

Prairie Island 1

4Q/2009 Plant Inspection Findings

Initiating Events

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)).

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

Significance:  Apr 24, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

Combustible Materials Present Within Safety Related Fire Area

A finding of very low safety significance and associated NCV of License Condition 2.C.(4) was identified by the inspectors for the failure to minimize the use of combustible materials in a safety-related area. Specifically, the inspectors identified wooden tables in two diesel generator control rooms. The licensee entered the issue into their corrective action program and planned to replace the wood tables with metal tables.

The finding was determined to be more than minor because the inspectors' finding was similar to IMC 0612, Appendix E, Example 4.k. The combustible materials created a credible fire scenario that could affect equipment important to safety. The issue was of very low safety significance because the identified materials had a low likelihood of causing a fire from existing sources of heat or electrical energy.

Inspection Report# : [2009007](#) (*pdf*)

Mitigating Systems

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*)

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*)

Significance:  Jun 30, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO POSITIVELY CONTROL COMPENSATORY MEASURES

The inspectors identified a finding of very low safety significance and a Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion V on April 28, 2009, for failure to have adequate procedures to control compensatory actions for degraded/non-conforming conditions. Specifically the failure to implement positive controls for the Unit 2 roll-up door as a compensatory measure for an operability determination invalidated the determination. The door was discovered less than the 18"-open requirement which supported the flooding evaluation. Corrective actions for this issue included opening the Unit 2 turbine building roll-up door to greater than 18 inches open, implementing positive configuration controls for the compensatory measures, and revising the operability determination procedure to require

the implementation of positive controls.

The inspectors determined that this finding was more than minor because if left uncorrected the failure to properly control compensatory measures could result in rendering equipment inoperable (a more significant safety concern). This finding was of very low safety significance because it was not a design or qualification deficiency, did not result in a loss of system safety function or the loss of a single train for greater than the Technical Specification allowed outage time, and it did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event since the roll-up door was 14 inches open and would have provided some mitigation following an internal flooding event. The inspectors determined that this issue was cross cutting in the Human Performance, Resources area because the licensee failed to ensure that the operability determination procedure was adequate in regards to the control of compensatory measures.

Inspection Report# : [2009003](#) (pdf)

Significance:  Jun 30, 2009

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

FAILURE TO CONTROL MAINTENANCE ACTIVITIES TO ENSURE PLANT EQUIPMENT IS NOT UNNECESSARILY CHALLENGED

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 March 19, 2009, due to the failure to have adequate procedures to control maintenance activities to ensure that plant equipment was not unnecessarily challenged. Specifically, the failure to adequately control maintenance on the 12 diesel-driven cooling water pump resulted in the unplanned automatic start of the 121 motor-driven cooling water pump during post maintenance testing activities. Corrective actions for this issue included adding instructions to the post maintenance testing procedure to ensure that it properly referenced the procedure used to realign the 121 motor-driven cooling water pump. The licensee planned to complete a review of safety related preventive maintenance procedures to ensure that proper procedure referencing and branching was utilized. Lastly, the licensee will add additional staff to assist with the procedure upgrade program and the coordination of preventive maintenance activities.

The inspectors determined that this finding was more than minor because if left uncorrected the failure to properly control maintenance activities could become a more significant safety concern. In addition, the inspectors determined that the identification of this issue in conjunction with several other procedure upgrade project issues is reflective of a significant programmatic deficiency in coordination of maintenance and operations procedures. 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 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 Human Performance, Resources area because the licensee did not have complete, accurate and up to date procedures regarding testing of the 12 diesel-driven cooling water pump and realignment of the 121 motor-driven cooling water pump.

Inspection Report# : [2009003](#) (pdf)

Significance:  Jun 30, 2009

Identified By: Self-Revealing

Item Type: FIN Finding

122 AIR COMPRESSOR RENDERED NON-FUNCTIONAL DURING CLEARANCE ORDER ACTIVITIES

A self-revealed finding of very low safety significance was identified on April 30, 2009, due to operations personnel failing to implement procedures which control plant equipment. Specifically operations personnel operated the incorrect component, rendering the 122 air compressor non-functional during the performance of independent verification activities. Corrective actions for this issue included restoring the 122 air compressor to a functional status and briefing operations personnel on the details/lessons learned from this event.

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, 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, was not an actual loss of safety function for one or more non Technical Specification trains of equipment for greater than 24 hours, and did not screen as a potentially significant seismic, flooding, or severe weather issue. The inspectors concluded that this finding was cross-cutting in the Human Performance, Decision Making area because the operator failed to use conservative assumptions when making the decision regarding the need to operate breaker 121E 6, 1A2 B4. No violation of NRC requirements was identified because the air compressor was non-safety related.

Inspection Report# : [2009003](#) (pdf)

Significance:  Apr 24, 2009

Identified By: NRC

Item Type: FIN Finding

Failure to Ensure Fire door Would Consistently Close

A finding of very low safety significance was identified by the inspectors for the failure to ensure a fire door would consistently close. The licensee entered the issue into their corrective action program. This finding has a cross cutting aspect in the area of problem identification and resolution because the licensee failed to take appropriate corrective action to assure that the fire door would close and latch or equivalent corrective action.

The finding was determined to be more than minor because failure of the fire door to close could have allowed the propagation of a fire from one fire area to another fire area. The issue was of very low safety significance because mitigating systems for initiating events associated with a fire in the two areas would not be impacted.

Inspection Report# : [2009007](#) (pdf)

Significance:  Mar 31, 2009

Identified By: NRC

Item Type: FIN Finding

FAILURE TO PROTECT FIRE PROTECTION EQUIPMENT FROM EFFECTS OF EXTREME COLD TEMPERATURES

The inspectors identified a finding of very low safety significance on January 13, 2009, due to the fire protection system pumps being unable to auto start, as designed, in response to a low fire header pressure condition. Corrective actions for this issue included unthawing the sensing line, verifying the screenhouse ventilation system's configuration, revising the normal screenhouse ventilation procedure to ensure that it provided guidance on shutting down the exhaust fans, and repairing several normal screenhouse ventilation system equipment deficiencies.

This finding was more than minor because if left uncorrected, the failure to protect mitigating systems equipment from the effects of extreme cold temperatures could result in the system failing to function when needed. The inspectors determined that this finding was of very low safety significance because it was assigned a low fire degradation rating as specified in the Fire Protection Significance Determination Process. This finding was determined to be cross-cutting in the Human Performance, Resources area because the licensee failed to have a complete and accurate normal screenhouse ventilation procedure to ensure that operation of the system would not result in the freezing of mitigating systems equipment during extreme cold weather conditions (H.2(c)). No violations of NRC requirements occurred because the fire pumps could have been started manually if needed and because the normal screenhouse ventilation system was nonsafety-related.

Inspection Report# : [2009002](#) (pdf)

Significance:  Mar 31, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO FOLLOW PROCEDURES DURING PERFORMANCE OF OPERABILITY EVALUATIONS

The inspectors identified a finding of very low safety significance and a Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure to adequately implement

Procedure FP-OP OL-01, "Operability Determination", to assess the capability of the 122 Control Room Chilled Water Pump to meet its mission time following the discovery of increased pump vibrations. Corrective actions for this issue included revising the operability recommendation and repairing the degraded pump.

This finding was more than minor because, if left uncorrected, failure to adequately implement the operability procedure could result in safety-related components been incorrectly declared operable rather than inoperable or operable, but non-conforming (a more significant safety concern). This finding was of very low safety significance because the finding did not represent an actual loss of safety function of a single train for longer than its Technical Specification allowed outage time. The inspectors concluded that this finding was cross-cutting in the Human Performance, Decision Making area because the licensee failed to validate the underlying assumptions made when determining the continued operability of a safety-related component (H.1(b)).

Inspection Report# : [2009002](#) (pdf)

Barrier Integrity

Significance:  Jun 30, 2009

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

FAILURE TO MAINTAIN CONTROL OF UNIT 1 CONTAINMENT PERSONNEL AIRLOCK CONFIGURATION

A self-revealed finding of very low safety significance and an Non-Cited Violation of Technical Specification 5.4.1 were identified on March 25, 2009, due to the failure of licensed operators to maintain control of the Unit 1 containment personnel airlock outer door. This resulted in the Unit 1 containment personnel airlock being unknowingly inoperable for approximately 45 minutes. Corrective actions for the issue included returning the Unit 1 containment airlock outer door to an operable status, developing a case study for inclusion during licensed operator training, and developing a procedure on operating the containment airlock doors.

This finding was determined to be more than minor because if left uncorrected the failure to fully understand and control the configuration of plant equipment could become a more significant safety concern. The inspectors determined that this finding was of very low safety significance because it did not represent a degradation of the radiological barrier function provided for the control room, auxiliary building, or spent fuel pool; the finding did not represent a degradation of the barrier function of the control room against smoke or a toxic atmosphere; the finding did not represent an actual open pathway in the physical integrity of reactor containment due to the inner airlock door being fully closed; and the finding did not involve an actual reduction in function of the hydrogen igniters in the reactor containment. 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 requirement to maintain an awareness of the configuration of plant equipment at all times.

Inspection Report# : [2009003](#) (pdf)

Significance:  Mar 31, 2009

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

FAILURE TO ADHERE TO LICENSED POWER LEVEL SPECIFIED IN OPERATING LICENSE

A self-revealed finding and an NCV of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings" was identified due to the failure to have an adequate procedure for reactivity management. Specifically the guidance in SWI O-50, "Reactivity Management" was not adequate to ensure operators took prudent actions so as to maintain Unit 1 reactor power below the licensed power limit. Corrective actions for this issue included revising all associated operating procedures to ensure that operations personnel take action to lower reactor power if plant activities were expected to result in increases in power levels that exceed the licensed thermal power limitations.

The inspectors determined that this issue was more than minor because if left uncorrected the operation of the reactor beyond the limits specified in the operating license could become a more significant safety concern. The inspectors determined that this issue was of very low safety significance because the finding was only associated with the fuel

aspect of the Barrier Integrity Cornerstone and no reactor safety limits were violated. The inspectors determined that this finding had a cross cutting aspect in the Human Performance, Decision-Making area because the licensee failed to use conservative assumptions in making decisions concerning power level controls (H.1(a)).

Inspection Report# : [2009002](#) (pdf)

Emergency Preparedness

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)

Significance:  Jan 21, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Perform Formal Job Planning to Evaluate the Radiological Hazards

An NRC-identified finding of very low safety significance with an associated Non-Cited Violation (NCV) of Technical Specification 5.4.1 was identified in the area of occupational radiation safety associated with the licensee's failure to perform adequate job planning to evaluate the radiological hazards, as required by station procedures. Specifically, the licensee failed to properly assess the radiological hazards to workers associated with the decontamination, demobilization and packaging of fuel sipping equipment on the refuel floor. This issue has been entered into the licensee's corrective action program and implemented corrective actions that include changes to procedures to include a holistic risk-based review of radiologically significant work.

The finding is more than minor because, given the radiological uncertainty of working with fuel handling equipment, if left uncorrected the finding could become a more significant safety concern. The finding was determined to be of very low safety significance because it did not involve unintended collective dose (ALARA planning); there was no overexposure, nor potential for overexposure; and the licensee's ability to assess dose was not compromised. Additionally, the cause of this finding had a cross-cutting aspect in the area of Human Performance. Specifically, the licensee failed to appropriately plan the work activity by incorporating risk insights and job site conditions, including conditions which may impact radiological safety (H.3 (a)).

Inspection Report# : [2008009](#) (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)).

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

Significance: **W** Jan 21, 2009

Identified By: NRC

Item Type: VIO Violation

Radioactive Material Shipment Package radiation Levels Exceeded

A self-revealing finding with an apparent violation of regulatory requirements was identified involving a failure of the licensee to properly radiologically characterize, prepare, and ship a package containing radioactive material in a manner that assured, under conditions normally incident to transport, conformance with Department of Transportation (DOT) radiation level limitations specified by 49 CFR 173.441(a), (i.e., 200 millirem per hour (mrem/h)) on any external surface of the package as required by 10 CFR 71.5 [and 49 CFR 173.441(a)]. Additionally, the licensee did not provide nor ensure that the individuals involved in preparing this shipment were trained and qualified for the task as specified by 49 CFR 172.704, "Training Requirements." The finding involved an October 29, 2008, radioactive material shipment, via an exclusive-use open transport vehicle that was determined to have radiation levels of 1630 mrem/h on the external surface of a package upon receipt at the shipping destination. As immediate corrective actions, the licensee suspended all radioactive shipment activities. The licensee entered this performance deficiency in their corrective action program; initiated a root cause evaluation; and initiated corrective measures, including various process improvements to prevent recurrence.

This finding is more than minor since it was associated with the Public Radiation Safety Cornerstone program and process attribute and affected the cornerstone objective to ensure adequate protection of the public from exposure to radioactive materials given that package radiation levels were elevated. Preliminarily, the significance of this finding is considered as having a substantial safety significance (Yellow), since the radiation level was greater than five times the limit (1000 mrem/h) but less than ten times the limit (2000 mrem/h) specified by the DOT regulatory requirement. Although the surface of the package with elevated radiation levels would not be routinely accessible to a member of the public during transport, that aspect was fortuitous and not the result of design nor package preparation by the licensee. The condition had the potential to adversely affect personnel who would normally receive the package or respond to an incident involving the package, with a reasonable expectation that the package conformed to DOT radiation limitations.

Additionally, the cause of this finding had a cross-cutting aspect in the area of Human Performance. Specifically, the licensee failed to appropriately plan the work activity by incorporating risk insights and job site conditions, including conditions which may impact radiological safety (H.3 (a)). This finding is documented within the licensee's corrective action system as RCE 1157726.

Final determination letter issued May 6, 2009.

95001 Completed on 12/4/2009 - closed item.

Inspection Report# : [2008009](#) (*pdf*)

Inspection Report# : [2009008](#) (*pdf*)

Inspection Report# : [2009015](#) (*pdf*)

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 : March 01, 2010