54(q) Evaluation Package; F8-3; Activation and Operation of the EOF; Revision 10

#### 1EP5 Correction of Emergency Preparedness Weaknesses and Deficiencies (71114.05)

- FP-PA-ARP-01; CAP Action Request Process; Revision 29

- NOS Observation Report 2010-01-23, Emergency Planning Annual Audit
- NOS Observation Report 2011-01-06, Emergency Planning Annual Audit
- December 4, 2009 Medical Drill Report
- August 24, 2010 Biennial Exercise Report
- October 12, 2010 Facility Drill Report
- February 15, 2011 Health Physics Mini Drill Report
- June 28, 2011 Health Physics Mini Drill Report
- CAP 1220021; Drill Objectives Potentially Not Demonstrated
- CAP 1244471; Respiratory Qualification Issue
- CAP 1255978; MET Tower Providing Inaccurate Data
- CAP 1259888; Loss of MET Tower Data
- CAP 1265110; ERO Training Issue
- CAP 1266050; ERO Training Issue for Security Position
- CAP 1278533; Augmentation Test Filled by Non Duty Personnel
- CAP 1285376; Formal Evaluation Needed for EAL RS1.1 and RG1.1
- CAP 1288673; Drill Objectives Missed in 2011
- CAP 1288906; ERO Security Staff Missing Training Requirement
- CAP 1274727; ERO Staffing Compensatory Measures
- CAP 1277761; Completion of Emergency Preparedness Staff Not Timely
- CAP 1274809; NOS Finding Emergency Preparedness Drill and Exercise Objectives
- CAP 1294507; Emergency Plan Change Evaluation Incorrect
- CAP 1294509; Drill DEP Performance Indicator Invalid Opportunity Credited
- CAP 1294252; Drill DEP Failure
- CAP 1294278; Drill Communication Issues from Licensee to Local Agencies
- CAP 1294280; ERO Augmentation Drive Time Data Base Field Errors
- CAP 1294609; ANS Testing Changes Not Submitted for Approval
- CAP 1294617; ANS Siren Maintenance Missing CAP Documentation
- CAP 1294619; ANS Testing Frequency Documentation Issue

#### 2RS7 Radiological Environmental Monitoring Program

- CAP 1248087; REMP Air Sample Flow Meters Hand Marked; September 2010
- CAP 1279782; Main Warehouse Heater Leak Dumped in Septic Tank; February 2011
- CAP 1272250; Chemistry LLD Reporting; February 2011
- CAP 1295889; Contaminated Water Disposed of by Operations Via an Unmonitored Pathway; July 2011
- 5AWI 8.8.0; Environmental Monitoring Program; Revision 05
- 10 CFR 50.75.g File Index and Selected Records; August 2011
- 10 CFR Part 61 Analysis and Evaluation; 2011
- 2008 Annual Radiological Environmental Monitoring Report; May 2009
- 2009 Annual Radiological Environmental Monitoring Report; May 2010
- 2010 Annual Radiological Environmental Monitoring Report; May 2011
- 2010 Land Use Census at Prairie Island; September 2007
- Inter-laboratory Comparison Program Results; June 2011
- Offsite Dose Calculation Manual (ODCM); Revision 26
- PINGP Ground Water Monitoring Plan; March 2011
- RPIP 4102; Tritium Sampling; Revision 18
- RPIP 4515; Release Summary Report; Revision 05
- RPIP 4700; Radiological Environmental Monitoring Program; Revision 13
- RPIP 4730; REMP Sampling Procedure; Revision 06
- RPIP 4731; REMP Air Sampling; Revision 13

- RPIP 4732; REMP Water Sampling; Revision 13
- RPIP 4733; REMP Milk Sampling; Revision 10
- RPIP 4734; REMP Cultivated Crops Sampling; Revision 07
- RPIP 4735; REMP Miscellaneous Sampling; Revision 05
- RPIP 4736; REMP Measurement of Direct Radiation by TLDs; Revision 06
- RPIP 4741; Onsite Groundwater Tritium Sampling; Revision 09
- RPIP 4742; Prairie Island Indian Community Water Tritium Sampling; Revision 05
- Snap Shot Self-Assessment 01292289; REMP Preparation for NRC Inspection; August 2011
- TP 1676; Annual Meteorological Instrument Calibration; September 2008
- TP 1676; Annual Meteorological Instrument Calibration; September 2009
- TP 1676; Annual Meteorological Instrument Calibration; September 2010
- TP 1677; Monthly Meteorological Instrument Test; various dates 2010

#### 40A1 Performance Indicator Verification

- H33; Performance Indicator Reporting; Revision 11
- RPIP 1-13; Occupational Radiation Safety Performance Indicators; Revision 05
- RPIP 3025; Chemistry Performance Indicator Reporting Instructions; Revision 04
- RPIP 4521; Monthly Effluent Release off Site Dose Calculations; Revision 07
- FP-PA-PI-02; NRC/INPO/WANO Performance Indicator Reporting; Revision 06
- Monthly Effluent Release Off-Site Dose Calculations; Various dates
- H33.4; EP Performance Indicators Reporting Instructions; Revision 12
- Prairie Island Emergency Plan; Revision 43
- F3-3; Classifications of Emergencies; Revision 22
- SWI EP-500; Site Drill and Exercise Manual, R18
- Siren System Availability Test Records; July 1, 2010 - June 30, 2011
- ERO Personnel Participation; July 1, 2010 - June 30, 2011
- DEP Opportunities; July 1, 2010 - June 30, 2011
- MSPI Heat Removal System Derivation Report Units 1 and 2 – Unavailability Index; July 26, 2011
- MSPI Heat Removal System Derivation Report Units 1 and 2 – Unreliability Index; July 26, 2011

#### 40A2 Identification and Resolution of Problems

- SP 1039; Tornado Hazard Site Inspection; Revision 15
- CAP 1292766; Bus 25 Voltage not Recognized by Synch Check Relay; July 1, 2011
- 2ECA-0.0; Loss of all Safeguards AC Power; Revision 21
- 2ECA-0.1; Loss of all Safeguards AC Power Recovery Without SI Required; Revision 14
- 2ECA-0.2; Loss of all Safeguards AC Power Recovery With SI Required; Revision 10
- C20.3; Electrical Power System Security Analysis; Revision 16
- C20.3 AOP1; Evaluating System Operating Conditions When Security Analysis is Out of Service; Revision 8
- C20.3 AOP5; Electric Power System Operating Restrictions and Limitations Loss of 2RY Transformer; Revision 6
- C20.3 AOP9; Electric Power System Operating Restrictions and Limitations Loss of CT12 Transformer; Revision 8
- 2C20.5; Unit 2 – 4.16KV System; Revision 20
- 2C20.5 AOP1; Re-Energizing 4.16KV Bus 25; Revision 11
- 2C20.5 AOP4; Re-Energizing 4.16KV Bus 25 Via Bustie Breakers; Revision 4
- CAP 1045044; FW B31.1 Piping Analysis of Record Problems (Both Units); August 17, 2006

- CAP 1071995; Issues with Calc. PI-996.1-P02; January 15, 2007
- CAP 1117824; WANO-AFI Configuration Management; November 12, 2007
- CAP 1071497; Evaluation of Stresses in Unit 1 RHR Line; January 12, 2007
- CAP 1075274; U1 3-RC-5 Calc for Przr Spray Line Uses Wrong Mass Point Spectra; February 2, 2007
- CAP 1075662; 6-RC-20A and B. Stress Calc Used Incorrect Seismic Spectra; February 5, 2007
- CAP 1076796; 1-RCRH-25 1-RCRH-35 Calc Uses Wrong Weld Acceptance Criteria; February 12, 2007
- CAP 1066655; Repairs to Support 2-FWH-10; December 9, 2006
- CAP 1031409; Unit 1 Feedwater and Main Steam Support Discrepancies; May 21, 2006
- CAP 1033009; Discrepancy in FW Support 1-FWH-35, Restraints 2 and 10; May 30, 2006
- CAP 1061790; FW Support Baseplate Anchor Bolt Stresses Higher Than Operable; November 15, 2006
- CAP 1091596; FW Support Anchor Bolts do not Meet Design Allowable Stresses; May 8, 2007
- CAP 1061819; Additional FW Support Anchor Bolts Exceed Design Stress Allowable
- CAP 1053226; Support Anchor Bolts do not Meet Design Allowable Stresses; October 2, 2006
- Calc. No. PI-996.1-P01; Evaluation of Feedwater Piping Outside Containment – U1; Revision 1
- Calc. No. PI-996.1-P02; Evaluation of Feedwater Piping Outside Containment – U2; Revision 1

#### 4OA3 Followup of Events and Notices of Enforcement Discretion

- C1B; Appendix – Reactor Startup; Revision 18
- 1C1.2; Unit Startup Procedure; Revision 52
- Unit 1 Reactor Trip Report; July 2, 2011
- CAP 1292925; Unplanned Entry into LCO 3.8.1 Condition A on Both Units; July 1, 2011
- CAP 1292973; Electrohydraulic Fuel Leak on Unit 1 Right Stop Valve; July 1, 2011
- CAP 1292975; Unit 1 Reactor Trip; July 1, 2011
- CAP 1292856; Security Analysis not Obtained per C20.3; July 1, 2011
- CAP 1299410; Inaccurate LER 121 MDCLP Auto Start; August 15, 2011
- 10 CFR 50.59 Screening; Provide Guidance When Using 4kV Bus Ties 12RXBT and 12RYBT; October 25, 2002
- CAP 1293091; TS LCO 3.4.1a Entered for Ten Seconds after Stop Valve Closed on July 1; July 3, 2011
- NE-40007 (Sheet 46); 12 Containment Sump A Pump; Revision BH
- NE-40007 (Sheet 31); 12 Annulus Sump Pump Discharge to Containment Sump A MV; Revision YA
- NE-40007 (Sheet 29); 11 Containment Sump A Pump; Revision EB
- NE-40007 (Sheet 129); Containment Sump Pumps Discharge Header Safeguards A-Train; Revision DA
- Unit 2 Reactor Trip Report; June 16, 2011
- 5AWI 15.1.9; Substation Work Control; Revision 13
- Interface Agreement Between Xcel Energy Nuclear Division and Electrical Maintenance and Protection Services; June 28, 2010

#### 4OA5 Other Activities

- NF-39338-10; Spent Fuel Pools and Canal Leak Detection and Miscellaneous Drain Piping; Revision J

- Work Plan 421393-01; Inspect Zone 10 SFP Leak Detection Line; Revision 0
- WO 421393; Inspect and Flush Zone 10 SFP Leak Detection Line; August 22, 2011
- Inspection DVD; Inspect Leak Detection SFP Zone 10; August 25, 2011
- CAP 1267168; Large Reduction in SFP Area 10 Leakage; January 20, 2011
- Emergency Response Computer System Battery Room (11, 12, 21, 22) Temperature Plots, August 24, 2011
- 50.59 Screening 3822; Change TRM TLCO 3.7.1.A Completion Time; Revision 0
- WO 422112; Contingency Repair of Replace Actuator On SE Damper CD-34197; August 19, 2011
- WO 422112-01; SP 1112 – Steam Exclusion Monthly Damper Test; August 18, 2011
- PORC Meeting 3184; 50.59 Screening 3822: Change TRM TLCO 3.7.1.A; August 25, 2011

## LIST OF ACRONYMS USED

AC	Alternating Current
ADAMS	Agencywide Document Access Management System
ANS	Alert and Notification System
CAP	Corrective Action Program
CAPs	Corrective Action Documents
CDF	Core Damage Frequency
CE	Condition Evaluation
CFR	Code of Federal Regulations
CRIP	Calculation Reconstitution and Improvement Project
DC	Design Class
EAR	Engineering Assistance Request
EOP	Emergency Operating Procedure
EP	Emergency Preparedness
ERO	Emergency Response Organization
FW	Feedwater
HELB	High Energy Line Break
IMC	Inspection Manual Chapter
IP	Inspection Procedure
IR	Inspection Report
IST	Inservice Testing
kV	Kilovolt
LER	Licensee Event Report
MDCLP	Motor-Driven Cooling Water Pump
MSPI	Mitigating Systems Performance Index
NCV	Non-Cited Violation
NEI	Nuclear Energy Institute
NRC	U.S. Nuclear Regulatory Commission
OCC	Outage Control Center
ODCM	Offsite Dose Calculation Manual
OPR	Operability Recommendation
PARS	Publically Available Records System
PI	Performance Indicator
PINGP	Prairie Island Nuclear Generating Plant
PRG	Project Review Group
RETS	Radiological Effluents Technical Specifications
RHR	Residual Heat Removal
SAMG	Severe Accident Management Guidelines
SDP	Significance Determination Process
SPAR	Standardized Plant Analysis Risk
SRA	Senior Reactor Analyst
SSC	Systems, Structures, and Components
TI	Temporary Instruction
TLCO	TRM Limiting Condition for Operation
TRM	Technical Requirements Manual
TS	Technical Specification
USAR	Updated Safety Analysis Report
URI	Unresolved Item

WO  
WR

Work Order  
Work Request

M. Schimmel

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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

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SUBJECT: PRAIRIE ISLAND NUCLEAR GENERATING PLANT, UNITS 1 AND 2,  
INTEGRATED INSPECTION REPORT 05000282/2011004; 05000306/2011004

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