

# Prairie Island 2

## 3Q/2011 Plant Inspection Findings

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### Initiating Events

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

Identified By: NRC

Item Type: NCV NonCited Violation

**FAILURE TO MAKE EIGHT HOUR REPORT PURSUANT TO 10 CFR 50.72.**

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. 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 associated Performance Deficiency is tracked as item 2011-004-04.

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

**Significance:**  Sep 30, 2011

Identified By: NRC

Item Type: FIN Finding

**FAILURE TO MAKE EIGHT HOUR REPORT PURSUANT TO 10 CFR 50.72. Finding.**

The inspectors identified a finding associated with the 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 had an underlying performance deficiency. 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). 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)).

The associated Traditional Enforcement NCV is tracked as item 2011-004-03.

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

**Significance:** G Sep 30, 2011

Identified By: Self-Revealing

Item Type: FIN Finding

### **UNIT 2 REACTOR TRIP DUE TO MIS-OPERATION OF SUBSTATION BREAKERS**

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)).

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

**Significance:** G Apr 15, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

### **FLAMMABLE GAS CYLINDER STORED IN SAFETY-RELATED AREA.**

An inspector-identified finding of very low safety significance and a non cited violation (NCV) of Technical Specification 5.4.1 was identified on February 8, 2011, due to the licensee's failure to establish, implement, and maintain procedures for the fire protection program. Specifically, the licensee failed to implement combustible control requirements prior to storing flammable material in a safety-related area. As a result, a gas cylinder containing flammable material was stored in the D6 emergency diesel generator radiator fan room for 1 week without the required additional fire loading evaluation completed. Corrective actions for this issue included entry of this issue into the corrective action program (CAP), removal of the cylinders from the radiator fan room, and the completion of both a human performance and a causal investigation.

The inspectors determined that this finding was more than minor because the presence of the gas cylinders could result in a fire affecting the ventilation system for the D6 emergency diesel generator. The finding was associated with the Initiating Events Cornerstone attribute of Protection against External Factors (Fire) and affected the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Using a Phase 2 SDP analysis, the inspectors calculated an upper bound change in CDF of  $3.3 \times 10^{-7}$ , which is consistent with a finding of very low safety significance. The inspectors determined that this finding was crosscutting in the Human Performance, Work Control area, because licensee

personnel did not coordinate work activities consistent with nuclear safety, specifically in regard to the need to keep personnel apprised of the work impact and operational impact of the work activities. (H.3(b)).

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

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## Mitigating Systems

**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 40A2.4)

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 4OA3.9)

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

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

**Significance:** G 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:** G 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

**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:**  May 20, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

**FAILURE TO ENSURE THAT THE TRAIN A AND THAIN B DC ELECTRICAL POWER SUBSYSTEMS REMAINED OPERABLE IN MODES 1 THROUGH 4.**

A Non-Cited Violation (NCV) 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 determined to be 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.

**Significance:** **G** Dec 31, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

**FAILURE TO APPROPRIATELY COMPLETE AN OPERABILITY DETERMINATION ON D5 EMERGENCY DIESEL GENERATOR (EDG).**

The inspectors identified a finding of very low safety significance and an NCV of 10 CFR Part 50, Appendix B, Criterion V, on November 12, 2010, due to the failure to complete an immediate operability determination for the D5 EDG in accordance with Procedure FP OP-OL-01, "Operability/Functionality Determination." Specifically, operations personnel failed to properly assess the impact of a malfunctioning fuel oil transfer system on the ability of the D5 EDG to perform its safety function as required by the procedure. Corrective actions for this issue included declaring the D5 EDG inoperable; repairing the fuel oil transfer system equipment deficiency; satisfactorily testing the D5 EDG following the equipment repairs; providing additional training on the operability process to operations personnel; and implementing a daily management review of operability decisions.

The inspectors determined that this issue was more than minor because it was associated with the human performance, procedure quality, and configuration control attributes of the Mitigating Systems Cornerstone. This finding also 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, although this potential design deficiency resulted in a loss of D5 EDG operability, it did not result in D5 inoperability for greater than TS allowed time, did not result in a loss of safety function for the Unit 2 EDGs and it did not screen as potentially risk significant due to a seismic, flooding or severe weather initiating event. The inspectors concluded that this finding was cross-cutting in the Problem Identification and Resolution, Corrective Action Program area because the licensee had not taken appropriate corrective actions to address a previously identified adverse trend regarding the adequacy of operability determinations (P.1(d)).

Inspection Report# : [2010005](#) (*pdf*)

**Significance:** **G** Dec 31, 2010

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

**FAILURE TO INCLUDE 121 MOTOR DRIVEN COOLING WATER PUMP (MDCLP) COUPLING HARDNESS INFORMATION IN PROCUREMENT DOCUMENT.**

A self-revealed finding of very low safety significance and an NCV of 10 CFR Part 50, Appendix B, Criterion IV, was identified on July 25, 2010, due to the licensee's failure to specify the required 121 motor driven cooling water pump shaft coupling hardness as part of the procurement process. As a result, the pump was rendered unavailable due to a shaft coupling failure due to excessive hardness of the shaft. Corrective actions for this issue included repairing the cooling water pump and revising the procurement documents to include the required coupling hardness.

The inspectors determined that this issue was more than minor because it impacted the design control attribute of the Mitigating Systems Cornerstone. This finding also impacted the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors completed the Phase 1 and Phase 2 SDP evaluations and determined that a Phase 3 evaluation was required due to this issue being potentially greater than green. The Region III SRA determined that this finding was of very low safety significance because it did not represent an increase in the likelihood of a loss of cooling water initiating event due to different couplings being installed on the other cooling water pumps. The inspectors determined that this finding was cross-cutting in the Problem Identification and Resolution, Corrective Action Program area because the licensee did not use operating experience to support plant safety. Specifically, the licensee did not implement changes to the 121 motor driven cooling water pump after receiving and reviewing multiple pieces of operating experience regarding coupling failures due to hardness issues (P.2(b)).

Inspection Report# : [2010005](#) (*pdf*)

**Significance:** **SL-IV** Nov 05, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

**INADEQUATE 50.59 EVALUATION FOR NEW MANUAL OPERATOR ACTIONS.**

A Severity Level IV NCV of 10 CFR 50.59(d)(1), "Changes, Tests, and Experiments," was identified by the inspector

for the licensee's failure to provide an evaluation that adequately documented why implementing new manual operator actions during periods of adverse weather, which isolated portions of the component cooling water system susceptible to hazards associated with tornado-generated missiles, did not present a more than minimal increase in the likelihood of occurrence of a malfunction of a structure, system or component (SSC) important to safety previously evaluated in the updated safety analysis report (USAR). The licensee initiated CAP 1257118, "50.59 Screening Not Sufficient – 122 Spent Fuel Pool Heat Exchanger Component Cooling Loss," and, at the end of the inspection, was in the process of correcting the deficiency.

The violation was determined to be more than minor because the inspector could not reasonably determine that the changes would not have ultimately required prior NRC approval. Violations of 10 CFR 50.59 are dispositioned using Traditional Enforcement process instead of the SDP because they are considered to be violations that could potentially impede or impact the regulatory process. However, if possible, the underlying technical issue is evaluated under the SDP to determine the severity of the violation. In this case, the inspector determined that 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," Tables 3b and 4a, for the Mitigating Systems Cornerstone. The inspector answered "Yes" to Question 5 under the Mitigating Systems Cornerstone column of the Phase 1 worksheet because the inspector concluded that the finding screened as potentially risk significant due to a severe weather initiating event.

In addition, the ROP finding of very low safety significance, Green, is dispositioned separately from the Traditional Enforcement violation and, therefore, the finding is being assigned a separate tracking number. Although there is an additional tracking number, the cross-cutting aspect is assigned only once. (FIN 05000306/2010012 02; Failure to Adequately Evaluate New Manual Operator Actions)

Inspection Report# : [2010012](#) (pdf)

**Significance:**  Nov 05, 2010

Identified By: NRC

Item Type: FIN Finding

#### **INADEQUATE 50.59 EVALUATION FOR NEW MANUAL OPERATOR ACTIONS.**

A Severity Level IV NCV of 10 CFR 50.59(d)(1), "Changes, Tests, and Experiments," was identified by the inspector for the licensee's failure to provide an evaluation that adequately documented why implementing new manual operator actions during periods of adverse weather, which isolated portions of the component cooling water system susceptible to hazards associated with tornado-generated missiles, did not present a more than minimal increase in the likelihood of occurrence of a malfunction of a structure, system or component (SSC) important to safety previously evaluated in the updated safety analysis report (USAR). The licensee initiated CAP 1257118, "50.59 Screening Not Sufficient – 122 Spent Fuel Pool Heat Exchanger Component Cooling Loss," and, at the end of the inspection, was in the process of correcting the deficiency.

The violation was determined to be more than minor because the inspector could not reasonably determine that the changes would not have ultimately required prior NRC approval. Violations of 10 CFR 50.59 are dispositioned using Traditional Enforcement process instead of the SDP because they are considered to be violations that could potentially impede or impact the regulatory process. However, if possible, the underlying technical issue is evaluated under the SDP to determine the severity of the violation. In this case, the inspector determined that 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," Tables 3b and 4a, for the Mitigating Systems Cornerstone. The inspector answered "Yes" to Question 5 under the Mitigating Systems Cornerstone column of the Phase 1 worksheet because the inspector concluded that the finding screened as potentially risk significant due to a severe weather initiating event. Based upon Phase 3 SDP evaluation performed by a NRC Region III Senior Risk Analyst (SRA), the inspector concluded that the issue was of very low safety significance (Green). The inspectors concluded that this finding was cross cutting in the Problem Identification and Resolution area, corrective action component, because the licensee failed to thoroughly evaluate problems such that the resolutions address causes and extent of conditions as necessary [P.1(c)].

Inspection Report# : [2010012](#) (pdf)

**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*)

**Significance:**  Dec 31, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

### **FAILURE TO PROPERLY ASSESS AND MANAGE RISK DURING PLANNED MAINTENANCE ACTIVITY.**

The inspectors identified finding of very low safety significance and an NCV of 10 CFR 50.65 a(4) on August 31, 2010, due to a failure to properly assess and manage the risk associated with performing planned maintenance activities on the 111 switchgear unit cooler and the 121 control room chiller. Specifically, the licensee failed to identify these maintenance activities as high risk and implement additional risk management actions prior to starting the maintenance. As a result, an unexpected low suction pressure condition occurred on the 122 control room chiller pump. Corrective actions included restoring from the maintenance activities.

The inspectors determined the finding was more than minor because if left uncorrected, the failure to properly assess and manage plant risk could result in the need to shut down both reactors (a more significant safety concern) due to a loss of control room cooling function. This finding was determined to be of very low safety significance because it was not specific to the radiological barrier provided by the control room ventilation system; was not a degradation of the barrier function of the control room against smoke or a toxic atmosphere; did not represent an actual open pathway in the reactor containment; and it did not involve an actual reduction in the function of hydrogen igniters. The inspectors concluded that this finding was cross-cutting in the area of Human Performance, Work Control area because the licensee did not plan and coordinate work activities consistent with nuclear safety (H.3(a)).

Inspection Report# : [2010005](#) (*pdf*)

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## **Emergency Preparedness**

**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*)

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## 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*)

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# Public Radiation Safety

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## 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.

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## Miscellaneous

Last modified : January 04, 2012