Prairie Island 2
4Q/2006 Plant Inspection Findings

Initiating Events

Significance: G Dec 31, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO PERFORM A MAGNETIC PARTICLE EXAMINATION IN ACCORDANCE WITH ASME CODE SECTION XI
The inspectors identified a Non-Cited Violation of 10 CFR 50.55(a)(g)(4) for failure to perform a Magnetic Particle examination (MT) of the full required exam surface on a steam generator feedwater nozzle weld (N-1) in accordance with the American Society of Mechanical Engineers (ASME) Section XI Code. The licensee subsequently reperformed the MT in accordance with the ASME Code and entered this issue into their corrective action program.

This finding is greater than minor significance because it is associated with the initiating events cornerstone attribute of equipment performance, and affected the cornerstone objective to limit those events which upset plant safety and challenge safety systems. Absent NRC intervention, the licensee would not have performed the full Code-required exam of weld N-1 for an indefinite period of service, which would have placed the reactor coolant pressure boundary at increased risk for unanalyzed cracking, leakage, or component failure. This finding is of very low safety significance because a qualified examination was subsequently performed with no relevant indications detected. In particular, it did not result in the loss of function of the mitigating system.
Inspection Report# : 2006005 *(pdf)*

Significance: G Mar 31, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO FOLLOW PROCEDURES FOR EXTERNAL FLOODING (EVALUATION OF EXPIRED SEALANT PERFORMANCE FOR FLOOD PROTECTION)
The inspectors identified a Non-Cited Violation of 10 CFR Part 50 Appendix B, Criterion V for a combination of an inadequate procedure and a failure to implement the requirements of Surveillance Procedure 1293, Inspection of Flood Control Measures and the Shelf Life Program Procedure FP-SC-PE-05. Specifically, the licensee failed to order and maintain the correct type of Deck-O-Seal sealant to facilitate installation of flood doors and panels in accordance with plant abnormal procedures.

The finding was more than minor because it closely matched example 2E of Inspection Manual Chapter 0612, Appendix E. The inspectors determined the finding to be of very low safety significance following a review of a licensee's condition evaluation concluding that the finding did not increase the likelihood of the external flooding event affecting plant safety-related systems or components.
Inspection Report# : 2006002 *(pdf)*
Inspection Report# : 2006003 *(pdf)*

Mitigating Systems

Significance: G Aug 18, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
No Fire-Rated Damper in Return Ventilation Duct

The inspectors identified a NCV of the Prairie Island Nuclear Generating Plant's (PINGP's) Facility Operating License, Section 2.C.(4) and 10 CFR 50.48(b)(1)(I) having very low safety significance for not having a three-hour fire-rated damper installed between the AFW pump room (Fire Area 31) and the 480 Volt normal switchgear room (Fire Area 37). In the licensee's safety evaluation report (SER) dated September 6, 1979, in Section 5.10.6, the NRC stated that all ventilation return ducts that penetrate room boundaries will have fire-rated dampers (three-hour or equivalent) installed. This finding was entered into the licensee's CAP as 01044959, "SER Committed Damper Not Installed in AFWP Return Duct," dated August 17, 2006, to resolve and initiate appropriate corrective actions. In addition, the licensee established compensatory measures (i.e., an hourly fire watch).

This finding was more than minor because it affected the mitigating systems cornerstone attribute of protection against external factors (i.e., fire) and it impacted the objective of the mitigating systems cornerstone. The failure to have a three-hour fire-rated damper installed in the ventilation's return duct could allow the propagation of a fire that could impact the ability of the plant to achieve and maintain SSD. This finding was determined to be of very low safety significance based on the availability of SSD systems and because other defense-in-depth fire protection elements remained unaffected. (Section 1R05.3b.1)

Inspection Report# : 2006009 *(pdf)*

Significance: G Aug 18, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
Surveillance Did Not Include TS Requirements
The inspectors identified a NCV of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," having very low safety significance for the licensee's failure to include required instructions in a surveillance procedure. Specifically, the licensee failed to include the technical specification (TS) requirements in Surveillance Procedure (SP)-1266 "Fire Damper - 18-Month Inspection," dated June 2, 2004, to ensure that administrative controls were in place when opening the control room special ventilation system doors to inspect the fire dampers. This finding was entered into the licensee's CAP, the licensee also initiated procedure change request PCR01042837 to revise SP-1266 to reference the TS requirements.

This finding was more than minor because it could have become a more significant safety concern if the fire dampers inspection procedure was not revised to include appropriate administrative controls. Specifically, control room habitability could have been adversely affected if the ventilation duct access panel was not immediately closed during an event that could have resulted in smoke or toxic gas entry into the control room. This finding was determined to be of very low safety significance by an SDP Phase 3 evaluation.
Inspection Report# : 2006009 *(pdf)*

Significance: G Aug 18, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
Lack of Smoke Detectors
The inspectors identified a NCV of the PINGP's Facility Operating License having very low safety significance for the failure to have adequate fire detection installed in accordance with the applicable NFPA codes. Specifically, the licensee failed to install detectors in beam pockets at the mezzanine areas located in the AFW pump rooms (Fire Areas 31 and 32). The inspectors determined that the cause of this finding was related to the self- and independent assessments aspect of the problem identification and resolution (PI and R) cross-cutting area because, in July of 2006, the licensee failed to identify the lack of detectors in the mezzanine areas during their evaluation of the NFPA 72E code compliance deviations for Fire Areas 31 and 32. This finding was entered into the licensee's CAP to evaluate the existing configuration in order to either justify the existing configuration as-is or implement a modification to correct the deficiency.

This finding was more than minor because it affected the mitigating systems cornerstone attribute of protection against external factors (i.e., fire) and it impacted the objective of the mitigating systems cornerstone. As a result of not having an adequate number of detectors, detection of a fire at these locations (i.e., in the AFW pump rooms) could have been delayed. This finding was determined to be of very low safety significance based on the availability of SSD equipment and the low number of ignition sources.

Inspection Report# : 2006009 *(pdf)*

Significance: G Mar 24, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Consider Adverse Ampacity Effects of High Temperature Conditions in the Auxiliary Feedwater Pump Rooms
A Non-Cited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," having very low safety significance was identified by the inspectors. Specifically, the licensee had not evaluated and updated the associated plant cable ampacity calculation to determine the potential consequences of adverse effects to cabling due to higher temperatures in the auxiliary feedwater (AFW) pump rooms and other auxiliary building areas. After identification by the inspectors, the licensee was able to demonstrate that even though the higher temperatures decreased the ampacity margins for the affected cabling, it did not decrease the margins to the limit where the cabling would fail if called upon to provide power to equipment important to safety.

The finding was more than minor because it affected the mitigating system cornerstone objective to ensure the availability, reliability, and capability of systems that mitigate transients and accidents, and if left uncorrected, the finding could become a more significant safety concern. Specifically, if left uncorrected, the licensee may not account for high temperature conditions in plant areas that could adversely affect the ampacity of cabling that supply power to equipment important to safety. This finding was of very low safety significance because, the licensee's preliminary evaluation determined that the higher temperatures in the AFW pump rooms and other auxiliary building areas would not prevent equipment important to safety from functioning.
Inspection Report# : 2006006 *(pdf)*

Barrier Integrity

Significance: G Sep 30, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO PERFORM CODE VOLUMETRIC EXAMINATION OF THE 22 STEAM GENERATOR INLET NOZZLE WELD W-5
The inspectors identified a Non-Cited Violation of 10 CFR 50.55a(g)4 for failure to complete a code qualified volumetric examination of the 22 steam generator inlet nozzle weld W-5. As a corrective action, the licensee entered this issue into the corrective action program and performed an operability evaluation to accept this non-conforming weld for continued service.

This finding was of more than minor significance because it was associated with the Barrier Integrity cornerstone attribute of "Reactor Coolant System Equipment and Barrier Performance," and affected the cornerstone objective to provide reasonable assurance that physical design barriers (reactor coolant system) protect the public from radionuclide releases caused by accidents or events. Absent NRC intervention, the licensee would have relied on a limited unqualified ultrasonic examination of weld W-5, for an indefinite period of service which would have placed this reactor coolant pressure boundary weld at increased risk for undetected cracking, leakage, or component failure. This finding was of very low safety significance because the licensee performed an operability evaluation to accept the unqualified limited ultrasonic examination results (e.g., no indications). The finding is not suitable for a significance determination process evaluation, but has been reviewed by NRC management and is determined to be a finding of very low safety significance. The inspectors also determined that the cause of this finding was related to the work control aspect in the Human Performance cross-cutting area because the preventative maintenance work activity for the examination of weld W-5 was not effectively completed.
Inspection Report# : 2006004 *(pdf)*

Emergency Preparedness

Occupational Radiation Safety

Significance: G Sep 30, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO EVALUATE CONCENTRATIONS OF RADIOACTIVE MATERIAL AND THE POTENTIAL RADIOLOGICAL HAZARDS
A self-revealed finding of very low safety significance and an associated violation of NRC requirements were identified for the failure to perform adequate evaluation of concentrations or quantities of radioactive material and the potential radiological hazards. Specifically, the licensee failed to adequately assess the radiological hazards and the potential for creating an airborne work area as required in 10 CFR 20.1501, which resulted in unplanned intakes of radioactive material.

The finding was more than minor because it was associated with the Occupational Radiation Safety cornerstone objective to ensure the adequate protection of the worker health and safety from exposure to radiation from radioactive material during routine civilian nuclear reactor operation. The occurrence involved the program and process attribute of the objective because procedures were not adequately used to control exposure due to radioactive contamination. A Non-Cited Violation of 10 CFR 20.1501 was identified for the failure to cause surveys to be made that are reasonable under the circumstances to evaluate concentrations of radioactive material and the potential radiological hazards. Corrective actions taken by the licensee for this finding include: 1) developing an Apparent Cause Evaluation (ACE); 2) completing a department “human performance clock” reset to elevate awareness of the safety consequences of the human performance problems; and 3) developing a fleet team to evaluate the way Radiation Work Permits are written to determine if the process can be improved to prevent future similar failures. The fleet team evaluation was still in process during the inspection.
Inspection Report# : 2006004 *(pdf)*

Significance: G Jun 30, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
NRC IDENTIFIED LOSS OF HIGH RADIATION AREA BARRICADE AT UNIT 1 PRESSURIZER MISSILE SHIELD
A finding of very low safety significance and associated Non-Cited Violation (NCV) were inspector-identified during a walkdown in Unit 1 containment. The inspectors identified that a swing gate barrier to a High Radiation Area (HRA) was left in the open position due to misalignment of the gate in the stand. The licensee corrected the barrier misalignment and verified other HRA barriers in containment were properly operating and positioned. Radiation workers in containment were not self-checking to assure that the barriers were placed back into the correct position after traversing the HRA. The licensee entered this finding into the corrective action program.

The finding was more than minor because it was associated with the Occupational Radiation Safety cornerstone, and potentially affected the cornerstone attribute of program and process for radiation worker performance. The finding was determined to be of very low safety significance because it did not involve an As-Low-As-Reasonably-Achievable (ALARA) issue, as collective dose was not a factor and no individual received an unintended dose as a result of the barrier non-compliance; there was not a substantial potential for a worker overexposure; and the licensee’s ability to assess worker dose was not compromised. Since the principal cause of the problem was a human performance deficiency, the finding also relates to the cross-cutting area of human performance.
Inspection Report# : 2006003 *(pdf)*

Significance: G Jun 30, 2006
Identified By: NRC
Item Type: NCV NonCited Violation

ALARA PLANNING DOES NOT IDENTIFY AND PREPARE FOR POTENTIAL AIRBORNE CONDITIONS WHEN OPENING THE STEAM GENERATOR MANWAYS

A self-revealing finding of very low safety significance and associated NCV were identified when 110 radiation workers were contaminated as a result of opening steam generator manways during the Unit 1 1R24 refueling outage. Specific ALARA planning assessments did not acknowledge airborne concentrations of radioactivity may be subject to change. Additionally, the ALARA planning for this work did not consider the effect of engineering safety systems operation or malfunction on other work areas in containment, consequently when the work area was set up and initial work commenced, the focus was on the immediate work area only, and the result was elevated iodine-131 levels throughout containment. The licensee evacuated containment, identified the source of airborne contamination, and repositioned and secured an air handling hose to the containment clean-up filter. The event was entered into the licensee's corrective action program.

The finding was more than minor because it was associated with the Occupational Radiation Safety cornerstone, and potentially affected the cornerstone attribute of program and process for ALARA planning and exposure/contamination control. The finding was determined to be of very low safety significance because although the finding did involve an ALARA planning issue and resulted in unintended exposure to personnel, personnel doses were well below regulatory limits.

Inspection Report# : 2006003 *(pdf)*

Public Radiation Safety

Significance: G Jun 30, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

PROCEDURE FOR ODCM COMPLIANCE DOES NOT INCLUDE CONTAINMENT EFFLUENT THROUGH EQUIPMENT HATCH

A finding of very low safety significance and associated NCV were inspector-identified for the failure to establish adequate written procedure(s) for Offsite Dose Calculation Manual (ODCM) implementation to ensure that the radiological impact from releasing gaseous and particulate effluents from the Unit 1 containment equipment hatch to the environment was properly assessed prior to the release, and the release was properly quantified and reported. The licensee conservatively reconstructed the effluent concentrations and projected dose to the public, and entered the event into the corrective action program.

The finding was more than minor because the issue was associated with the Public Radiation Safety cornerstone attribute of program and process and potentially affected the cornerstone objective to ensure adequate protection of the public from exposure to radioactive materials from the release of gaseous effluents. The finding was determined to be of very low safety significance, because the issue was not associated with radioactive material control, and although there was an impaired ability to access dose prior to the releases, the licensee's dose assessment demonstrated that the actual effluent releases were calculated to be within regulatory dose limits and ALARA dose constraints. Since the principal cause of the problem was a problem identification and resolution deficiency, the finding also relates to the cross-cutting area of problem identification and resolution.

Inspection Report# : 2006003 *(pdf)*

Physical Protection

Physical Protection information not publicly available.

Miscellaneous

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