

Prairie Island 1

2Q/2010 Plant Inspection Findings

Initiating Events

Significance:  Mar 31, 2010

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

FAILURE TO ACCOMPLISH ANALOG PROTECTION FUNCTIONAL TEST PER PROCEDURE INSTRUCTIONS

A self revealed finding of very low safety significance and a Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion V were identified on February 9, 2010, due to operations personnel failing to accomplish Surveillance Procedure (SP) 1003, "Analog Protection Functional Test," in accordance with the instructions provided in the procedure. Specifically, operations personnel failed to position the rod bank selector to manual as directed by Step 9.5.1.D of SP 1003. As a result, the control rods automatically responded inward to a simulated change in first stage turbine pressure which resulted in an approximate seven percent reduction in reactor power. Corrective actions for this issue included removing all licensed operators associated with this event from duty pending remediation, reviewing this event and reinforcing the requirements for pre job briefings and procedure use and adherence with all operations personnel, and reinforcing the expectation to use human performance tools.

The inspectors determined that this finding was more than minor because it was associated with the human performance attribute of the Initiating Events cornerstone. In addition, this finding impacted the cornerstone objective of limiting the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. This finding was of very low safety significance because it did not contribute to both the likelihood of a reactor trip and the likelihood that mitigating systems equipment or functions would not be available. The inspectors concluded that this finding was cross-cutting in the Human Performance, Work Practices area because operations personnel failed to properly use human error prevention techniques, such as pre job briefings, self and peer checking, and proper documentation of activities such that work activities are performed safely (H.4(a)).

Inspection Report# : [2010002](#) (*pdf*)

Significance:  Dec 31, 2009

Identified By: Self-Revealing

Item Type: FIN Finding

12 CIRCULATING WATER PUMP TRIP AND UNIT 1 AUTOMATIC REACTOR TRIP

A self-revealed finding of very low safety significance was identified on May 18, 2009, due to the licensee's failure to replace an electrical cable associated with the 12 circulating water pump after identifying that the cable was susceptible to failure. Consequently, the electrical cable failed and the sequence of events that followed resulted in a Unit 1 automatic reactor trip. Corrective actions for this issue included replacing the electrical cabling for the 12 circulating water pump and scheduling the cable replacements for other susceptible components. No violation of NRC requirements occurred.

This finding was determined to be more than minor because it was associated with the protection against external factors and the equipment performance attributes of the Initiating Events cornerstone. In addition, the finding impacted the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as at power operations. The inspectors determined that this finding was of very low safety significance because the finding did not contribute to both the likelihood of a reactor trip and the likelihood that mitigating equipment would not be available. The inspectors concluded that this issue was cross cutting in the Human Performance, Decision Making area, because the licensee failed to use conservative assumptions during their decisions regarding the need for cable replacements even after receiving numerous pieces of operating experience information (H.1.(b)).

Mitigating Systems

Significance:  Jun 30, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

INADEQUATE FOREIGN MATERIAL EXCLUSION CONTROLS ASSOCIATED WITH WORK ON EMERGENCY DIESEL GENERATORS

A finding of very low safety significance and a non cited violation of 10 CFR Part 50, Appendix B, Criterion V was identified by the inspectors on March 15, 2010, due to the licensee's failure to have instructions and procedures appropriate to the circumstance for performing Work Order 382152 and Surveillance Procedure 1295, "D1 Diesel Generator 6 Month Fast Start Test." The failure to have instructions and procedures appropriate to the circumstance resulted in rendering the D1 diesel generator inoperable for 28 hours due to the introduction of foreign material into the lube oil sump during oil addition activities. Corrective actions included retrieving the hose and nozzle, replacing the plastic oil cans with new solid metal cans, and revising the pre job brief instructions and "Are You Ready" checklist to include a question whether foreign material will be generated through the use of portable equipment or tools.

The inspectors determined that the finding was more than minor because it was associated with the procedure quality and human performance attributes 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 it did not represent a loss of a system safety function and the diesel generator was inoperable for less than the Technical Specification allowed outage time. This finding was determined to be cross cutting in the Human Performance, Work Control area because the licensee failed to appropriately plan work activities by incorporating job site conditions which may impact plant structures, systems, or components (H.3(a)). (Section 40A3.10)

Inspection Report# : [2010003](#) (pdf)

Significance: TBD May 03, 2010

Identified By: NRC

Item Type: AV Apparent Violation

Failure to Ensure Design Measures Were Appropriately Established for the Emergency Diesel Generator, Auxiliary Feedwater, and Safety Related Battery Systems (Section 40A5.1)

An apparent violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," was identified by the inspectors due to the licensee's failure to establish measures to ensure that engineered safety features such as the emergency diesel generators, the auxiliary feedwater system, and the safety related batteries were not adversely affected by events that cause turbine building flooding. As a result, flooding from these events would cause a loss of safety function for these systems. This issue was entered into the licensee's corrective action program (CAP) as CAP 1178236. Upon identifying this issue, the licensee implemented compensatory measures to ensure that the systems listed above were not adversely impacted following a turbine building internal flood.

This finding was determined to be more than minor because it impacted the design control and external events attributes of the Mitigating Systems cornerstone. The finding also impacted the Mitigating Systems 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 3 evaluation was required because the finding represented a loss of safety function of multiple mitigating systems. A Phase 2 SDP evaluation was not performed because the Phase 2 SDP worksheets do not apply to internal flooding events. The results of the Phase 3 SDP assessment showed that this finding was potentially Greater than Green. No cross cutting aspect was assigned to this finding because licensee decisions made in regard to evaluating the susceptibility of mitigating systems equipment to turbine building internal flooding events were made more than 3 years ago and therefore, not reflective of current plant performance. (Section 40A5.1)

Inspection Report# : [2010010](#) (pdf)

Inspection Report# : [2010011](#) (pdf)

Significance:  Mar 31, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ENSURE COOLING WATER AND FUEL OIL SYSTEMS WERE PROTECTED FROM FLOODING IMPACTS

The inspectors identified finding of very low safety significance and a Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," due to the licensee's failure to implement design control measures to ensure that the functions of the diesel-driven cooling water pumps (DDCLPs) and the fuel oil system were maintained following an internal flood in the plant screenhouse. Specifically, the licensee failed to address the need for additional fuel oil volume following the loss of the DDCLP fuel oil transfer pump motor starters due to the flood waters. Immediate corrective actions included increasing the fuel oil volume in the fuel oil storage tanks. The licensee was also exploring the need to relocate the motor starters to an alternate location that would not be impacted by the flood waters.

The inspectors determined this finding was more than minor because the Mitigating Systems cornerstone design control attribute and objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences were affected. The inspectors determined that this finding was of very low safety significance because it did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. This issue was not assigned a cross-cutting aspect since the cause dates back greater than 3 years and was not reflective of current performance.

Inspection Report# : [2010002](#) (*pdf*)

Significance:  Mar 31, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ADEQUATELY IMPLEMENT OPERABILITY PROCEDURE

The inspectors identified a finding of very low safety significance and a Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion V for the failure to adequately implement Procedure FP OP OL 01, "Operability/Functionality Determination." The failure to adequately implement this procedure resulted in the completion of determinations which failed to fully assess the safety function of the equipment, failed to fully evaluate information contained in the Updated Safety Analysis Report, or included information which questioned the component's ability to meet Technical Specification requirements. Corrective actions for this issue included initiating an adverse trend corrective action document, revising the impacted operability determinations, performing an apparent cause evaluation on the programmatic weaknesses, and implementing additional corrective actions as necessary.

The inspectors determined that this issue was more than minor because the implementation weaknesses resulted in completing operability determinations which cast reasonable doubt on the continued operability of the equipment or demonstrated significant programmatic concerns that could lead to worse errors if not corrected. The inspectors determined that this issue was of very low safety significance because each of the conditions described in the determinations did not result in a loss of safety function of a single train for greater than the allowed outage time. The inspectors determined that this finding was cross-cutting in the Human Performance, Decision Making area because although the licensee had formally defined and communicated the authority and roles for decisions affecting nuclear safety, the implementation of these roles and authorities were not as designed. In addition, the interdisciplinary reviews of these safety significant decisions were not always effective (H.1(a)).

Inspection Report# : [2010002](#) (*pdf*)

Significance:  Mar 31, 2010

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

FAILURE TO HAVE ADEQUATE PROCEDURE FOR TESTING VALVE CC-5-2

A self-revealed finding of very low safety significance and a Non-Cited Violation of Technical Specification 5.4.1 were identified on January 27, 2010, when the licensee failed to establish an appropriate procedure for testing

component cooling water pump return check valve CC-5-2. As a result, additional system inoperability and unavailability time were accumulated until the procedural inadequacies could be addressed and the procedure was performed successfully. Corrective actions included revising the test procedures to incorporate an improved test method and re testing valve CC-5-2.

The inspectors determined that this finding was more than minor because it was associated with the equipment performance attribute of the Mitigating Systems cornerstone and impacted the cornerstone objective of ensuring the availability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the failure to establish an appropriate test procedure resulted in an additional 34 hours of system inoperability/unavailability. This finding was determined to be of very low safety significance because it was not a design deficiency, did not result in a loss of system safety function, was not an actual loss of safety function of one train of equipment for greater than the Technical Specification allowed outage time, and did not screen as a potentially significant seismic, flooding, or severe weather issue. The inspectors determined that this finding was cross-cutting in the Problem Identification and Resolution, Corrective Action area, because the licensee did not thoroughly evaluate a November 2009 problem with valve CC 5 2 such that the resolution addressed the cause and extent of the condition (P.1(c)).

Inspection Report# : [2010002](#) (pdf)

Significance:  Mar 26, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Determine the Minimum Cooling Water System Flow Required After a Design Basis Earthquake

A finding of very low safety-significance and associated NCV of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," was identified by the inspectors for the failure to determine the minimum cooling water system flow required after a design basis earthquake (DBE) to safely shutdown both reactors and to correctly translate these results into procedures. Specifically, the licensee failed to determine the cooling water flow rate necessary to shutdown both reactors after a DBE and ensure that this flow rate remained within the capacity of the emergency intake line. As a result, design bases were not correctly translated into procedures. The licensee confirmed through a preliminary calculation that the system remained operable.

The finding was determined to be more than minor because the failure to determine the cooling water flow necessary to shutdown both reactors after a DBE could have provided incorrect guidance in the procedure and to the operators. This finding is of very low safety-significance (Green) because the design deficiency was confirmed not to result in loss of operability or functionality. This finding has a cross-cutting aspect in the area of problem identification and resolution because the licensee did not take appropriate corrective actions to address safety issues in a timely manner, commensurate with its safety-significance and complexity [p1.d].

Inspection Report# : [2010008](#) (pdf)

Significance:  Dec 31, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO FOLLOW PROCEDURE RESULTS IN FAILURE TO IDENTIFY ADVERSE TREND REGARDING COOLING WATER PUMP RIGHT ANGLE DRIVE FOULING

The inspectors identified a finding of very low safety significance and an NCV of 10 CFR Part 50 Appendix B, Criterion V, due to the licensee's failure to accomplish an activity affecting quality in accordance with procedures. Specifically, licensee personnel failed to identify repeated blocking of the diesel-driven cooling water pumps right angle drive gear oil coolers with debris as an adverse trend even though blockages had been identified four times between July 2005 and August 2009. As a result, the adverse trend was not characterized as a significant condition adverse to quality as required by Procedure FP PA ARP 01, "Corrective Action Program Action Request Process." The failure to identify this issue as an adverse trend and a significant condition adverse to quality resulted in the untimely implementation of corrective actions to prevent recurrence and contributed to the August 27, 2009, inoperability of the 12 diesel-driven cooling water pumps. Corrective actions for this issue included the continued installation of ultrasonic flow meters to monitor flow to the right angle drive gear oil coolers and the implementation of a modification to strain the cooling water flow to the right angle drive gear oil coolers prior to performing the next

zebra mussel treatment.

The finding was more than minor because the failure to properly implement the corrective action procedure impacted the equipment performance attribute of the Mitigating Systems cornerstone and 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 the finding was of very low safety significance because it did not involve a loss of safety function of a single train for greater than technical specification allowed outage time, did not involve a loss of system safety function and 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 Human Performance, Decision Making area because the licensee failed to appropriately use systematic processes (i.e., the corrective action, engineering change, and the preventive maintenance processes) when making safety significant decisions regarding the repeated blockage of the right angle drive gear oil coolers (H.1(a)).

Inspection Report# : [2009005](#) (*pdf*)

Significance:  Sep 30, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

INADEQUATE WORK INSTRUCTION FOR WELD REPAIRS ON THE 11 COMPONENT COOLING HEAT EXCHANGER

On September 16, 2009, the inspectors identified a finding of very low safety significance and a Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion V, for the licensee's failure to have adequate work instructions associated with weld repairs on the 11 component cooling water heat exchanger. Specifically, the licensee failed to include the applicable American Society of Mechanical Engineers Code, Section XI, post weld acceptance criteria into Work Instruction 100611. As a corrective action, the licensee performed an inservice Code VT-2 visual examination to confirm that the heat exchanger was not leaking from the weld repair areas.

The inspectors determined that this finding was more than minor because if left uncorrected, the failure to have adequate work instructions could become a more significant safety concern. Specifically, the failure to include a pressure test and Code VT-2 visual examination could result in undetected heat exchanger leakage affecting the operability of an inservice component cooling water train. This finding was of very low safety significance because it was a design or qualification deficiency, confirmed to not result in loss of operability or functionality. The inspectors determined this finding had a cross-cutting aspect in the area of Human Performance, adequacy of procedures, because the licensee failed to ensure that the work instruction for the weld repair on the 11 component cooling water heat exchanger was complete and up to date with the applicable Code requirements.

Inspection Report# : [2009004](#) (*pdf*)

Significance:  Sep 30, 2009

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

FAILURE TO PERFORM ADEQUATE RISK ASSESSMENT PRIOR TO PERFORMING TROUBLESHOOTING ACTIVITIES RENDERS INSTRUMENT INVERTER UNAVAILABLE AND CAUSES UNPLANNED SHUTDOWN SAFETY COLOR CHANGE

A self revealed finding of very low safety significance and a Non Cited Violation of 10 CFR 50.65(a)(4) was identified on September 14, 2009, due to the licensee's failure to perform an adequate risk assessment prior to performing troubleshooting activities on radiation monitor 1RE 12. The failure to perform the adequate risk assessment resulted in the performance of maintenance activities which resulted in rendering the 14 instrument inverter unavailable and changed the Unit 1 Shutdown Safety Assessment risk for 120 Volt instrument power from Green to Yellow (a higher risk condition). Corrective actions for this issue included restoring the 14 instrument inverter to an available status and reinforcing identification of critical steps and risk management to maintenance and operations personnel.

This finding was more than minor because it was associated with the equipment performance attribute of the Mitigating Systems cornerstone. In addition, the finding impacted the cornerstone objective of ensuring the

availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. This finding was of very low safety significance, because although the finding failed to meet Step III.A.(2) of Checklist 2 to Inspection Manual Chapter 0609, Appendix G, Attachment 1 (since the work activity had significant potential to impact operability of the power supply), the finding did not meet the criteria for findings that required a quantitative assessment. The inspectors determined that this finding had a cross cutting aspect in the area of Human Performance, work planning, because the licensee failed to plan and coordinate this work activity consistent with nuclear safety. Specifically, the licensee failed to incorporate risk insights, job site conditions, risk to other plant components, and the need for compensatory measures into the work plan.

Inspection Report# : [2009004](#) (pdf)

Significance:  Sep 30, 2009

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

FAILURE TO HAVE WORK INSTRUCTIONS APPROPRIATE TO THE CIRCUMSTANCE FOR PERFORMING MAINTENANCE ON THE GENERATOR BEARING OIL SIGHT GLASS FOR THE D1 EMERGENCY DIESEL GENERATOR

A self revealed finding of very low safety significance and a Non-Cited Violation of Technical Specification 5.4.1 was identified on April 5, 2009, due to the failure to ensure that maintenance affecting the performance of the D1 emergency diesel generator was properly preplanned and performed in accordance with instructions, procedures and drawings appropriate to the circumstance. Specifically, the work instructions used to perform maintenance on the generator bearing oil sight glass in January 2009 failed to include directions to install the sight glass o rings. The failure to install the o rings led to a sight glass failure and the unplanned inoperability of the D1 emergency diesel generator. Corrective actions for this issue included replacing the sight glass and revising the model work order instructions to include the o ring installation.

The inspectors determined that this finding was more than minor because it was associated with the equipment performance and procedure quality attributes 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. This finding was determined to be of very low safety significance because it was not a design deficiency, did not result in a loss of system safety function for greater than the Technical Specification allowed outage time, was not an actual loss of safety function of one or more non Technical Specification trains of equipment designated as risk-significant per 10 CFR 50.65 for greater than 24 hours, and did not screen as a potentially significant seismic, flooding, or severe weather issue. No cross cutting aspect was identified.

Inspection Report# : [2009004](#) (pdf)

Significance:  Aug 13, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO QUALIFY SAFETY-RELATED MOLDED CASE CIRCUIT BREAKERS

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

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

operating experience, because the licensee failed to implement maintenance information through changes to station processes and procedures to address the qualification of the breakers from Vendor Technical Bulletin 06-2.
Inspection Report# : [2009009](#) (pdf)

Significance: SL-III Aug 10, 2009

Identified By: NRC

Item Type: VIO Violation

Failure to Provide Complete Information to the NRC which Impacted a Licensing Decision.

On May 11, 2009, while reviewing an application to incorporate a medical restriction into an SRO's operating license, an NRC inspector identified that Prairie Island Nuclear Generating Plant (PINGP) had provided incomplete and inaccurate information to the NRC when a license renewal was requested for the SRO in May 2007. The issue was considered to be of very low safety significance, but was considered to have important regulatory significance because the information was provided to the NRC under a signed statement and resulted in a licensing action that would not have been taken had complete and accurate information been provided to the NRC. This was an apparent violation of 10 CFR 50.9, "Completeness and Accuracy of Information."

Because the issue affected the NRC's ability to perform its regulatory function, it was evaluated using the traditional enforcement process. The finding was determined to be of low safety significance because the licensed operator had taken medications as prescribed and had not made errors during any emergency condition prior to the license being amended.

However, the regulatory significance was important because the incomplete and inaccurate information was provided under a signed statement to the NRC and impacted a licensing decision for the licensed operator. This was preliminarily determined to be an apparent violation of 10 CFR 50.9, "Completeness and Accuracy of Information." No cross-cutting element for this finding was assigned. This appears to be a misunderstanding of NRC reporting requirements since they changed in January 2006 and is not reflective of current plant standards or processes in this area.

Final Enforcement Action issued 10/27/09 with NOV as follows:

During an NRC inspection conducted on May 1, 2009, through August 10, 2009, a violation of NRC requirements was identified. In accordance with the NRC Enforcement Policy, the violation is listed below:

10 CFR 50.9 requires, in part, that information provided to the Commission by an applicant for a license or by a licensee or information required by statute or by the Commission's regulations, Orders, or license conditions to be maintained by the applicant or the licensee shall be complete and accurate in all material respects.

10 CFR 55.23 requires, in part, that to certify the medical fitness of the applicant, an authorized representative of the facility licensee shall complete and sign NRC Form 396, "Certification of Medical Examination by Facility Licensee." NRC Form 396, when signed by an authorized representative of the facility licensee, certifies that a physician conducted a medical examination of the applicant and that the guidance contained in American National Standards Institute/American Nuclear Society (ANSI/ANS) Standard 3.4-1983, "Medical Certification and Monitoring of Personnel Requiring Operator Licenses for Nuclear Power Plants" was followed in conducting the examination and making the determination of medical qualification. ANSI/ANS 3.4-1983, Section 5.3, provides, in part, that the presence of certain medical conditions, unless adequately compensated by the methods specified in Subsections 5.3.1 through 5.3.9, shall disqualify the individual.

Contrary to the above, on May 11, 2007, the facility licensee provided information to the NRC that was not complete and accurate in all material respects. Specifically, the licensee submitted an NRC Form 396 for renewal of a senior reactor operator's license which certified that the applicant met the medical requirements of ANSI/ANS 3.4 1983 with only a restriction for corrective lenses. However, in July 1998, the senior reactor operator was prescribed medication to adequately compensate for a disqualifying medical condition. The certification by the senior licensee facility representative was material to the NRC because the NRC relied upon this certification and renewed the senior reactor operator's license pursuant to 10 CFR Part 55 without a restriction that the senior reactor operator was required to take medication as prescribed to maintain his qualification.

This is a Severity Level III violation (Supplement VII).

Inspection Report# : [2009012](#) (pdf)
Inspection Report# : [2009014](#) (pdf)
Inspection Report# : [2010002](#) (pdf)

Significance:  Jul 09, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Ensure Design Measures Were Appropriately Established for the unit 1 Component Cooling Water System.

An inspector identified Non Cited Violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," was identified due to the licensee's failure to establish design control measures to ensure that the design basis for the Unit 1 component cooling water system (CCW) was correctly translated into specifications, drawings, procedures, and instructions. Specifically, the licensee failed to ensure that the safety related function of the CCW system was maintained following a tornado/high winds induced failure of the CCW system piping to the 122 spent fuel pool heat exchanger. Corrective actions for this issue included providing procedural guidance to isolate the Unit 1 CCW system from the 122 spent fuel pool heat exchanger following the receipt of a tornado watch and evaluating the need for additional tornado missile protection for the CCW system piping to the 122 spent fuel pool heat exchanger.

This finding was determined to be more than minor because it impacted the design control and external events aspects of the Mitigating Systems Cornerstone. The finding also impacted the Mitigating Systems Cornerstone objective of ensuring 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 due to the very low probability of the Prairie Island Nuclear Generating Plant experiencing a high wind condition that could generate a missile large enough to fail the Unit 1 CCW system piping to the 122 spent fuel pool heat exchanger. The cause of this finding was related to the cross cutting element of Human Performance, Decision Making because the licensee failed to make safety significant and risk significant decisions using a systematic process to ensure that safety was maintained (H.1(a)). (Section 40A5.1)

Inspection Report# : [2009010](#) (pdf)

Barrier Integrity

Emergency Preparedness

Significance:  Mar 04, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Maintain a Standard Emergency Action Level Scheme

A licensee identified finding and associated Apparent Violation (AV) of 10 CFR 50.54(q) and 10 CFR 50.47(b)(4) was identified for the failure to follow and maintain in effect emergency plans which use a standard emergency classification and action level scheme. Specifically, the licensee's emergency plan Alert emergency action levels (EALs) RA1.1 and RA1.2 specified instrument threshold values that were beyond the indicated ranges of the effluent radiation monitors.

The performance deficiency was determined to be more than minor because the deficiency, if left uncorrected, would have the potential to lead to a more significant safety concern. Specifically, in the event of a radiological emergency, the deficiency could lead to the failure to declare two Alert conditions in a timely manner. The finding was evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," Appendix B. Using the "Failure to Comply" flowchart, the performance deficiency screened as a risk significant planning standard problem. The

inspector determined the problem was a degraded function, rather than function failure, because even though the two Alerts (RA1.1 and RA1.2) would not be able to be declared due to the EAL threshold values being beyond the range of the associated instruments, an Alert could be declared, although in a delayed manner, using RA1.3 which is based on a sample results. The degraded risk significant planning standard function resulted in a preliminary White finding.

Preliminary SDP/Choice Letter Issued - 04/08/2010.

Final Significance Determination letter Issued - 07/07/2010

Inspection Report# : [2010503](#) (pdf)

Inspection Report# : [2010504](#) (pdf)

Significance:  Aug 13, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

INADEQUATE TECHNICAL SUPPORT CENTER VENTILATION SYSTEM TESTING

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

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

Inspection Report# : [2009009](#) (pdf)

Occupational Radiation Safety

Significance:  Dec 31, 2009

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

VALVE TECHNICIAN BECAME INTERNALLY AND EXTERNALLY CONTAMINATED WHEN HE BREACHED THE RH-2-1 VALVE CONTRARY TO THE REQUIREMENTS OF THE RWP.

A self-revealed finding of very low safety-significance and an NCV of Technical Specification 5.4.1 was identified for the failure to implement written procedures in the area of radiation protection. Specifically, the licensee failed to meet radiation work permit requirements during a valve breach. As a result, a valve technician became internally and externally contaminated. Corrective actions for this issue included performance management of the personnel involved.

This finding was more than minor because it was associated with the program and process attribute of the Occupational Radiation Safety cornerstone. In addition, the finding impacted the cornerstone objective of protecting worker health and safety from exposure to radiation. The inspectors determined that the finding was of very low safety significance, because the finding did not involve As-Low-As-Is-Reasonably Achievable planning or work controls, there was no overexposure or substantial potential for an overexposure, nor was the licensee's ability to assess worker dose compromised. The inspectors concluded that this finding was cross cutting in the Human

Performance, Work Practices area because personnel failed to follow procedures during the valve breach (H.4(b)).

Inspection Report# : [2009005](#) (pdf)

Public Radiation Safety

Significance:  Dec 31, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

RADIOACTIVE WASTE BUILDING VENTILATION SYSTEM AND THE ASSOCIATED RADIATION DETECTOR BEING OUT OF SERVICE FOR EXTENDED PERIODS OF TIME WITHOUT INSTITUTING COMPENSATORY ACTIONS

An inspector-identified finding of very low safety-significance and an NCV of 10 CFR Part 20.1501 was identified for the failure to evaluate the potential radiological environmental dose impact associated with the extended non functionality of the radioactive waste building ventilation system and its radiation detector. As a result, compensatory measures were not established to compensate for the non functional equipment. Corrective actions for this issue included instituting compensatory radiological sampling and increasing the priority of the radwaste building ventilation system repairs.

This finding was more than minor because it was associated with the program and process attribute of the Public Radiation Safety cornerstone. In addition, this finding impacted the cornerstone objective of ensuring adequate protection of public health and safety from exposure to radioactive materials released into the public domain as a result of routine civilian nuclear reactor operation. The inspectors determined that the finding was of very low safety significance because it did not involve radioactive material control, there was not a substantial failure to implement the radiological effluent program, and public dose was less than Appendix I criteria and 10 CFR 20.1301. The inspectors concluded that this finding was cross cutting in the Problem Identification and Resolution, Corrective Action area, because although this long standing equipment issue had been documented in the licensee's corrective action program, the issue had not been fully evaluated nor had actions been taken to address the equipment deficiency in a timely manner (P.1(c)).

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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.

Miscellaneous

Significance: N/A Aug 13, 2009

Identified By: NRC

Item Type: FIN Finding

PI&R Summary

On the basis of the information reviewed, the team concluded that the corrective action (CA) program at Prairie Island was functional, but implementation was lacking in rigor resulting in inconsistent and undesirable results. In general, the licensee had a low threshold for identifying problems (issue reports called CAPs) and entering them in the CA program; however, some significant issues went unrecognized and therefore CAPs were not issued for these. Most items entered into the CA program were screened and prioritized in a timely manner using established criteria;

however, inspectors observed inconsistency and lack of rigor in the screening process. Most issues, including operating experience, were properly evaluated commensurate with their safety significance; and corrective actions were generally implemented in a timely manner, commensurate with the safety significance. However, the inspectors identified significant examples of issues with evaluation and corrective action shortcomings that resulted in inspection findings. The backlog of corrective actions was large and growing. Audits and self-assessments were determined to be performed at an appropriate level to identify deficiencies, but the station was not taking full advantage of the processes and results. On the basis of interviews conducted during the inspection, and a review of the employee concerns program, workers at the site were willing to enter safety concerns into the CA program.

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

Inspection Report# : [2009009](#) (*pdf*)

Last modified : September 02, 2010