

# Prairie Island 1

## 1Q/2012 Plant Inspection Findings

---

### Initiating Events

**Significance:** G Nov 18, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Flammable Gas Bottles Installed and/or Stored in the Auxiliary Building**

The inspectors identified a finding of very low safety significance and an associated NCV of Title 10, Code of Federal Regulations (CFR), Part 50, Appendix B, Criterion III, "Design Control," for the licensee's failure to check the adequacy of design for flammable gas bottles installed in areas located within the auxiliary building and their impact on safety-related cables and equipment. Specifically, the licensee failed to evaluate how a failure of the flammable gas bottles and a resulting fire or explosion at the installed locations could impact nearby safety-related structures, systems, or components. The licensee entered this issue into their corrective action program to review the placement of the flammable gas bottles.

The inspectors determined that the finding was more than minor because the finding was associated with the Initiating Events cornerstone's attribute of Protection against External Factors (Fire) and affected the cornerstone's objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. The finding was of very low safety significance due to the low fire initiating frequency and the availability of remaining mitigating systems. This finding did not have a cross-cutting aspect because the finding was not representative of current performance.

Inspection Report# : [2011012](#) (*pdf*)

**Significance:** G Jun 30, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

#### **FAILURE TO MAINTAIN REACTOR HEAD HEIGHT/DISTANCE LIMITATION FROM REACTOR VESSEL.**

A finding of very low safety significance and an associated NCV of 10 CFR Part 50, Appendix B, Criterion V, was identified by the inspectors on May 23, 2011, due to the licensee's failure to follow Procedure D58.1.10 "Unit 1-Reactor Vessel Head Replacement." Specifically, licensee personnel failed to ensure that the Unit 1 reactor vessel head was lifted no higher than the 756' 3" elevation of the Unit 1 containment when the head was within 15 feet of the reactor vessel flange. Corrective actions for this issue included a human performance event investigation and the issuance of two procedure change requests to provide enhanced knowledge of the height and distance limitations during reactor vessel head movement. The issue was entered into the corrective action program (CAP) as CAP 1287268.

The inspectors determined that this issue was more than minor because, if left uncorrected, the failure to comply with Procedure D58.1.10 could lead to more significant safety concerns including exceeding the reactor vessel head drop/heavy loads analysis criteria. The finding is associated with the Initiating Events Cornerstone. The inspectors contacted a regional Senior Reactor Analyst (SRA) for assistance in determining the risk significance of this finding since the SDP for shutdown conditions did not address reactor vessel head drop concerns. The SRA concluded that the use of IMC 0609, Appendix M, "Significance Determination Process Using Qualitative Criteria," was the appropriate method for determining the significance. In accordance with IMC 0609, Appendix M, management review of this issue determined that this finding was of very low safety significance since the movement of the reactor head did not exceed the reactor head drop analysis criteria. This finding was cross-cutting in the area of Human Performance, Work Practices, Supervisory and Management Oversight, because the licensee did not appropriately provide oversight of work activities, including contractors, such that nuclear safety was supported (H.4(c)).

Inspection Report# : [2011003](#) (*pdf*)

---

## Mitigating Systems

**Significance:**  Mar 31, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

### **FAILURE TO PROPERLY ASSESS OPERABILITY OF CIRCUIT BREAKERS DUE TO INADEQUATE LUBRICATION**

A finding of very low safety significance and an NCV of TS 3.8.1 was identified by the inspectors on February 23, 2012, due to the licensee's failure to properly assess the continued operability of the D2 emergency diesel generator (EDG) following monthly surveillance testing. As a result, the D2 EDG was incorrectly declared operable with a known equipment deficiency. Corrective actions for this issue included declaring the D2 EDG inoperable, repairing the equipment deficiency, and requiring operability decisions to be reviewed by the shift manager.

The inspectors determined that this finding was more than minor because it was associated with the human performance and equipment performance attributes of the Mitigating Systems Cornerstone. In addition, the performance deficiency 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 listed under the Mitigating Systems Cornerstone column of IMC 0609.04, Table 4A could be answered "no." The inspectors determined that this finding was cross cutting in the Human Performance, Decision Making area because the licensee did not make a safety significant and/or risk significant decision using a systematic process when faced with uncertain or unexpected plant conditions to ensure that safety was maintained (H.1(a)).

Inspection Report# : [2012002](#) (*pdf*)

**Significance:**  Mar 31, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

### **FAILURE TO ASSESS OPERABILITY OF CIRCUIT BREAKERS DUE TO INADEQUATE LUBRICATION**

The inspectors identified a finding of very low safety significance and an NCV of 10 CFR Part 50, Appendix B, Criterion V, on January 19, 2012, due to the licensee's failure to properly assess information contained in the Corrective Action Program (CAP) document 1322404 as required by Procedure FP OP OL 01, "Operability/Functionality Determination." Specifically, the CAP contained information that a safety related breaker failed to operate due to a lack of lubrication. However, an extent of condition assessment was not included in CAP 1322404 nor was an operability recommendation assigned to evaluate the potential impact on similar equipment. Corrective actions included performing an extent of condition review and ensuring that other safety related equipment remained operable.

The inspectors determined that this issue was more than minor because, if left uncorrected, the failure to properly assess equipment operability could result in inappropriately leaving plant equipment in service (a more significant safety concern). The inspectors determined that this finding was of very low safety significance because each of the questions listed under the Mitigating Systems Cornerstone column of IMC 0609.04, Table 4A could be answered "no." This finding was determined to be cross cutting in the Human Performance, Decision Making area because the licensee failed to use conservative assumptions when making decisions regarding the continued operability of the breakers discussed above (H.1(b)).

Inspection Report# : [2012002](#) (*pdf*)

**Significance:**  Mar 31, 2012

Identified By: NRC

Item Type: FIN Finding

### **FAILURE TO IMPLEMENT PROCEDURE USE AND ADHERENCE REQUIREMENTS WHILE**

## **DRAINING SODIUM HYPOCHLORITE DRAW DOWN TANK**

A finding of very low safety significance was self revealed on January 7, 2012, due to chemistry personnel failing to comply with requirements contained in Procedure FP G DOC 03, "Procedure Use and Adherence," prior to draining the sodium hypochlorite draw down tank. Specifically, personnel failed to identify that the procedure used during the draining activity was inadequate. The use of an inadequate procedure led to a pipe break, the release of sodium hypochlorite into a bermed area, and an Alert classification under the licensee's emergency plan. No violations of NRC requirements were identified for this issue since the sodium hypochlorite system was non safety related. Corrective actions for this issue included reviewing chemistry procedure adequacy and increasing supervisory oversight of chemistry activities.

The inspectors determined that this issue was more than minor because it was a precursor to a significant event. Specifically, the licensee declared an ALERT emergency action level due to the sodium hypochlorite spill. The inspectors concluded that the finding was of very low safety significance since all of the questions located in the Mitigating Systems Cornerstone column of IMC 0609.04, Table 4a were answered "no." The inspectors determined that this finding was cross cutting in the Human Performance, Work Practices area because the licensee failed to ensure supervisory and management oversight of work activities such that nuclear safety was supported (H.4(c)).

Inspection Report# : [2012002](#) (pdf)

**Significance:**  Mar 31, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

### **INADEQUATE THREE HOUR FIRE BARRIER BETWEEN BUS 26 AND BUS 27 ROOMS**

A finding of very low safety significance and an NCV of Condition 2.C.4 of the Unit 2 operating license was identified by the inspectors on November 8, 2011, due to the failure to implement and maintain in effect all provisions of the approved fire protection program. Specifically, a wall between the Bus 26 and Bus 27 rooms contained gaps such that it was not able to be credited as a 3 hour fire barrier. Corrective actions for this issue included establishing a fire watch and repairing the gaps so that the fire barrier/wall provided the required protection. The inspectors determined that this finding was more than minor because it affected the protection against external factors attribute of the Mitigating Systems Cornerstone. This 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 finding was determined to be of very low safety significance because no credible fire scenarios affecting the safe shutdown of Unit 2 existed, the distance between the gap and the safe shutdown equipment was large, and negligible combustible loading existed in the adjacent areas. No cross cutting issue was identified since the cause of this finding occurred more than three years ago and was not reflective of current plant performance.

Inspection Report# : [2012002](#) (pdf)

**Significance:**  Mar 31, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

### **INADEQUATE OPERATIONAL LOG ENTRIES**

A finding of very low safety significance and an NCV of TS 5.4.1 was identified by the inspectors between February 23 and March 27, 2012, due to the licensee's failure to maintain the control room narrative logs as required by Procedure FP OP COO 19, "Logkeeping." Specifically, control room log entries were not properly documented as late entries, failed to provide the basis for operational decisions, and failed to adequately discuss the status of plant equipment. Corrective actions for this issue included daily management review of control room log entries and the correction of each identified logging deficiency.

The inspectors determined that this issue was more than minor because it was associated with the Mitigating System Cornerstone attribute of Configuration Control, and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. This finding was determined to be of very low safety significance because each of the questions contained in IMC 0609.04, Table 4A could be answered "no." The inspectors concluded that this finding was cross cutting in the Human Performance, Work Practices area since the licensee did not support the effective use of human error prevention techniques through proper documentation of activities. (H.4(a)).

Inspection Report# : [2012002](#) (pdf)

**Significance:**  Dec 31, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to Complete Immediate Operability Determination on Molded Case Circuit Breakers**

A finding of very low safety significance and an associated NCV of 10 CFR Part 50, Appendix B, Criterion V, was identified by the inspectors due to the licensee's failure to complete an immediate operability determination as required by Procedure FP OP OL 01, "Operability/Functionality Determination." On October 27, 2011, the licensee identified that numerous molded case circuit breakers may not have received appropriate testing to demonstrate that the breakers would open to protect safety related equipment. Although a corrective action document was written, an immediate operability determination was not performed because the information in the document was viewed as programmatic in nature. Corrective actions for this event included performing the immediate operability determination and ensuring that operations personnel understood that operability determinations were required for programmatic concerns which questioned equipment operability.

The inspectors determined that this issue was more than minor because if left uncorrected, the failure to complete operability determinations could result in leaving inoperable plant equipment in service (a more significant safety concern). The inspectors determined that this issue was of very low safety significance because it was not a design deficiency; it did not represent a loss of system safety function; it did not present a loss of safety function for one train for greater than the Technical Specification (TS) allowed outage time; and it did not screen as potentially risk significant due to a seismic, flooding or severe weather initiating event. This finding was determined to be cross cutting in the Human Performance, Resources area because licensee personnel failed to follow procedures (H.4(b)).

Inspection Report# : [2011005](#) (*pdf*)

**Significance:**  Nov 18, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to Correct a Condition Adverse to Quality**

The inspectors identified a finding of very low safety significance and an associated NCV of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for the licensee's failure to promptly correct a condition adverse to quality. Specifically, the licensee failed to submit a license amendment request (LAR) to correct the non-conservative Technical Specification (TS) surveillance requirements in Section 3.8.1 for the emergency diesel generators (EDGs) allowable steady state frequency. The issue was originally identified and entered into the licensee's corrective

action program on September 8, 2006. During this inspection, the licensee entered the finding into their corrective action program to evaluate how to resolve the issue.

The inspectors determined that the finding was more than minor because the finding was associated with the Mitigating Systems cornerstone's attribute of Equipment Performance and affected the cornerstone's objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, the licensee could not be assured that the design requirements for the EDGs' system loads would operate within the appropriate design specifications if the EDGs were allowed to operate within the non-conservative TS allowable steady state frequency of = 58.8 Hertz (Hz) and = 61.2 Hz. As a result, the licensee established an administrative limit to limit operation of the EDGs to a frequency between 59.5 Hz and 60.5 Hz. The finding was of very low safety significance because it did not result in a loss of operability. The finding had a cross-cutting aspect in the area of human performance, decision-making because the licensee repeatedly delayed submitting the license amendment until a resolution was developed by an industry working group.

Inspection Report# : [2011012](#) (*pdf*)

**Significance:**  Sep 30, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

**RADIATION MONITORS NOT FULLY SCOPED INTO OR ASSESSED BY THE MAINTENANCE RULE PROGRAM.**

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) Inspection Report# : [2011004](#) (pdf)

**Significance:**  Sep 30, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

#### **CORRECTIVE ACTION ASSIGNMENTS CLOSED WITHOUT COMPLETION OF TASKS.**

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)

Inspection Report# : [2011004](#) (pdf)

**Significance:** SL-IV Sep 30, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

#### **FAILURE TO PROVIDE COMPLETE AND ACCURATE INFORMATION IN A LICENSEE EVENT REPORT**

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. 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. (Section 40A3.9)

The associated Performance Deficiency is tracked as item 2011-004-07

Inspection Report# : [2011004](#) (pdf)

**Significance:**  Sep 30, 2011

Identified By: NRC

Item Type: FIN Finding

**FAILURE TO PROVIDE COMPLETE AND ACCURATE INFORMATION IN A LICENSEE EVENT REPORT**

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. 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." Based on this, 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 40A3.9)

The associated traditional enforcement item is tracked as item 2011-004-06.

Inspection Report# : [2011004](#) (pdf)

**Significance:**  Jun 30, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

**EVALUATION OF EQUIPMENT STORED NEAR SAFETY-RELATED EQUIPMENT.**

A finding of very low safety significance and a NCV of 10 CFR Part 50, Appendix B, Criterion XVII, "Quality Assurance Records," was identified by the inspectors on February 17, 2011, due to the licensee's failure to maintain quality records in accordance with established requirements. Specifically, Procedure FP-G-RM-01, "Quality Assurance Records," designated engineering evaluations as permanent quality records that were required to be retained for the life of the plant. However, licensee personnel were unable to produce several engineering evaluations

which had been completed to evaluate the acceptability of scaffolding storage areas in safety-related areas within the auxiliary building. Corrective actions included performing an extent-of-condition review and reconstitution of the engineering evaluations. The issue was entered into the CAP as CAP 1272888.

The inspectors determined that this finding was more than minor because it was similar to IMC 0612, Appendix E, "Examples of Minor Issues," Example 1b, which stated that recordkeeping issues were more than minor if required records were irretrievably lost. In this case, the inspectors identified that several engineering evaluations associated with the storage of scaffolding near safety-related equipment were irretrievably lost and required reconstitution. Additionally, the inspectors determined the finding was more than minor because it was associated with the equipment performance attribute of the Mitigating Systems Cornerstone and affected the cornerstone objective, since the previously completed engineering evaluations were not available to show that the availability, reliability, and capability of equipment located in the scaffold storage areas was maintained. The inspectors evaluated the finding using the SDP and determined the finding was of very low safety significance because it did not result in a loss of system safety function; was not an actual loss of safety function for greater than the Technical Specification (TS) allowed outage time; and did not screen as a potentially significant seismic, flooding, or severe weather issue. No cross-cutting aspect was assigned to this finding as the missing engineering evaluations would have been completed more than 3 years ago and the failure to retain quality records was not reflective of current performance.  
Inspection Report# : [2011003](#) (pdf)

**Significance:**  Jun 30, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

**GL 2008-01 EVALUATIONS DID NOT ADEQUATELY VERIFY THE DESIGN FOR SUSCEPTIBLE LOCATIONS OF GAS ACCUMULATION IN PIPING SYSTEMS.**

The inspectors identified a finding of very low safety significance and an associated NCV of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the failure to adequately review the design of emergency core cooling, decay heat removal, and containment spray systems for gas susceptible locations. Specifically, the licensee's original design reviews in response to Generic Letter 2008 01 did not identify all gas susceptible locations (i.e., pipe geometries that can accumulate gas). Corrective actions for this issue included the performance of ultrasonic examinations of most of the affected locations and did not find unacceptable void volumes. The licensee also evaluated the remaining locations for operability using alternative methods. There were no further operability concerns associated with these locations. The issue was entered into the CAP as CAP 1281658.

The performance deficiency was determined to be more than minor because, if left uncorrected, it would have the potential to lead to a more significant safety concern. The finding is associated with the Mitigating Systems Cornerstone. The finding screened as of very low safety significance because the finding involved a design or qualification deficiency that did not result in a loss of operability. This finding had a cross cutting aspect in the area of problem identification and resolution because the licensee did not implement operating experience through training. Specifically, although relevant operating experience associated with gas susceptible locations was implemented in the procedures used to review the piping system design, the training provided did not adequately address the concepts portrayed by the operating experience contained in these procedures (P.2(b)). (Section 4OA5.6.c(1))  
Inspection Report# : [2011003](#) (pdf)

**Significance:**  Jun 30, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

**ALTERNATE METHODS WERE NOT DEVELOPED FOR MONITORING INACCESSIBLE SUSCEPTIBLE LOCATIONS.**

The inspectors identified a finding of very low safety significance and an associated NCV of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures and Drawings," for the failure to follow Procedure H64, "Gas Accumulation Management Program." Specifically, the licensee failed to develop alternate methods to monitor the potential for void formation at inaccessible susceptible locations that required periodic monitoring. The licensee performed an alternative assessment that reasonably demonstrated that each inaccessible location was not affected by the presence of an adverse void. The licensee also planned to perform an apparent cause evaluation. The issue was entered into the CAP as CAP 1281682.

The performance deficiency was determined to be more than minor because it was associated with the Mitigating Systems Cornerstone attribute of equipment performance and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding screened as of very low safety significance because it was a qualification deficiency confirmed not to result in loss of operability or functionality. The inspectors determined that this finding was cross-cutting in the area of human performance, work practices, because supervisory and management oversight did not ensure personnel adherence to the Procedure H64 requirement for the disposition of inaccessible locations (H.4(c)).  
Inspection Report# : [2011003](#) (*pdf*)

**Significance:** **W** May 20, 2011

Identified By: NRC

Item Type: VIO Violation

**Failure to Ensure that the Train A and Train B DC Electrical Power Subsystems Remained Operable in Modes 1 through 4 (Section 40A5.1)**

An apparent violation of Technical Specification (TS) 3.8.4 was identified by the inspectors due to the licensee's failure to maintain the train A and train B direct current electrical power subsystems operable while operating the reactor in Modes 1 through 4. Specifically, the licensee installed safety related battery chargers which were susceptible to failure during certain design basis events. This issue was entered into the licensee's corrective action program (CAP) as CAP 1250561. Upon identifying this issue, the licensee performed an operability evaluation and determined that the battery chargers remained operable because procedures were in place to recover the battery chargers if a failure occurred. After further interaction with the NRC, the licensee concluded that a designated operator position needed to be established to ensure that a specific individual would perform the battery charger recovery actions prior to the safety related batteries being depleted. Long term corrective actions included replacing all four battery chargers.

This finding was determined to be more than minor because it was associated with the design control and equipment performance attributes of the Mitigating Systems Cornerstone. In addition, this performance deficiency impacted the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors performed a Phase 1 SDP evaluation and determined that a Phase 2 evaluation was required because this finding represented an actual loss of safety function of a single train of equipment for greater than the TS allowed outage time. The inspectors performed a Phase 2 evaluation using the pre solved SDP worksheets for Prairie Island and determined that this finding screened as Red. A Phase 3 SDP evaluation was required to assess reasonable credit for recovery by operators. The results of the Phase 3 SDP evaluation showed that this finding was preliminarily determined to be White for Unit 1, and Green for Unit 2. No cross cutting aspect was assigned to this finding because licensee decisions made in regards to evaluating the performance of the battery chargers were made many years ago and therefore, not reflective of current plant performance.

Final Significance Determination letter issued on August 17, 2011 (ml112290087).

Inspection Report# : [2011010](#) (*pdf*)

Inspection Report# : [2011011](#) (*pdf*)

**Significance:** **G** Apr 15, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

**FAILURE TO APPROPRIATELY COMPLETE AN OPERABILITY RECOMMENDATION FOR THE UNIT 1 BATTERY CALCULATIONS.**

An inspector identified finding of very low safety significance and an NCV of 10 CFR Part 50, Appendix B, Criterion V, was identified on February 9, 2011, due to the failure to follow Procedure FP OP OL 01. Specifically, the licensee did not complete an immediate operability determination for all safety related equipment such as the emergency diesel generators and inverters discussed in CAP 1270104. After prompting by the inspectors, the licensee revised the immediate operability determination to ensure that all safety related equipment was properly evaluated for continued operability. Corrective actions included entering of this issue into the corrective action program, revising the immediate operability determination, implementing a daily review of immediate operability determinations, and developing an operability determination/recommendation improvement program to implement additional performance

improvement actions.

The inspectors determined that this finding was more than minor because it was an additional example of the significant programmatic concern documented in NRC Inspection Report finding NCV 05000282/2010002-002; 05000306/2010002-002. In addition, the failure to perform proper operability determinations could lead to worse errors, if not corrected. The inspectors concluded that this finding was of very low safety significance because it was not a design deficiency; it did not represent a loss of system safety function; it did not represent a loss of safety function for one train for greater than the Technical Specifications allowed outage time; and it did not screen as potentially risk significant due to a seismic, flooding or severe weather initiating event. This finding was determined to be crosscutting in the Problem Identification and Resolution, Corrective Action Program area, because the licensee had not taken appropriate corrective actions to address an adverse trend in operability determinations identified by the NRC in March 2010 (P.1(d)).

Inspection Report# : [2011002](#) (pdf)

**Significance:**  Apr 15, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

**FAILURE TO APPROPRIATELY COMPLETE AN OPERABILITY RECOMMENDATION ON THE UNIT 1 FUEL OIL SYSTEM.**

An inspector-identified finding of very low safety significance and an NCV of 10 CFR Part 50, Appendix B, Criterion V, was identified due to the failure to properly complete an operability recommendation for the Unit 1 fuel oil system in accordance with Procedure FP OP OL 01, "Operability/Functionality Determination." Specifically, the licensee used a mission time that was not supported by any licensing or design basis document. In addition, the new mission time was inappropriately considered an enhancement to operability. Once a supportable mission time was used, the licensee declare the Unit 1 fuel oil system inoperable due to having an inadequate fuel oil volume. Corrective actions for this issue included entering of this issue into the corrective action program, increasing the fuel oil volume, and implementing an independent review group to review the adequacy of all operability recommendations.

The inspectors determined that this finding was more than minor because it was associated with the equipment performance attribute of the Mitigating Systems Cornerstone. In addition, this finding impacted the cornerstone objective of ensuring the availability, reliability and capability of systems that respond to initiating events to prevent undesirable consequences. Using a Phase 3 SDP evaluation, the regional senior reactor analyst determined that this finding was of very low safety significance because the Unit 1 emergency diesel generators would have been able to start and run for the 24 hours assumed in the probabilistic risk assessment using the fuel oil contained in a single storage tank. This finding was determined to be crosscutting in the Problem Identification and Resolution, Corrective Action Program area, because the licensee failed to thoroughly evaluate this problem (including classifying, prioritizing and evaluating the condition for operability) such that the resolution addressed the cause (P.1(c)).

Inspection Report# : [2011002](#) (pdf)

---

## Barrier Integrity

**Significance:**  Jun 30, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

**NO FULL FLOW TESTING OF PORV AIR SUPPLY CHECK VALVES.**

A finding of very low safety significance and an associated NCV of 10 CFR Part 50, Appendix B, Criterion XI, "Test Control," was identified by the inspectors for the failure to assure that all testing required to demonstrate the check valves installed as part of a temporary modification for low temperature over pressure (LTOP) protection would perform satisfactory in service was identified and performed. Specifically, the licensee failed to verify the check valves would pass the necessary air flow to support the required number of valve strokes assumed in the LTOP analysis. The licensee performed a subsequent test and determined that the check valves would allow adequate air flow rate. The issue was entered into the CAP as CAP 1242980.

The inspectors determined this finding was more than minor because, if left uncorrected, the failure to demonstrate

that the check valves would perform satisfactorily in service could result in installing an inadequately designed LTOP system each refueling outage. This finding impacted the Barrier Integrity Cornerstone. The inspectors used IMC 0609, Appendix G, "Shutdown Operations Significance Determination Process," and determined that the issue screened out in Phase 1 and did not require a quantitative assessment, because the failure to perform the test did not result in a non-compliance with the LTOP TSs as listed in the various Attachment 1 checklists. Therefore, the finding was of very low safety significance, Green. The inspectors did not identify a cross-cutting aspect associated with this finding because decisions regarding the check valve testing were made several years ago and were not reflective of current performance.

Inspection Report# : [2011003](#) (pdf)

**Significance:**  Jun 30, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

**FAILURE TO EVALUTE THE EFFECTS OF DYNAMIC LOADS AT THE CS DISCHARGE PIPING.**

The inspectors identified a finding of very low safety significance and an associated NCV of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the failure to evaluate the effects of dynamic loads at the containment spray discharge piping. Specifically, neither the structural design nor operation of the containment spray system addressed the dynamic loads that would result when the normally voided discharge piping rapidly fills up following system initiation. As a result of the inspectors concerns, the licensee performed an evaluation that showed that there was reasonable assurance that the system could tolerate the flow-induced dynamic loads following system initiation. The issue was entered into the CAP as CAP 1288035.

The performance deficiency was determined to be more than minor because it was associated with the structure, system, component and barrier performance attribute of the Barrier Integrity Cornerstone, and affected the cornerstone objective of providing reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. The finding screened as very low safety significance using IMC 0609 Appendix H, "Containment Integrity Significance Determination Process," because it did not affect either core damage frequency or large early release frequency. The inspectors determined that this finding was cross-cutting in the area of problem identification and resolution because the licensee did not thoroughly evaluate external operating experience. Specifically, the licensee did not address the flow-induced dynamic loads at the containment spray discharge piping as it is rapidly filled up when evaluating the subject of gas accumulation/intrusion as requested by Generic Letter 2008-01 (P.2(a)).

Inspection Report# : [2011003](#) (pdf)

**Significance:**  Jun 30, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

**FAILURE TO PRESCRIBE APPROPRIATE PROCEDURE FOR IN-SERVICE TESTING OF CHECK VALVES.**

The inspectors identified a finding of very low safety significance and an associated NCV of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures and Drawings," for the failure to develop appropriate procedures when performing in-service testing of check valves 2SI-16-4 and 2SI-16-6. Specifically, the applicable procedures were not revised to account for a recent modification that altered the flow path used when testing these valves. As a result, the potential to mask unacceptable in-service testing results existed, which would cause an inoperable condition to go undetected. The licensee entered the applicable TS for the missed test. Since this in-service test could only be performed during outage conditions, the licensee performed the risk assessment required by the TSs. The assessment showed that the risk to the plant due to the missed test was small. The licensee planned to perform the missed in-service test during the next Unit 2 refueling outage. The issue was entered into the CAP as CAP 1286638.

The inspectors determined that this performance deficiency was more than minor because, if left uncorrected, it would have the potential to lead to a more significant safety concern. The finding is associated with the Barrier Integrity Cornerstone. This finding was of very low safety significance because it did not represent an actual open pathway in the physical integrity of reactor containment. The finding had a cross-cutting aspect in the area of human performance, work control, because the licensee did not appropriately coordinate work activities by incorporating actions to address the need for work groups to communicate and coordinate with each other during activities in which interdepartmental

coordination is necessary to assure plant and human performance (H.3(b)).

Inspection Report# : [2011003](#) (pdf)

---

## Emergency Preparedness

**Significance:**  Mar 31, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

### **FAILURE TO TIMELY AUGMENT ON-SHIFT STAFF**

A self-revealed finding of very low safety significance and an NCV of 10 CFR 50.54(q) was identified on January 7, 2012, due to the licensee's failure to follow and maintain their emergency plan in effect. The inspectors identified that the licensee's Emergency Response Organization failed to provide adequate staffing for initial facility accident response through the timely augmentation of on shift staffing as required by 10 CFR 50.47(b)(2). Specifically, four Radiological Protection positions and one Radiological Emergency Coordinator position were not staffed within the 30 minute commitment of Table 1, "Guidance for Augmentation of Plant Emergency Organization," in the Prairie Island Emergency Plan. As an interim corrective action, individuals were placed on shift to ensure that emergency response positions were filled within the required times.

The inspectors determined this performance deficiency was more than minor because it was associated with the emergency response organization performance attribute of the Emergency Preparedness Cornerstone. This finding also affected the cornerstone objective of ensuring that the licensee was capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. This finding was evaluated in accordance with IMC 0609, Appendix B, "Emergency Preparedness SDP." Using the Actual Event Implementation Problem Sheet 2, the inspectors determined the finding to be of very low safety significance because it was not a failure to implement a risk significant planning standard. This finding was determined to be cross cutting in the Human Performance, Decision Making area because the licensee failed to communicate the basis for decisions to personnel who have a need to know the information in order to perform work safely and in a timely manner (H.1(c)).  
Inspection Report# : [2012002](#) (pdf)

**Significance:**  Mar 31, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

### **FAILURE TO TIMELY ACTIVATE ERDS**

A self revealed finding of very low safety significance and an NCV of 10 CFR 50.72(a)(4) was identified on January 7, 2012, due to the licensee's failure to activate the Emergency Response Data System (ERDS) within one hour of an Alert declaration. Specifically, the ERDS was not made operable until 80 minutes after the Alert declaration due to task priority and equipment issues related to a system upgrade. Corrective actions for this issue included emphasizing the timely activation of ERDS with emergency responders and repairing the system upgrade equipment issues. The inspectors determined this performance deficiency was more than minor because it was associated with the emergency response organization performance attribute of the Emergency Preparedness Cornerstone and affected the cornerstone objective of ensuring that the licensee was capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. This finding was evaluated in accordance with IMC 0609, Appendix B, "Emergency Preparedness SDP," that considers a failure to activate ERDS as a failure to implement. Using the Actual Event Implementation Problem Sheet 2, the inspectors determined the finding to be of very low safety significance because it was not a failure to implement a risk significant planning standard. This finding was determined to be cross cutting in the CAP component of the Problem Identification and Resolution cross cutting area because the licensee failed to take appropriate corrective actions to address a previously identified ERDS activation issue in a timely manner (P.1(d)).

Inspection Report# : [2012002](#) (pdf)

**Significance:** SL-IV Apr 10, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

## **INCOMPLETE AND INACCURATE EMERGENCY ACTION LEVEL CHANGE SUBMITTAL.**

The NRC identified a Severity Level IV Non-Cited Violation of 10 CFR 50.9 for failing to provide complete and accurate information for prior approval of a new Emergency Action Level (EAL) scheme. The licensee's submittal to the NRC, entitled, "Revision to Emergency Action Levels," dated October 22, 2004, was not complete and accurate in all material respects. The submitted EAL scheme specified instrument threshold values for Alert classifications, EALs RA1.1 and RA1.2, which were beyond the indicated ranges of the effluent radiation monitors R 18, R-25, and R-31. The NRC accepted and approved the proposed EALs not realizing the information was incomplete and inaccurate.

The violation potentially impedes or impacts the regulator process, it was dispositioned using the traditional enforcement process as described in NRC Inspection Manual Chapter 0612, Revision 04/30/10. Using Section 6.9 of the Enforcement Policy and after consultation with the Director of the Office of Enforcement, this issue was determined to be a Severity Level IV violation. Specifically, though the NRC would have questioned the issue with additional and correct information, the EAL ultimately would have been acceptable with an adjustment in the indicator range or EAL entry criteria value. In either case, it would not have resulted in substantial further inquiry. Additionally, the associated technical violation was determined to be of very low safety significance.

The associated performance deficiency is tracked as item 2011502-002.

Inspection Report# : [2011502](#) (pdf)

**Significance:**  Apr 07, 2011

Identified By: NRC

Item Type: FIN Finding

### **Failure to identify that information provided to the NRC was Incomplete and Inaccurate regarding Emergency Action Level setpoints (1EP4.1.b)**

The NRC identified a performance deficiency for the licensee's failure to identify that the EAL submittal sent to the NRC for Alert classification EALs RA1.1 and RA1.2 were beyond the range of the associated instruments, but the information was submitted to the NRC anyway. The licensee's submittal to the NRC, entitled, "Revision to Emergency Action Levels," dated October 22, 2004, was not complete and accurate in all material respects. The NRC accepted and approved the proposed EALs not realizing the information was incomplete and inaccurate.

The inspectors determined that the licensee's failure to provide complete and accurate information to the NRC, a violation of 10 CFR 50.9, was a performance deficiency and within the licensee's ability to foresee and prevent. The deficiency was determined to be more than minor because it was associated with the Emergency Preparedness Cornerstone attribute of Procedure Quality.

The associated Traditional Enforcement item is tracked as 2011502-001.

Inspection Report# : [2011502](#) (pdf)

---

## **Occupational Radiation Safety**

**Significance:**  Jun 30, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

### **FAILURE TO ASSESS THE IMPACT OF CHANGES IN THE PLANT'S ISOTOPIC PROFILE.**

The inspectors identified a finding of very low safety significance and an associated NCV of 10 CFR 20.1501.b due to the licensee's failure to evaluate the impact of changes in the isotopic profile (i.e., changes in the isotopic mix and percent abundance of specific radioisotopes) on the radiation monitoring instrumentation and the radiation assessment and measurement program. Corrective actions included performing an evaluation of the isotopic profile on the licensee's radiation monitoring instrumentation. No substantive adjustments to the program were necessary. The licensee also planned to revise applicable procedures to ensure that changes to the isotopic profile continued to be evaluated. The issue was entered into the CAP as CAP 1280900.

The inspectors determined that this finding was more than minor because, if left uncorrected, the performance

deficiency would have led to a more significant safety concern. This finding was associated with the Occupational Radiation Safety Cornerstone. Additionally, this issue did not involve As-Low-As-Is Reasonably-Achievable planning or work controls; there was no overexposure or substantial potential for an overexposure to a worker; nor was the licensee's ability to assess dose compromised. Based on the information above, the inspectors concluded that the finding was of very low safety significance using IMC 0609, Appendix C, as guidance. The inspectors also reviewed the issue and no cross-cutting aspects were identified since decisions regarding the need to evaluate changes in the isotopic mix were made several years ago and were not reflective of current performance.

Inspection Report# : [2011003](#) (*pdf*)

---

## Public Radiation Safety

---

### Physical Protection

Although the NRC is actively overseeing the Security cornerstone, the Commission has decided that certain findings pertaining to security cornerstone will not be publicly available to ensure that potentially useful information is not provided to a possible adversary. Therefore, the [cover letters](#) to security inspection reports may be viewed.

---

### Miscellaneous

Last modified : May 29, 2012