

## Prairie Island 1 1Q/2013 Plant Inspection Findings

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### Initiating Events

**Significance:** G Dec 31, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

**FAILURE TO DISPOSITION A RELEVANT SNUBBER INDICATION IN ACCORNANCE WITH THE ASME CODE.**

The inspectors identified a finding of very low safety significance and a NCV of 10 CFR50.55a(g)(4) on November 13, 2012, due to the licensee's failure to disposition a relevant indication on a common steam generator snubber reservoir in accordance with the American Society of Mechanical Engineers (ASME) OM4 Code. Specifically, the licensee did not properly evaluate and disposition a condition where the hydraulic fluid level for a common reservoir serving snubbers H1 through H4 on the 12 steam generator was below the minimum required. The licensee issued a work order to fill the reservoir and documented the failure to properly disposition the indication in the corrective action program.

The inspectors determined that this finding was more than minor because if left uncorrected, the failure to properly disposition relevant indications could become a more significant safety concern. Absent NRC identification of this issue, the licensee would not have re-established the required fluid level in the reservoir for an indefinite period. This finding was determined to be of very low safety significance because a subsequent evaluation demonstrated that the low fluid level did not result in the piping system becoming inoperable. This issue was determined to be cross cutting in the Problem Identification and Resolution, Corrective Action Program area because the licensee failed to thoroughly evaluate problems such that the resolutions addressed the cause and extent of condition, as necessary (P.1 (c)).

Inspection Report# : [2012005](#) (*pdf*)

**Significance:** G Dec 31, 2012

Identified By: NRC

Item Type: FIN Finding

**INADEQUATE EVALUATION OF OPERATING CREW DURING ANNUAL REQUALIFICATION EXAMINATION.**

The inspectors identified a finding of very low safety significance on October 6, 2012, due to the failure to properly evaluate an operating crew's annual requalification examination performance in accordance with Procedure FP T SAT 73, "Licensed Operator Requalification Program Examinations." Specifically, the evaluators did not adequately assess the communications competency area when evaluating the crew's overall performance. As a result, the crew's performance was rated as "satisfactory with remediation" rather than as "unsatisfactory." Corrective actions for this issue included providing remedial training to the crew and having the crew complete an additional evaluated scenario as part of their annual examination.

This issue was more than minor because if left uncorrected the failure to properly assess licensed operator performance had the potential to lead to a more significant safety concern. The inspectors determined that this issue could be evaluated using IMC 0609, Appendix I, "Licensed Operator Requalification Significance Determination Process." The inspectors determined that this finding was of very low safety significance because it was related to the licensee's administration of an annual requalification operating test as discussed in Section 03.05 of NRC Inspection

Procedure 71111.11, "Licensed Operator Requalification Program." This issue was determined to be cross cutting in the Human Performance, Decision Making area because the licensee did not make conservative assumptions during decisions regarding how this crew of licensed operators was evaluated (H.1(b)).

Inspection Report# : [2012005](#) (*pdf*)

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## Mitigating Systems

**Significance:**  Mar 31, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

### **FAILURE TO CORRECT CONDITION ADVERSE TO QUALITY FOR VALVE SI-6-4.**

The inspectors identified a finding of very low safety significance and a non-cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Actions," on December 29, 2012, due to the failure to correct a condition adverse to quality. Specifically, the licensee failed to correct safety injection (SI) accumulator check valve SI 6 4 after the valve failed surveillance testing. Corrective actions for this issue included performing an operability evaluation which determined that SI 6 4 was operable but nonconforming, scheduling the testing of SI 6 4 for the next refueling outage, and performing an extent of condition review.

The inspectors determined that this issue was more than minor because if left uncorrected the failure to correct conditions adverse to quality could become a more significant safety concern due to safety-related equipment issues being unresolved. This issue was of very low safety significance because each question provided in IMC 0609, Appendix A, Exhibit 2, "Mitigating Systems Screening Questions," was answered "no." The inspectors concluded that this issue was cross cutting in the Problem Identification and Resolution, Corrective Action Program area because the licensee did not thoroughly evaluate the problems with SI 6 4 to ensure that the resolution addressed the cause P.1(c).

Inspection Report# : [2013002](#) (*pdf*)

**Significance:**  Mar 31, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

### **INADEQUATE WORK INSTRUCTIONS FOR FOREIGN MATERIAL REMOVAL FROM D2 EDG AIR START PIPING.**

The inspectors identified finding of very low safety significance and a non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," on January 28, 2013, due to the failure to have instructions appropriate to the circumstance to address the presence of foreign material in the new D2 emergency diesel generator (EDG) air start piping assembly. This resulted in the D2 EDG failing to start during monthly surveillance testing. Corrective actions for this issue included removing the foreign material from the piping assembly and inspecting the remaining

D1 and D2 EDG air start piping assemblies for cleanliness.

The inspectors determined that this issue was more than minor because if left uncorrected, the presence of foreign material in safety-related components could lead to a more significant safety concern. Specifically, foreign material could migrate into various areas and render safety-related equipment inoperable. The inspectors determined that this issue was of very low safety significance because each question provided in IMC 0609, Appendix A, Exhibit 2, "Mitigating Systems Screening Questions," was answered "no" due to the ability to start the D2 EDG using the remaining air start "train" and the lack of foreign material in this portion of the D2 EDG starting air system. The inspectors determined that this issue was cross cutting in the Problem Identification and Resolution, Operating

Experience area because the licensee had not institutionalized the operating experience regarding solenoid valve sticking due to foreign material through changes to station processes, procedures, equipment and training programs P.2(b).

Inspection Report# : [2013002](#) (pdf)

**Significance:**  Mar 31, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

**FAILURE TO CORRECT CONDITION ADVERSE TO QUALITY ON THE D1 EDG.**

The inspectors identified a finding of very low safety significance and a non-cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, on August 14, 2012, due to the licensee's failure to identify and correct a condition adverse to quality. Specifically, the licensee failed to identify and correct a condition of thick smoke resulting from an exhaust manifold oil leak on the D1 EDG; this condition had existed since April 13, 2012. This issue led to an unplanned shutdown of the Unit 1 reactor due to the discovery of a similar condition on the D2 EDG. Corrective actions included completing an equipment cause evaluation and replacing the EDG exhaust manifold gaskets and bolting.

The inspectors determined the finding was more than minor because, if left uncorrected, the failure to promptly identify and correct conditions adverse to quality could become a more significant safety concern. Specifically, the failure to identify and correct emergency diesel generator oil leaks could lead to a fire hazard and the unavailability of safety-related equipment. A Senior Reactor Analyst determined that this finding was of very low safety significance because the overall change in core damage frequency due

to this issue was 3.3E-7/yr. The inspectors determined the finding was cross-cutting in the Problem Identification and Resolution, Operating Experience area because of the licensee's failure to implement and institutionalize operating experience through changes to station processes, procedures, equipment, and training programs P.2(b).

Inspection Report# : [2013002](#) (pdf)

**Significance:**  Dec 31, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

**FAILURE OF SEASONAL READINESS PROCEDURE TO IDENTIFY OPERABILITY ISSUES.**

The inspectors identified a finding of very low safety significance and an NCV of 10 CFR Part 50, Appendix B, Criterion V, on June 26, 2012, due to the licensee's failure to have procedures appropriate to the circumstance for coordinating and preparing for the onset of hot weather conditions. Specifically, Procedure FP WM SR 01, "Seasonal Readiness Program," Attachment 2, failed to include criteria to ensure that issues associated with the ability of the Unit 1 EDGs to operate when outside air temperatures exceeded 97 degrees Fahrenheit were identified and addressed prior to the onset of hot weather. This resulted in both Unit 1 EDGs being rendered inoperable, and the D1 EDG being rendered unavailable, on July 2, 2012.

The inspectors determined that this issue was more than minor it impacted the protection against external events objective of the Mitigating Systems Cornerstone. In addition, this finding impacted the cornerstone objective of ensuring the availability of systems that respond to initiating events to prevent undesirable consequences. The inspectors determined that this issue was of very low safety significance because each of the questions listed in IMC 0609, Appendix A, Exhibit 2, "Mitigating Systems Screening Questions," could be answered "no." This finding was cross cutting in the Human Performance, Work Control area because Procedure FP WM SR 01 was not written to ensure that activities needed to support long term equipment reliability and availability were planned such that they were performed in a preventative manner rather than in a reactive manner (H.3(b)).

Inspection Report# : [2012005](#) (pdf)

**Significance:** **G** Dec 31, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

**FAILURE TO DEMONSTRATE PERFORMANCE OR CONDITION OF RADIATION MONITORS WERE EFFECTIVELY CONTROLLED THROUGH THE PERFORMANCE OF MAINTENANCE.**

A finding of very low safety significance and an NCV of 10 CFR 50.65 was identified by the inspectors on August 22, 2012, due to the licensee's failure to demonstrate that the performance or condition of the radiation monitoring system was being effectively controlled through the performance of appropriate preventive maintenance such that the structure, system or component (SSC) remained capable of performing its intended function. Specifically, the licensee failed to perform maintenance rule evaluations following the failure of multiple radiation monitors in July 2010. Since the evaluations were not completed, the licensee was unable to demonstrate that the performance of the radiation monitors was being effectively controlled through the performance of maintenance. Corrective actions for this issue included performing the evaluations and comparing the results to pre-established performance monitoring criteria. The inspectors determined that this finding was more than minor because it impacted the equipment performance attribute of the Mitigating Systems Cornerstone and impacted the cornerstone's objective of ensuring the availability, reliability and capability of systems that respond to initiating events to prevent undesirable consequences. This finding also impacted the SSC and barrier performance attributes 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 determined that this issue was of very low safety significance because each of the questions listed in IMC 0609, Appendix A, Exhibit 2, "Mitigating Systems Screening Questions," could be answered "no." The inspectors determined that this finding was cross cutting in the Problem Identification and Resolution, Corrective Action Program area because the licensee failed to thoroughly evaluate this problem such that the resolution addressed the cause and extent of condition as necessary (P.1(c)).

Inspection Report# : [2012005](#) (*pdf*)

**Significance:** **G** Jun 30, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

**FAILURE TO MAKE A 60 DAY REPORT PURSUANT TO 10 CFR 50.73**

The inspectors identified a Severity Level IV non-cited violation (NCV) of 10 CFR 50.73(a)(2) due to the failure to report required plant events or conditions within 60 days of discovery of the event. Specifically, the licensee failed to report that the Unit 1 emergency diesel generators (EDGs) had accumulated 2202 hours of inoperability due to not maintaining the required quantity of fuel oil. The licensee initiated corrective action document 1343001 to document this issue. Corrective actions for this issue included revising procedures to ensure that required events or conditions were reported within the required time.

The inspectors determined that the failure to report required plant events or conditions to the NRC within the required time had the potential to impede or impact the regulatory process. As a result, the NRC dispositioned violations of 10 CFR 50.73 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 failure to ensure the adequacy of design calculations as specified by 10 CFR 50, Appendix B, Criterion III, "Design Control," was the underlying technical issue to be evaluated using the SDP. Specifically, the licensee failed to verify that the fuel oil used at Prairie Island met the fuel energy content assumed in Design Calculation ENG-ME-020. In addition, the licensee had not verified that the calculated net brake horsepower was applied correctly. The inspectors determined that this issue was more than minor because it was similar to Example 3.j of IMC 0612, Appendix E, and because it was associated with the design control attribute of the Mitigating Systems Cornerstone. The finding also affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors evaluated the finding in accordance with IMC 0609, Appendix A,

“The Significance Determination Process (SDP) for Findings At-Power,” Exhibit 2, "Mitigating Systems Screening Questions." The fuel oil issue affected the 14-day supply needed for TS operability. However, the volume of fuel oil was adequate to support the 24 hour mission time assumed in the probabilistic risk assessment (PRA) mission time. In addition, the incorrect calculation of net brake horse power would not have prevented the EDGs from fulfilling their safety function. As a result, the finding was determined to be of very low safety significance. In accordance with Section 6.9.d.9 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 had no cross cutting aspect since the inadequate calculations were performed more than three years ago and therefore not reflective of current licensee performance.

Inspection Report# : [2012003](#) (*pdf*)

**Significance:**  Jun 30, 2012

Identified By: NRC

Item Type: FIN Finding

**FAILURE TO MAKE A 60 DAY REPORT PURSUANT TO 10 CFR 50.73**

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 1343001, this violation is being treated as an NCV, consistent with Section 2.3.2 and Section 6.9 of the NRC Enforcement Policy (NCV 05000282/2012003-03; Failure to Make a 60 Day Report Pursuant to 10 CFR 50.73). Corrective actions for this issue included revising procedures to ensure that the requirements as to when the 60 days for reporting LERs start.

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 05000282/2012003-04; Failure to Make a 60 Day Report Pursuant to 10 CFR 50.73). Corrective actions for this issue included a license amendment request to revise the TS minimum required fuel oil volume for Unit 1 and the implementation of compensatory measures to maintain fuel oil levels for Unit 1 above the number determined by the new calculation.

Inspection Report# : [2012003](#) (*pdf*)

**Significance:**  May 30, 2012

Identified By: NRC

Item Type: FIN Finding

**FAILURE TO TAKE CORRECTIVE ACTION FOR REACTOR COOLANT SYSTEM LEVEL INDICATION ISSUES.**

An inspector-identified finding of very low safety significance was identified due to the failure to take corrective action for a Condition Adverse to Quality. The inspectors determined that the failure to correct for the loss of reactor coolant system (RCS) level indication during the 2010 refueling outage was a performance deficiency that required an evaluation using the SDP. This deficiency was more than minor as the loss of RCS level indication during draining, may result in level decreasing to the point where the function of the safety-related residual heat removal system may be affected. These level indication issues recurred during the RCS draining on March 6, 2012, resulting in a Notice of Unusual Event (NOUE) being declared. The licensee initiated Action Request (AR) 1329470 to evaluate this issue. This finding was determined to be crosscutting in the Problem Identification and Resolution, area because the licensee had not taken appropriate corrective actions to address the RCS level indication issues (P.1 (d)). This finding was not considered a violation, as the affected RCS level indicators were not considered safety-related.

Inspection Report# : [2012011](#) (*pdf*)

**Significance:**  May 30, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

**INADEQUATE PROCEDURE FOR DRAINING OF REACTOR COOLANT SYSTEM.**

An inspector-identified finding of very low safety significance and a non-cited violation (NCV) of 10 CFR 50, Appendix B, Criterion V, was identified due to the licensee's use of an inadequate procedure during draining of the RCS. The inspectors determined that the procedure used during the March 6, 2012, draining of the reactor coolant to the vessel flange level, did not contain adequate guidance for identifying and compensating for inadequate reactor vessel level indication due to over pressurization of the reactor vessel. This was a performance deficiency that required an evaluation using the SDP. This deficiency was more than minor as inaccurate RCS level indication resulted in plant operators declaring an NOUE and overdraining the RCS to the point where the function of the safety-related residual heat removal system was potentially affected. The licensee initiated Action Request (AR) 1329465 to evaluate this issue.

This finding was determined to be crosscutting in the Resources area, because the licensee has not maintained complete, up-to-date procedures for performing RCS draining (H.2(c)). The licensee had prior instances where RCS level indication was lost due to vessel overpressure; however, the licensee decided not to revise the procedures based on an incorrect assumption that the procedures contained adequate guidance.

Inspection Report# : [2012011](#) (*pdf*)

**Significance:**  May 30, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

**FAILURE TO UPDATE THE CALCULATIONS FOR STEAM GENERATOR DRAINING.**

An inspector-identified finding of very low safety significance and an NCV of 10 CFR 50, Appendix B, Criterion III, was identified due to the licensee's failure to update engineering calculations for the amount of nitrogen to be used during steam generator tube draining. Specifically, the failure to correctly include the number of plugged steam generator tubes into the engineering calculations was considered a performance deficiency. This deficiency was more than minor, as it contributed to the vessel overpressure that resulted in overdraining of the RCS on March 6 2012, and a NOUE. The licensee initiated ARs 01328420, 01329464, and 01328366 to evaluate this issue.

This finding was determined to be cross-cutting in the area of Resources, specifically having complete and up-to-date design documentation (H.2.(c)). Because the licensee inappropriately placed the engineering calculations in "non-active" status, they were not updated to reflect the actual number of plugged steam generator tubes. This resulted in the station procedure incorrectly stating the amount of nitrogen needed and the amount of water removed during steam generator tube draining.

Inspection Report# : [2012011](#) (*pdf*)

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## Barrier Integrity

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## Emergency Preparedness

**Significance:** **W** Dec 18, 2012

Identified By: NRC

Item Type: VIO Violation

### **Emergency Preparedness Degraded Emergency Action Level Scheme**

Title 10 of the Code of Federal Regulations (10 CFR) 50.54(q)(2) requires that a holder of a nuclear power reactor operating license follow and maintain the effectiveness of an emergency plan that meets the requirements in Part 50, Appendix E and the planning standards of 10 CFR 50.47(b).

10 CFR 50.47(b)(4) states “A standard emergency classification and action level scheme, the bases of which include facility system and effluent parameters, is in use by the nuclear facility licensee, and State and local response plans call for reliance on information provided by facility licensees for determinations of minimum initial offsite response measures.”

10 CFR 50.47(b)(8) states “Adequate emergency facilities and equipment to support the emergency response are provided and maintained.”

Contrary to the above, from July 24, 2011, until May 18, 2012, Prairie Island Nuclear Generating Plant (PINGP) Unit 1 failed to follow and maintain in effect an emergency plan that uses a standard emergency classification and action level scheme because adequate emergency equipment to support the emergency response was not maintained.

Specifically, PINGP Unit 1 did not take timely corrective actions to restore the failed 1R-50 Shield Building High Range Vent Gas Radiation Detector instrument and did not implement a compensatory measure which addressed the parameters identified in emergency action levels RG1.1, General Emergency, and RS1.1, Site Area Emergency.

Inspection Report# : [2012504](#) (*pdf*)

Inspection Report# : [2013503](#) (*pdf*)

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## **Occupational Radiation Safety**

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## **Public Radiation Safety**

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## **Security**

Although the Security Cornerstone is included in the Reactor Oversight Process assessment program, the Commission has decided that specific information related to findings and performance indicators pertaining to the Security Cornerstone will not be publicly available to ensure that security information is not provided to a possible adversary. Other than the fact that a finding or performance indicator is Green or Greater-Than-Green, security related information will not be displayed on the public web page. Therefore, the [cover letters](#) to security inspection reports may be viewed.

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## **Miscellaneous**

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