

October 30, 2002

Mr. Mano Nazar  
Site Vice-President  
Prairie Island Nuclear Generating Plant  
Nuclear Management Company, LLC  
1717 Wakonade Drive East  
Welch, MN 55089

SUBJECT: PRAIRIE ISLAND NUCLEAR GENERATING PLANT, UNITS 1 AND 2  
NRC INTEGRATED INSPECTION REPORT 50-282/02-08; 50-306/02-08

Dear Mr. Nazar:

On September 30, 2002, the U. S. Nuclear Regulatory Commission (NRC) completed an integrated inspection at your Prairie Island Nuclear Generating Plant, Units 1 and 2. The enclosed report documents the inspection findings which were discussed on September 27, 2002, with you and members of your staff.

This inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

Based on the results of this inspection, the NRC identified two issues of very low safety significance (Green). One of the issues was determined to involve a violation of NRC requirements. However, because of its very low safety significance and because it has been entered into your corrective action program, the NRC is treating the issue as a Non-Cited Violation, in accordance with Section VI.A.1 of the NRC's Enforcement Policy.

If you contest the subject or severity of a Non-Cited Violation, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001, with a copy to the Regional Administrator, U.S. Nuclear Regulatory Commission - Region III, 801 Warrenville Road, Lisle, IL 60532-4351; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; and the Resident Inspector Office at the Prairie Island Nuclear Generating Plant.

In response to the terrorist attacks on September 11, 2001, the NRC issued an Order and several threat advisories to commercial power reactors to strengthen licensees' capabilities and readiness to respond to a potential attack. The NRC established a deadline of September 1, 2002, for licensees to complete modifications and process upgrades required by the order. To confirm compliance with this order, the NRC issued Temporary Instruction 2515/148 and over the next year, the NRC will inspect each licensee in accordance with this Temporary Instruction.

The NRC continues to monitor overall security controls and may issue additional temporary instructions or require additional inspections should conditions warrant.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

***/RA/***

Kenneth Riemer, Chief  
Branch 5  
Division of Reactor Projects

Docket Nos. 50-282; 50-306  
License Nos. DPR-42; DPR-60

Enclosure: Inspection Report 50-282/02-08;  
50-306/02-08

cc w/encl: Plant Manager, Prairie Island  
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and Chief Nuclear Officer  
Site Licensing Manager  
Nuclear Asset Manager  
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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket Nos: 50-282; 50-306  
License Nos: DPR-42; DPR-60

Report No: 50-282/02-08; 50-306/02-08

Licensee: Nuclear Management Company, LLC

Facility: Prairie Island Nuclear Generating Plant, Units 1 and 2

Location: 1717 Wakonade Drive East  
Welch, MN 55089

Dates: July 1 through September 30, 2002

Inspectors: J. Adams, Senior Resident Inspector  
D. Karjala, Resident Inspector  
R. Daley, Reactor Engineer  
R. Walton, Operations Specialist

Approved by: Kenneth Riemer, Chief  
Branch 5  
Division of Reactor Projects

## SUMMARY OF FINDINGS

IR 05000282-02-08, 05000306-02-08; Nuclear Management Company, LLC; on 07/01 - 9/30/02, Prairie Island Nuclear Generating Plant, Units 1 & 2. Maintenance Effectiveness and Identification and Resolution of Problems.

This report covers a 3-month period of baseline resident inspection. The inspection was conducted by Region III inspectors and the resident inspectors. Two findings of significance were identified. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process" (SDP). Findings for which the SDP does not apply may be "Green" or be assigned a severity level after NRC management review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 3, dated July 2000.

### A. Inspection Findings

#### **Cornerstone: Initiating Events**

Green. A finding of very low safety significance was identified by the inspectors investigating the repeat failures of the external circulating water intake screen bypass gates to fully open and to latch in the open position. The finding resulted from performance deficiencies associated with the establishment of an appropriate maintenance rule safety significance classification of the external circulating water intake screen bypass gates. The bypass gates were classified as low safety significant components, not as low safety significant standby components as specified by industry maintenance rule guidance.

This finding was more than minor because it increased the likelihood of a reactor trip event due to a loss of circulating water. The finding was of very low safety significance because it did not contribute to the likelihood of a primary or secondary system loss of coolant accident, did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available, and did not increase the likelihood of a fire or internal/external flood. A violation determination could not be completed until appropriate maintenance rule performance criteria have been established and will be tracked by an Unresolved Item. (Section 1R12.1)

#### **Cornerstone: Mitigating Systems**

Green. A finding of very low safety significance was identified by the inspectors during a review of licensee corrective action taken to address concerns documented in Licensee Event Report (LER) 1-98-15 pertaining to Appendix R potential flow diversion paths. The primary cause of this finding was related to a failure to correct or implement appropriate compensatory actions to address potential flow diversion paths that had existed since 1999.

This finding is more than minor because, if left uncorrected, the finding would become a more significant safety concern. Failure to resolve fire protection non-compliance items

and failure to establish appropriate compensatory measures could potentially affect the availability, reliability, and capability of fire protection safe shutdown equipment and response efforts. The inspectors determined that the finding was not suitable for SDP analysis. However, the finding was determined to be of very low safety significance because the probability of having a fire event in the affected areas such that the fire would cause more than one valve to reposition to cause a flow diversion was very low. This was determined to be a Non-Cited Violation (NCV) of 10 CFR Part 50, Appendix B, Criterion XVI. (Section 4OA2.1)

**B. Licensee-Identified Violations**

A violation of very low safety significance, which was identified by the licensee, has been reviewed by the inspectors. Corrective actions taken or planned by the licensee have been entered into the licensee's corrective action program. This violation and corrective action tracking numbers are listed in Section 4OA7 of this report.

## REPORT DETAILS

### Summary of Plant Status

Unit 1 was operated at or near full power for the entire inspection period. Unit 2 was operated at or near full power for the entire inspection period.

#### 1. REACTOR SAFETY

##### **Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity**

#### 1R04 Equipment Alignment (71111.04)

##### .1 Partial Walkdowns

##### a. Inspection Scope

The inspectors performed partial walkdowns of accessible portions of trains of risk-significant mitigating systems equipment during times when the trains were of increased importance due to the redundant trains or other related equipment being unavailable. The inspectors utilized the valve and electric breaker checklists listed at the end of this report to verify that the components were properly positioned and that support systems were lined up as needed. The inspectors also examined the material condition of the components and observed operating parameters of equipment to verify that there were no obvious deficiencies. The inspectors reviewed outstanding work orders (WOs) and Corrective Action Program (CAP) Action Requests (ARs) associated with the trains to verify that those documents did not reveal issues that could affect train function. The inspectors used the information in the appropriate sections of the Updated Safety Analysis Report (USAR) to determine the functional requirements of the systems.

The inspectors verified the alignment of the following trains:

- D1 emergency diesel generator during the unavailability of the D2 emergency diesel generator on July 29, 2002;
- 12 safety-related cooling water pump and 121 safety-related traveling screen during the unavailability of the 22 safety-related cooling water pump and 122 safety-related traveling screen on July 30, 2002; and
- 22 and 121 safety-related cooling water pumps following the emergent failure of the 12 safety-related cooling water pump on August 15, 2002.

The inspectors reviewed the ARs listed at the end of this report to verify that the licensee was identifying issues at an appropriate threshold and entering them into their corrective action program. The inspectors also reviewed ARs to verify that minor deficiencies identified during these inspections were entered into the licensee's corrective action system.



b. Findings

No findings of significance were identified.

1R05 Fire Protection (71111.05)

.1 Area Walkdowns

a. Inspection Scope

The inspectors conducted fire protection walkdowns that were focused on the availability and accessibility of fire protection equipment, the condition of fire fighting equipment, the control of transient combustibles, and the condition and operating status of installed fire barriers as described in fire hazards analysis and pre-fire plans. The inspectors selected fire areas for inspection based on their overall contribution to internal fire risk, as documented in the Individual Plant Examination of External Events (IPEEE); their potential to impact equipment which could initiate a plant transient; or their impact on the plant's ability to respond to a security event. The inspectors reviewed the as-found condition of fire doors, dampers, penetration seals, fire detectors, sprinklers, fire hoses and extinguishers, comparing the as-found conditions to the configuration described in fire hazards analysis and pre-fire plans. The inspectors also reviewed equipment to verify that it was in its appropriate location, was available for immediate use, and was not obstructed. The as-found transient combustible loading was also reviewed to verify that it was within the analyzed limits. The inspectors reviewed the ARs listed at the end of this report to verify that the licensee was identifying fire protection issues at an appropriate threshold and entering them into their corrective action program.

The inspectors assessed the following areas:

- Fire Area 13, Unit 1 and 2 Control Room on July 13, 2002;
- Fire Area 18, Unit 1 and 2 Cable Spreading and Relay Rooms on July 11, 2002;
- Fire Area 35, 21 Battery Room on July 10, 2002;
- Fire Area 36, 22 Battery Room on July 11, 2002;
- Fire Area 69, Turbine Ground Floor and Mezzanine;
- Fire Area 101, D5 Emergency Diesel Generator Room; and
- Fire Area 102, D6 Emergency Diesel Generator Room.

b. Findings

No findings of significance were identified.

.2 Fire Brigade Drills

a. Inspection Scope

The inspectors observed the performance of a fire brigade drill in the Unit 1 electrical bus 150/160 room on July 19, 2002. This area was considered risk significant because a fire could cause a unit trip initiating event. The inspectors observed the initial response of the fire brigade leader, the fire brigade, security personnel, and the duty

Emergency Medical Technician. The inspectors observed establishment of communications with the control room, the brigade response strategy briefing, and the brigade's response to the simulated fire. The inspectors used the NRC inspection procedure listed above and the documents listed at the end of this report to evaluate the drill. At the conclusion of the drill, the inspectors observed the licensee's drill critique to ensure that any weaknesses noted during the drill were addressed.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification Program (71111.11)

a. Inspection Scope

On September 10, 2002, the inspectors observed an operating crew during a requalification examination on the simulator. The inspectors evaluated crew performance in the areas of:

- clarity and formality of communications;
- ability to take timely, appropriate, and safe actions;
- prioritization, interpretation, and verification of alarms;
- procedure use;
- control board manipulations;
- oversight and direction from supervisors; and
- group dynamics.

The inspectors compared crew performance in the above areas to the critical tasks listed in the exercise guide at the end of this report. The inspectors also compared simulator configurations with actual control room board configurations. The inspectors attended the post-examination critique to verify that the licensee evaluators noted the same weaknesses observed by the inspectors and discussed them during the critique.

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness (71111.12)

.1 External Circulating Water Intake Screen Bypass Gate Repeat Failures

a. Inspection Scope

On August 20, 2002, while investigating the repeat failures of the external circulating water intake screen bypass gates, the inspectors identified that the maintenance rule safety significance classification of the external circulating water intake screen bypass gates was inappropriate.

b. Findings

The inspectors identified a Green finding associated with the inappropriate maintenance rule safety significance classification of the external circulating water intake screen bypass gates. The bypass gates were classified as low safety significant components, contrary to the NRC-endorsed, industry guidance of NUMARC 93-01.

On June 19, 2002, the sequential loss of external circulating water intake traveling screens caused a low intake bay level. In response to the intake bay low level, operators initiated the opening of the intake bypass gates by isolating power to the bypass gates. This action simulated a loss of power to the traveling screens and should have caused the bypass gates to open hydraulically. However, the 121 intake bypass gate failed to open and the 122 only partially opened. The partial opening of 122 gate allowed sufficient makeup to the intake bay to prevent a loss of circulating water and reactor trip.

The inspectors conducted a historical evaluation of the intake bypass gates performance. The inspectors noted a history of problems with the failure of the intake gates to fully open and to latch in the open position. Based on the number of repeat failures documented in the licensee's corrective action program, the inspectors evaluated whether the intake bypass gate were scoped in accordance with the maintenance rule, 10 CFR 50.65; whether the intake bypass gates had been assigned the proper safety significance classification; whether the established performance criteria was appropriate; whether the performance problems associated with intake bypass gates constituted maintenance rule functional failures or repeat maintenance rule functional failures; and whether the intake bypass gates were properly classified as (a)(1) or (a)(2).

The inspectors determined that the bypass gates were properly included in the scope of the maintenance rule, but found that the licensee had inappropriately classified the bypass gates as low safety significant components. The licensee should have recognized the bypass gates as low safety significant standby components since their function was to open automatically on loss of power to the external circulating water intake traveling screens, or on a high differential level across the external circulating water intake traveling screens. Since the bypass gates were improperly classified, the licensee's performance criteria were also inappropriate and bypass gate failures were not properly evaluated for maintenance preventable functional failures. The licensee entered this condition into their corrective action program with AR CAP 024744. A list of documents reviewed during this inspection is included at the end of this report.

The inspectors determined that the inappropriate maintenance rule safety significance classification of the intake bypass gates was a performance deficiency warranting a significance evaluation in accordance with Inspection Manual Chapter IMC 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Disposition Screening," issued on April 29, 2002. The inspectors determined that the finding was more than minor because it: (1) involved the equipment performance attribute of the Initiating Events cornerstone, and (2) affected the cornerstone objective of limiting the likelihood of those events that upset plant stability during power operations.

The inspectors determined that the finding could be evaluated in accordance with IMC 0609, "Significance Determination Process," because the finding was associated with an increase in the likelihood of an initiating event. For the Phase 1 screening, the inspectors determined that the finding did not contribute to the likelihood of a primary or secondary system loss of coolant accident, did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available, and did not increase the likelihood of a fire or internal/external flood. This finding (FIN 50-282/306/02-08-01), screened out of the Phase 1 SDP, was determined to be of very low safety significance.

The inspectors discussed the potential of a violation of NRC maintenance rule requirements with Region III, Division of Reactor Safety inspectors. Based on that discussion, the inspectors concluded that a violation determination could not be completed until appropriate performance criteria for the low safety significant standby safety significance classification were first established by the maintenance rule expert panel. Following the establishment of appropriate performance criteria, a maintenance rule functional failure evaluation of all bypass gate failures for the previous 2 years can be performed. If the results of that evaluation show that the intake bypass gates should have been classified as (a)(1) based on their performance and were not, a violation may exist. This is an Unresolved Item (URI 50-282/306/02-08-02).

.2 Repeat Failures of the Containment Fan Cooling Unit Cooling Water Return Orifice Bypass Valve, CV 39201

a. Inspection Scope

On August 13, 2002, the inspectors reviewed AR CAP 023812 that identified a repeat failure of the containment fan cooling unit cooling water return orifice bypass valve, CV 39201. The proper operation of CV 39201 supports the performance of the safety-related maintenance rule function of providing cooling water to the containment fan cooler Units 11 and 13 and was within the scope of the maintenance rule.

The inspectors performed an in-office review of work orders and corrective action program documents associated with the failures of CV 39201. The inspectors compared the licensee's maintenance documentation to the requirements contained in the administrative work instruction (AWI) procedures for the performance of nuclear maintenance, investigation, and troubleshooting. The documents reviewed are listed at the end of this report. The inspectors also conducted an extent-of-condition assessment by searching the licensee's corrective action program database for similar failures of valves in redundant containment fan cooling unit trains.

The inspectors reviewed the licensee's implementation of the maintenance rule for the repeat failures of CV 39201 by comparing their actions to the requirements contained in the Maintenance Rule, 10 CFR 50.65, and Industry Guidelines for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants, NUMARC 93-01. The inspectors evaluated whether the CV 39201 was scoped in accordance with the maintenance rule; whether the performance problems associated with CV 39201 constituted maintenance rule functional failures; whether the cooling water system had been assigned the proper safety significance classification; whether the system was

properly classified as (a)(1) or (a)(2); and whether appropriate performance criteria and/or goals were established. The above aspects were evaluated using the maintenance rule scoping and report documents listed at the end of this report. For each structure, system and component reviewed, the inspectors also reviewed the significant work orders (WO) and ARs listed at the end of this report to verify that failures were properly identified, classified, and corrected, and that unavailable time had been properly calculated.

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13)

a. Inspection Scope

The inspectors reviewed the licensee's management of plant risk during emergent maintenance activities and during activities where more than one risk significant system or train was unavailable. The activities were chosen based on their potential impact on increasing the probability of an initiating event or impacting the operation of safety significant mitigating equipment. The inspection was conducted to verify that evaluation, planning, control, and performance of the work were done in a manner to reduce the risk and minimize the duration where practical, and that contingency plans were in place where appropriate. Inspectors reviewed the licensee's daily configuration risk assessment records, observed shift turnover meetings, observed daily plant status meetings, and reviewed risk assessment documents listed at the end of this report to verify that the equipment configurations were properly listed, that protected equipment was identified and controlled, and that significant aspects of plant risk were communicated to the necessary personnel. The inspectors discussed daily and emergent risk assessments with risk assessment engineers and operators.

The inspectors reviewed the following emergent and planned maintenance activities associated with maintenance rule risk significant systems:

- Repair of the 22 safety injection (SI) pump while Unit 2 was in a yellow risk situation because the 22 residual heat removal (RHR) pump and heat exchanger were out-of-service for preventive maintenance;
- Testing of the 22 turbine-driven auxiliary feedwater (AFW) pump while Unit 2 was in a yellow risk situation because the 125 air compressor was out-of-service for repair;
- Testing of the 22 turbine-driven auxiliary feedwater (AFW) pump while the 122 control room chiller was out-of-service for repair;
- Quarterly check valve testing on the 21 motor-driven AFW pump while the train A inadequate core cooling monitor was out-of-service;
- Emergent work due to failure of the 12 diesel-driven cooling water pump (DDCLP);
- The 12 motor-driven AFW pump failed a surveillance test due to sluggish operation of the outboard motor slinger ring; and

- Unit 1 in yellow risk configuration while D2 diesel generator, 18 inverter, 11 charging pump, and the 12 motor-driven AFW pump were out-of-service for maintenance.

The inspectors reviewed several ARs to verify that problems associated with plant risk assessment were identified at an appropriate threshold, and that corrective actions commensurate with the significance of the issue were identified and implemented. A detailed list of the documents reviewed during this inspection is included at the end of the report.

b. Findings

No findings of significance were identified.

1R14 Personnel Performance Related to Non-Routine Plant Evolutions and Events (71111.14)

a. Inspection Scope

On August 23, 2002, the inspectors completed their review of licensee personnel performance during a June 19, 2002, transient that resulted in a decreasing intake bay level. The level decrease was caused by the loss of intake traveling screens and a failure of the intake bypass gates to open. The inspectors compared operator performance to the applicable response procedures. The inspectors reviewed plant data and operator logs to determine if the plant responded as designed. The inspectors also reviewed the licensee's root cause evaluation to verify that noted deficiencies were recognized and entered in their corrective actions program. The documents reviewed during this inspection are listed at the end of this report.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15)

a. Inspection Scope

The inspectors evaluated plant conditions, selected ARs, and CAP documents for risk significant components and systems in which operability issues were questioned on the dates that appear in the list below. These conditions were evaluated to determine whether the continued operability of the components and systems was justified. The inspectors compared the component or system's function and design criteria in the applicable sections of the Technical Specifications (TSs) and USAR to the licensee's evaluations in order to verify that the components and systems were operable. The inspectors verified that compensatory measures necessary to maintain operability were in place, functioned as intended, and were properly controlled. A detailed list of the documents reviewed during this inspection is included at the end of the report.

The inspectors evaluated the following conditions:

- 12 and 22 diesel-driven cooling water pump speed oscillations on July 10, 2002;
- The hot chemical laboratory ventilation in the auxiliary building draws air from the turbine building at a flow rate sufficient to prevent the auxiliary building special ventilation system from achieving a negative pressure with the doors to the hot chemical laboratory open on July 15, 2002;
- The Unit 2 reactor missile shield was weighed during the 2002 refueling outage and found to weigh more than listed in the USAR on July 16, 2002;
- Operation of the 21 AFW pump with insufficient packing leakoff on August 12, 2002;
- 22 containment fan cooling unit high vibrations on August 22, 2002;
- System grid voltage dropped to the point where the Grid Security Analysis for the Prairie Island Two Unit Trip Contingency failed on August 26, 2002; and
- Inadequate thread engagement on 22 SI pump suction flange bolts September 24, 2002.

b. Findings

No findings of significance were identified.

1R16 Operator Workarounds (OWA) (71111.16)

.1 Review of Selected Workarounds

a. Inspection Scope

On August 7, 2002, the inspectors reviewed OWAs associated with the 12 station battery charger. During an accident or transient that results in a safety injection, the 12 station battery charger may require manual restarting. The inspectors verified that the functional capability of the system, human reliability in responding to an initiating event, or the ability of operators to implement abnormal or emergency operating procedures was not significantly affected. The inspectors reviewed the applicable sections of USAR and TSs and discussed the OWAs with control room operators. A detailed list of the documents reviewed during this inspection is included at the end of the report.

b. Findings

No findings of significance were identified.

.2 Cumulative Effects of OWAs

a. Inspection Scope

On August 12, 2002, the inspectors reviewed the cumulative effect of all identified OWAs to determine whether the cumulative conditions had a significant impact on plant risk or on the operators' ability to respond to a transient or an accident. The inspectors

used the NRC inspection procedure listed above and the documents listed at the end of this report to evaluate the list of OWAs.

b. Findings

No findings of significance were identified.

1R19 Post-Maintenance Testing (71111.19)

a. Inspection Scope

The inspectors reviewed post-maintenance testing activities associated with maintenance on important mitigating, barrier integrity, and support systems to ensure that the post-maintenance testing was performed adequately, demonstrated that the maintenance was successful, and that operability was restored. The inspectors reviewed the appropriate sections of the TSs, the USAR, and maintenance documents to determine the systems' safety functions and the scope of the maintenance. In addition, the inspectors reviewed ARs to verify that minor deficiencies identified during these inspections were entered into the licensee's corrective action system. A detailed list of the documents reviewed during this inspection is included at the end of the report.

The inspectors observed and evaluated the post-maintenance activities for the following:

- Refueling water storage tank (RWST) to SI pumps header isolation valve MV-32182 following modification to the control circuit on July 29, 2002;
- D2 6-month inspection on July 30, 2002;
- 22 diesel-driven cooling water pump following replacement of a jacket water heater, starting air compressor preventive maintenance (PM), and pump bearing seal water filter change and line flush on July 31, 2002;
- 21 RHR pump following annual PM on August 8, 2002;
- 122 control room chiller and air handler PM, and chilled water pump seal replacement on August 26, 2002; and
- 22 RHR pump following annual PM on September 19, 2002.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors observed selected surveillance tests and/or reviewed test data to verify that the equipment performance met Surveillance Procedure (SP) acceptance criteria. The inspectors verified that the tested equipment was capable of performing its intended safety functions as described in TSs and the USAR. The inspectors verified that the testing met the required TS frequency; that the tests were conducted in accordance with the applicable procedures; that operators met prerequisites and established the proper plant conditions; and that the results of the tests were properly reviewed and recorded.



In addition, the inspectors reviewed several ARs to verify that the licensee was identifying surveillance problems at an appropriate threshold, and that corrective actions commensurate with the significance of the issue were identified and implemented. A detailed list of the documents reviewed during this inspection is included at the end of the report.

The following tests were observed and/or evaluated:

- SP 2102, 22 Turbine-Driven AFW Pump Monthly Test on July 24, 2002;
- SP 1093, D1 Diesel Generator Monthly Slow Start Test on September 9, 2002;
- SP 1106A, 12 Diesel Cooling Water Pump Monthly Test on September 12, 2002;
- SP 2307, D6 Diesel Generator 6-Month Fast Start Test on September 16, 2002;  
and
- SP 2295, D5 Diesel Generator 6-Month Fast Start Test on September 30, 2002.

b. Findings

No findings of significance were identified.

**3. SAFEGUARDS**

**Cornerstone: Physical Protection**

3PP3 Response to Contingency Events (71130.03)

a. Inspection Scope

The Office of Homeland Security developed a Homeland Security Advisory System (HSAS) to disseminate information regarding the risk of terrorist attacks. The HSAS implements five color-coded threat conditions with a description of corresponding actions at each level. NRC Regulatory Information Summary (RIS) 2002-12a, dated August 19, 2002, "NRC Threat Advisory and Protective Measures System," discusses the HSAS and provides additional information on protective measures to licensees.

On September 10, 2002, the NRC issued a Safeguards Advisory to reactor licensees to implement the protective measures described in RIS 2002-12a in response to the Federal government declaration of threat level "Orange." Subsequently, on September 24, 2002, the Office of Homeland Security downgraded the national security threat condition to "Yellow" and a corresponding reduction in the risk of a terrorist threat.

The inspectors interviewed licensee personnel and security staff, observed the conduct of security operations, and assessed licensee implementation of the threat level "Orange" protective measures. Inspection results were communicated to Region III and Headquarter's security staff for further evaluation.

b. Findings

No findings of significance were identified.

4. **OTHER ACTIVITIES**

4OA1 Performance Indicator Verification (71151)

**Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity**

a. Inspection Scope

The inspectors reviewed the performance indicator data submitted by the licensee for completeness and accuracy, and to verify that the licensee had reported data in accordance with the guidance provided by the Nuclear Energy Institute (NEI). The inspectors reviewed documents listed at the end of this report for performance indicator data for initiating events, mitigating systems, and barrier integrity cornerstones. The inspectors reviewed the following performance indicators from the 3<sup>rd</sup> quarter 2001 through the 2<sup>nd</sup> quarter 2002:

- Safety system functional failures on July 31, 2002;
- Reactor coolant system specific activity on August 2, 2002; and
- Unplanned power changes on August 26, 2002.

b. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems (71152)

.1 Failure to Correct Deficiencies Involving Potential Flow Diversion Paths

a. Inspection Scope

On August 6, 2002, during a selected issues followup inspection of corrective actions to address potential Appendix R flow diversion paths concerns, the inspectors identified that specified corrective action to implement modifications and/or administrative controls to resolve flow diversion issues were not completed.

b. Findings

The inspector identified a Green NCV of 10 CFR Part 50, Appendix B, Criterion XVI, for failure to correct deficiencies adverse to quality involving potential flow diversion paths. These deficiencies had existed since 1999, but had not been corrected. Additionally, no compensatory actions had been established to address these flow diversion paths.

The licensee issued Condition Report (CR) 19982008 and LER 1-98-15 to identify and report concerns associated with the effects of potential spurious opening of the Unit 1

and Unit 2 containment sump B to RHR motor-operated valves. Specifically, it was noted that if any pair of the valves were to spuriously open during a fire, the RWST would drain to the containment sump leaving a less than required volume of borated water available for make-up. In fire protection terminology, this type of issue is referred to as a “flow diversion issue,” since the diversion of flow may potentially affect safe shutdown capability in the event of a fire.

As a result of the LER, the licensee issued two specific corrective action items to address generic concerns associated with this issue. The first action item required the licensee to “review the Appendix R safe shutdown list against the appropriate flow diagrams to ensure that all other flow paths vulnerable to diversion were included in the Safe Shutdown Analysis.” The second action item was to “implement modifications and/or administrative controls to resolve this issue (and any other flow diversion issues identified subsequent to the LER).” The second action item had not been completed as of August 6, 2002.

The first action item was completed and closed in 1999. The results of the review of flow diversion pathways was documented and issued as calculations GEN-PI-034, 035, 036, 037, 038, and 040. These calculations identified a large number of safe shutdown “required” flow diversion components. However, the calculations ambiguously stated in their Conclusion sections, “Those components not previously identified are indicated with a note in the attached table. Subsequent analysis may show that some of the components can be eliminated from the Appendix R component list.” The calculations were extremely conservative and identified all potential flow diversion paths. Because of this, compensatory measures were never established for the potential flow paths. Since the engineering staff knew that the calculations were extremely conservative, the licensee decided to wait and perform the second action item to “implement modifications and/or administrative controls to resolve this issue (and any other flow diversion issues identified subsequent to the LER)” as specific flow paths were identified.

Since the calculations identified required flow diversion paths, the NRC inspector asked the licensee why compensatory actions were not in place. As a result of this questioning, the licensee documented this issue in their corrective action program as AR CAP 024536. In AR CAP 024536, the licensee stated that “the calculations were potentially misleading and do not meet the original intention behind their issuance, they should be canceled.” Subsequently, all six calculations were canceled.

The flow diversion review committed to in LER 1-98-15 was to identify if any flow diversion paths existed. An additional corrective action document was initiated by the licensee, AR CAP 024537, which documented that this LER action item was inappropriately closed, since the calculations did not fully address the LER commitment. Also, AR CAP 024537 recommended that the action item either be reopened or a new action item be entered to track the eventual completion of this commitment.

As a result, subsequent to the NRC identifying these issues, the licensee performed another review of flow diversion paths. While this review was again conservative, the licensee had procedure actions and guidance that would address spurious operations in these flow diversion paths in the event of a fire.

Criterion II of 10 CFR Part 50, Appendix B, requires that the licensee establish a quality assurance program. It states, "This program shall be documented by written policies, procedures, or instructions and shall be carried out throughout plant life in accordance with those policies, procedures, or instructions."

The Prairie Island Quality Assurance Plan Appendix C implements Quality Assurance requirements for the Fire Protection Program. Section 12.2 states that "work control process procedures shall be used to correct equipment failure, malfunctions, deficiencies, and defective components of fire protection systems."

In 10 CFR Part 50, Appendix B, Criterion XVI, it states that "Measures shall be established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances are promptly identified and corrected." Contrary to Criterion XVI of 10 CFR Part 50, Appendix B, deficiencies adverse to quality involving potential flow diversion paths were known to exist since 1999, but were not corrected. Additionally, no compensatory measures for these deficiencies were established to address these flow diversion paths.

This finding is more than minor because, if left uncorrected, the finding would become a more significant safety concern. Failure to resolve fire protection non-compliance items and failure to establish appropriate compensatory measures could potentially affect the availability, reliability, and capability of fire protection safe shutdown equipment and response efforts. This finding was not suitable for SDP analysis. However, this issue has very low safety significance (Green) because the probability of having a fire event in the affected areas such that the fire would cause more than one valve to reposition to cause a flow diversion was very low. Since the licensee entered this finding into their corrective action program with AR CAP 024536 and AR CAP 024537, this violation is being treated as an NCV in accordance with VI.A.1 of the NRC's Enforcement Policy (NCV 50-282/306/02-08-03) .

.2 Routine Review of Identification and Resolution of Problems

a. Inspection Scope

As discussed in previous sections of this report, the inspectors routinely reviewed issues during baseline inspection activities and plant status reviews to verify that they were being entered into the licensee's corrective action system at an appropriate threshold, that corrective actions were performed in a timely manner, and that adverse trends were identified and addressed. Minor issues entered into the licensee's corrective action system as a result of inspectors' observations are generally denoted in the report.

b. Findings

No findings of significance were identified.

#### 4OA3 Event Followup (71153)

(Closed) LER 1-02-01: Condition Prohibited by TSs Due to Potential for Auxiliary Building Special Vent Zone Boundary Degradation.

The LER concerns a modification during plant construction in 1973 to the hot chemistry lab ventilation, which was within the auxiliary building special ventilation zone (ABSVZ). The modification supplied ventilation to the lab from the turbine building. If the lab doors were open during an accident that generated a safety injection signal, the lab supply booster fans, which do not receive a trip signal on a safety injection, would continue to supply air, affecting the ability of the ABSVZ system to perform its required functions to maintain a negative pressure. Technical Specification 3.6.E.2 requires that openings in the ABSVZ be under direct administrative control and be reduced to less than 10 square feet within 6 minutes following an accident. Contrary to the above, the hot chemistry lab doors were not under direct administrative control. The licensee entered this condition into their corrective action program with AR CAP 024185. The inspectors reviewed this licensee-identified finding and determined that it met the criteria to be considered a NCV of TS 3.6.E.2 (see Section 4OA7). The finding was screened by the inspectors using the SDP and determined to be of very low safety significance since the finding only represents a degradation of the radiological barrier function provided for the auxiliary building. No new significant issues were identified during the review of the LER. Inspectors verified that the licensee implemented immediate actions to place the hot chemistry lab doors under direct administrative control by adding them into the ABSVZ boundary control log.

#### 4OA5 Other Activities

##### .1 Review of Institute of Nuclear Power Operations Report

On September 13, 2002, the inspectors completed a review of the final report, dated July 2002, for the Institute of Nuclear Power Operations, November 2001 Evaluation.

#### 4OA6 Meeting(s)

##### .1 Exit Meeting

The resident inspectors presented the inspection results to Mr. M. Nazar and other members of licensee management at the conclusion of the inspection on September 27, 2002. The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

#### 4OA7 Licensee-Identified Violation

The following violation of very low significance was identified by the licensee and is a violation of NRC requirements which meet the criteria of Section VI of the NRC Enforcement Manual, NUREG-1600, for being dispositioned as an NCV.

**Cornerstone: Reactor Safety**

Technical Specification 3.6.E.2 states that openings in the ABSVZ are permitted provided they are under direct administrative control and can be reduced to less than 10 square feet within 6 minutes following an accident. As described in AR CAP 024185 and LER 1-02-01, on July 16, 2002, the licensee identified that there were no direct administrative controls associated with the hot chemistry lab doors. A 1973 design change to the hot chemistry lab ventilation could affect the ability of the ABSVZ system to perform its required functions to maintain a negative pressure with these doors open. The finding was determined to be of very low safety significance since the finding only represented a degradation of the radiological barrier function provided for the auxiliary building.

## KEY POINTS OF CONTACT

### Licensee

T. Amundson, Manager Business Support  
P. Huffman, Manager of System Engineering  
B. Jefferson, Director Site Operations  
J. Jensen, Production Planning Manager  
A. Johnson, General Superintendent Radiation Protection and Chemistry  
J. Kivi, Licensing Engineer  
R. Lingle, Operations Manager  
M. McKeown, Manager of Design Engineering  
L. Meyer, General Superintendent Plant Maintenance  
M. Nazar, Site Vice President  
S. Northard, Director of Engineering  
J. Waddell, Superintendent Security  
M. Werner, Plant Manager  
R. Womack, Manager of Engineering Programs

## LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

### Opened

50-282/306/02-001-00	LER	Condition Prohibited by TSs Due to Potential for Auxiliary Building Special Vent Zone Boundary Degradation (Section 4OA3)
50-282/306/02-08-01	FIN	Inappropriate Maintenance Rule Safety Significance Classification of the External Circulating Water Intake Screen Bypass Gates (Section 1R12.1)
50-282/306/02-08-02	URI	Maintenance Rule Functional Failure Evaluation of Bypass Gate Failures (Section 1R12.1)
50-282/306/02-08-03	NCV	Failure to Correct Deficiencies Adverse to Quality Involving Potential Flow Diversion Paths (Section 4OA2.1)

### Closed

50-282/306/02-001-00	LER	Condition Prohibited by TSs Due to Potential for Auxiliary Building Special Vent Zone Boundary Degradation (Section 4OA3)
50-282/306/02-08-01	FIN	Inappropriate Maintenance Rule Safety Significance Classification of the External Circulating Water Intake Screen Bypass Gates (Section 1R12.1)
50-282/306/02-08-03	NCV	Failure to Correct Deficiencies Adverse to Quality Involving Potential Flow Diversion Paths (Section 4OA2.1)

### Discussed

None.

## LIST OF ACRONYMS USED

ABSVZ	Auxiliary Building Special Ventilation Zone
ACE	Apparent Cause Evaluation
ADAMS	Agencywide Documents Access and Management System
AFW	Auxiliary Feedwater
AR	Action Request
AWI	Administrative Work Instruction
CAP	Corrective Action Program
CE	Condition Evaluation
CFR	Code of Federal Regulations
CR	Condition Report
DBD	Design Bases Document
DDCLP	Diesel-Driven Cooling Water Pump
FIN	Finding
HSAS	Homeland Security Advisory System
IMC	Inspection Manual Chapter
INPO	Institute of Nuclear Power Operations
IPEEE	Individual Plant Examination of External Events
IR	Inspection Report
LCO	Limiting Conditions for Operation
LER	Licensee Event Report
MOV	Motor Operated Valve
NCV	Non-Cited Violation
NEI	Nuclear Energy Institute
OOS	Out-of-service
OPR	Operability Recommendation
OWA	Operator Workaround
PARS	Publicly Available Records
PINGP	Prairie Island Nuclear Generating Plant
PM	Preventive Maintenance
RHR	Residual Heat Removal
RIS	Regulatory Information Summary
RWST	Refueling Water Storage Tank
SDP	Significance Determination Process
SI	Safety Injection
SP	Surveillance Procedure
TS	Technical Specification
USAR	Updated Safety Analysis Report
NRC	U.S. Nuclear Regulatory Commission
WO	Work Order



## LIST OF DOCUMENTS REVIEWED

### 1R04 Equipment Alignment

#### Cooling Water System

TS 3.3-7	Cooling Water System	Revision 131
USAR 10.4.1	Cooling Water System	Revision 22
Plant Procedure B35	Cooling Water System	Revision 5
Integrated Checklist C1.1.35-3	Cooling Water System	Revision 21
Operating Procedure C35	Cooling Water System	Revision 48
WO 0203427	Remove T Mod 00T076	April 3, 2002
AR CAP 000060	121 CLP Bearing Seal Water Filter Changes	March 27, 2002
AR CAP 023610	Bearing Water Flow to Lineshaft and Suction Bell Less than 50%	May 27, 2002
AR CAP 023779	Unable to Make Bearing Water Flow Adjustments on DDCLP Flows	June 10, 2002
AR CAP 024661	12 DDCLP Declared Inoperable	August 15, 2002
AR CAP 024393	High Risk Work Not Complete As Scheduled	August 31, 2002

#### D1 Emergency Diesel Generator

Integrated Checklist C1.1.20.7-1	D1 Diesel Generator Valve Status	Revision 19
Integrated Checklist C1.1.20.7-2	D1 Diesel Generator Auxiliaries and Room Cooling Local Panels	Revision 8W
Integrated Checklist C1.1.20.7-3	Diesel Generator D1 Main Control Room Switch and Indicating Light Status	Revision 13
Integrated Checklist C1.1.20.7-4	D1 Diesel Generator Circuit Breakers and Panel Switches	Revision 11
TS 3.7	Auxiliary Electrical Systems	Revision 110
USAR Section 8.4	Plant Standby Diesel Generator Systems	Revision 23
AR CAP 024968	Pressure Indicator 11079, 21 Heater Drain Tank Pump Discharge Pressure Indicator Was Isolated During WO 0205739	August 30, 2002

## 1R05 Fire Protection

### Area Walkdowns

Plant Safety Procedure F5, Appendix A	Fire Strategies for Fire Areas 13, 18, 35, 36, 69, 101, and 102	Revision 7
IPEEE NSPLMI-96001 Appendix B	Internal Fires Analysis	Revision 2
Plant Safety Procedure F5, Appendix F	Fire Hazard Analysis for Fire Areas 13, 18, 35, 36, 69, 101, and 102	Revision 16
AR CAP 024122	Transient Combustibles Stored In Safety-Related Area, Repeat Occurrence	July 11, 2002
AR CAP 025395	Pressure Switch Communication Failure With Fire Panel	September 23, 2002

### Fire Brigade Drill

Plant Safety Procedure F5, Appendix J	Fire Drills	Revision 8
Plant Safety Procedure F5, Appendix A	Fire Detection Zone 83	Revision 8

## 1R011 Licensed Operator Requalification Program

USAR 14.5.4	Steam Generator Tube Rupture	Revision 22
Procedure 1E-0	Reactor Trip or Safety Injection	Revision 21
NRC Inspection Report	Prairie Island Nuclear Generating Plant NRC Inspection Report 50-282/01-18; 50-306/01-18	January 17, 2002
AR CAP 000232	November 2001 INPO [Institute of Nuclear Power Operations] Evaluation	December 18, 2001
Simulator Team Evaluation PITCQ-83	Simulator Team Evaluation	September 4, 2002

## 1R12 Maintenance Rule Implementation

### Repeat Failure of External Circulating Water Intake Bypass Gates

Root Cause Investigation Report 000171	Decreasing Intake Canal Level Due to Failure of the Intake Traveling Screens	Revision 0
Plant Procedure H24	Prairie Island Nuclear Generating Plant Maintenance Rule Program	Revision 4

	Prairie Island Nuclear Generating Plant Maintenance Rule System Specific Basis Document, External Circulating Water Section	Revision 3
	Prairie Island Nuclear Generating Plant Maintenance Rule Scope Determination and Performance Criteria Spreadsheet	
	Prairie Island Nuclear Generating Plant Quarterly Equipment Performance Report, 2 <sup>nd</sup> Quarter 2002	
AR CAP 023908	Decreasing Intake Bay Levels Due to Loss of Intake Screens	June 19, 2002
AR MRE 000014	Maintenance Rule Evaluation of Intake Screens and Bypass Gates	June 20, 2002
AR CAP 023958	121 Bypass Gate Failed to Open with Loss of Control Power	June 24, 2002
AR CAP 023959	122 Bypass Gate Failed to Open with Loss of Control Power	June 24, 2002
AR CAP 009179	Need Acceptance Criteria for Operability of Intake Bypass and Screens	September 3, 2001
AR CAP 024744	Maintenance Rule Performance Criteria for Screenhouse Bypass Gates Not In Accordance With the Guidance of NUMARC 93-01	August 20, 2002
AR ACE 008543	Apparent Cause Evaluation of CAP 024744	August 22, 2002
AR CAP 024391	Unsatisfactorily Completed Test Procedure 2537	August 30, 2002
AR CAP 025146	Failure of Test Procedure 2537	September 11, 2002
	<u>Failure of CV 39201, 11/13 Containment Fan Cooling Unit Cooling Water Return Bypass Control Valve</u>	
5AWI 3.2.10	Investigation and Troubleshooting	Revision 7
5AWI 3.12.0	Nuclear Plant Maintenance	Revision 10
USAR, Section 10.4.1	Cooling Water System	Revision 22
Flow Diagram NF-39216-3	Unit 1 Cooling Water - Auxiliary Building	Revision R

AR CAP 023812	CV 39201, 11/13 Containment Fan Cooling Unit Cooling Water Return Bypass Control Valve Found Open	June 12, 2002
AR MRE 000010	Maintenance Rule Evaluation of CV-39201 Failure	June 13, 2002
AR CE 000405	Condition Evaluation of CAP 023812	June 13, 2002
WO 0205407	Investigate and Repair CV 39201	June 13, 2002
WO 0108187	Investigate and Repair CV 39201	July 9, 2001
WO 0107267	Investigate and Repair CV 39201	May 14, 2002
	Prairie Island Nuclear Generating Plant Maintenance Rule System Specific Basis Document, Cooling Water Section	Revision 3

1R13 Maintenance Risk Assessments and Emergent Work Control

22 SI Pump with 22 RHR Pump and Heat Exchanger Out-of-service

TS 3.3.A	Safety Injection and Residual Heat Removal Systems	Revision 161
TS 4.2	Inservice Inspection and Testing of Pumps and Valves Requirements	Revision 60
WO and Work Plan 0202701	22 SI Pump Has a Leak on the Pump Head	September 9, 2002
10CFR50.59 Screening No. 1567	NMC Standard 10 CFR 50.59 Screening	Revision 0
ENG-ME-525	Calculation	Revision 0
	Unit 2 Configuration Risk Assessment	September 17, 2002

22 Turbine-Driven AFW Pump Surveillance with 125 Air Compressor Out-of-service

Unit 2 Configuration Risk Assessment	September 17, 2002
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22 Turbine-Driven AFW Pump Testing with 122 Control Room Chiller Out-of-service

Plant Procedure H24.1	Assessment and Management of Risk Associated with Maintenance Activities	Revision 4
	Risk Assessment for Work Week 2B33	August 20, 2002

22 Motor-Driven AFW  
Pump Check Valve  
Testing with Train A ICCM  
Out-of-service

Unit 2 Configuration Risk Assessment July 10, 2002

12 DDCLP Emergent  
Work

Operation Log Entries August 14, 2002  
Plant Status Report August 15, 2002  
Open Limiting Conditions for Operation  
(LCO) Log August 15, 2002

12 Motor-Driven AFW  
Pump Failed Surveillance

Operation Log Entries August 30, 2002  
Plant Status Report August 30, 2002  
Open LCO Log August 30, 2002

AR CAP 024946

12 Motor-Driven AFW Pump Failed SP 1000 August 30, 2002  
Due to Sluggish Motor Slinger Ring  
Operation

AR CAP 024956

12 Motor-Driven AFW Pump Made August 30, 2002  
Unavailable When in an Indeterminate  
Condition

D2 Diesel Generator, 18  
Inverter, 11 Charging  
Pump, and 12 Motor-  
Driven AFW Pump Out-  
of- Service

Operations Log Entries August 26, 2002  
Open LCO Log August 25, 2002  
Unit 1 Configuration Risk Assessment August 25, 2002

1R14 Non-Routine Evolutions

Root Cause Investigation Report 000171	Decreasing Intake Canal Level Due to Failure of the Intake Traveling Screens	Revision 0
AR CAP 023908	Decreasing Intake Bay Levels Due to Loss of Intake Screens	June 19, 2002
AR CAP 023958	121 Bypass Gate Failed to Open with Loss of Control Power	June 24, 2002
AR CAP 023959	122 Bypass Gate Failed to Open with Loss of Control Power	June 24, 2002

	Operations Control Room Logs	June 19, 2002
Plant Procedure C41.5	Emergency Response Computer System Operating Procedure Alarms, Displays, and Responses, Computer Alarm 26	Revision 16
Plant Procedure C25	Circulating Water System	Revision 23
C91802	Annunciator Response Procedure for External Circulating Water Remote Panel 91802, High Traveling Screen	Revision 1
C47501	Annunciator Response Procedure for Control Room Panel 47501, Alarm 47501- 0101, Intake Screenhouse Traveling Screen High Differential Pressure	Revision 22

### 1R15 Operability Evaluations

#### Unit 2 Reactor Missile Shield Weight

USAR 12.2, Table 12.2- 40	Loads Handled Over Safety Related Components, Components Required for Plant Shutdown or Decay Heat Removal	Revision 23
Plant Procedure D58	Heavy Loads Program	Revision 30
AR CAP 023549	U2 Reactor Missile Shield Weight Measured 74,500 Pounds Versus SAR Listed Weight of 56, 200 Pounds	May 19, 2002
AR CE 000266	Determine Extent of Condition Regarding the Weight of the U2 Reactor Missile Shield	May 30, 2002

#### Auxiliary Building Special Ventilation Boundary

TS 1.0 and 3.6.E	Auxiliary Building Special Ventilation Zone Integrity	Revision 111 and 91
USAR 10.3.4	Auxiliary Building Special Ventilation System	Revision 23
Plant Procedure B19	Containment Systems	Revision 6
Plant Procedure D54	Control of Openings in the Auxiliary Building Special Ventilation Zone Boundary	Revision 13
AR CAP 024185	ABSVZ Boundary at Hot Chem Lab	July 16, 2002
AR OPR 000324	Operability Recommendation for Auxiliary Building Special Vent Zone Boundary Issue	July 17, 2002

#### 12 and 22 DDCLP Oscillations

USAR, Section 10.4.1	Cooling Water System	Revision 22
TS 3.3-7	Cooling Water System	Revision 131

Operating Procedure C35	Cooling Water System	Revision 48
Plant Procedure B35	Cooling Water System	Revision 5
DBD SYS-35	Design Basis Document for the Cooling Water System	Revision 4
AR CAP 024010	Sluggish Governor Response on 22 Diesel Driven Cooling Water Pump	June 28, 2002
AR CE 000500	Condition Evaluation of AR CAP 024010	July 1, 2002
AR ACE 008426	Apparent Cause Evaluation	June 13, 2002
<u>Operation of the 21 AFW Pump with Insufficient Packing Leakoff</u>		
USAR Section 11.9.2.2	Auxiliary Feedwater System	Revision 23
XH-258-24	Auxiliary Feedwater Technical Manual Condition Report Notebook Issue # 20000592	
AR CAP 024541	No Seal Leakage During Run of SP 2100, 21 Auxiliary Feedwater Pump	August 8, 2002
<u>22 Containment Fan Cooling Unit High Vibrations</u>		
AR CAP 024294	Containment Fan Cooling Unit Vibration in Alert Range at 5 Mills in Fast Speed	July 23, 2002
AR CE 000637	Condition Evaluation of AR CAP 024294	July 25, 2002
AR OPR 000327	Operability Recommendation of AR CAP 024294	July 25, 2002
	Containment Fan Cooling Unit Inspection Summary	August 7, 2002
USAR, Section 6.3.2	Containment Air Cooling System Design and Operation	Revision 22
<u>Grid Security Analysis for the Prairie Island Two Unit Trip Contingency Failed</u>		
AR CAP 024732	Low Grid Voltage, Security Analysis Failure to Satisfy Two Unit Trip Contingency	August 19, 2002
AR OPR 000330	Operability Recommendation of AR CAP 024732	August 20, 2002
AR CAP 023977	Guidance for Response to Security Analysis Alarm Needs Improvement	June 25, 2002
TS 3.7	Auxiliary Electrical Systems	Revision 110

USAR, Section 8.2	Transmission System	Revision 23
<u>Inadequate Thread Engagement on 22 SI Pump Suction Flange Bolts</u>		

AR CAP 025410	22 Safety Injection Pump Suction Flange Bolts Do Not Meet D63 Requirements	September 24, 2002
Plant Procedure D63	Installation Guidelines for Threaded Fasteners (Studs or Bolts)	Revision 9W
Calculation ENG-CS-080	Acceptable Thread Engagement	

1R16 OWAs

12 Station Battery Charger

	Operator Workarounds	August 7, 2002
CR 19971622	Intermittent Operation During SP 1083	December 5, 1997
CR 19991958	Intermittent Operation During SP 1083	June 6, 1999
Safety Evaluation 534	Station Battery Charger Current Limit Setpoint Change	Revision 0, April 12, 1999
Safety Evaluation 534	Station Battery Charger Current Limit Setpoint Change	Revision 1, August 10, 1999
SP 1083	Integrated SI Test With a Simulated Loss of Offsite Power	Revision 26W

Cumulative Effects of OWAs

5AWI 3.10.8	Equipment Problem Resolution Process	Revision 0
Prairie Island Nuclear Generating Plant (PINGP) Operation Committee Meeting Minutes	Minutes #2714	August 7, 2002

1R19 Post Maintenance Testing

22 Diesel-Driven Cooling Water Pump

TS 3.3.D	Cooling Water Systems	Revision 131
USAR 10.4.1	Cooling Water System	Revision 22
Plant Procedure B35	Cooling Water System	Revision 5



SP 1106B	22 Diesel Cooling Water Pump Monthly Test	Revision 58
WO 0202848	SP 1106B 22 Diesel Cooling Water Pump Monthly	July 29, 2002
<u>RWST to SI Header Isolation Valve MV-32182</u>		
TS 3.3.A.2.d	Safety Injection and Residual Heat Removal Systems	Revision 161
USAR 6.2	Safety Injection System	Revision 22
Plant Procedure B18A	Safety Injection System	Revision 4
WO 0110007	Refueling Water to Safety Injection Pumps Header Isolation Motor Valve A	July 29, 2002
<u>21 RHR Pump</u>		
TS 3.3.A	Safety Injection and Residual Head Removal Systems	Revision 161
USAR 6.2.2.2.4	Safety Injection and Residual Heat Removal Pumps	Revision 22
Plant Procedure H10.1	ASME Inservice Testing Implementing Program	Revision 12
Plant Procedure B15	Residual Heat Removal System	Revision 7
WO 0202361	P3124-1-21 21 RHR Pump Annual Inspection	July 16, 2002
WO 0204146	SP 2089AL Light Verification During SP 2089A	August 7, 2002
WO 0204145	SP 2089A RHR Pump and Suction Valves from the RWST	August 7, 2002
<u>122 Control Room Chiller and Air Handler</u>		
WO 0100313	Replace Mechanical Seals and Inspect Chilled Water Pump	
WO 0111036	122 Control Room Chiller Electrical Breaker 15-Year PM	
WO 0202368	122 Control Room Chiller Annual Inspection	
WO 0202370	6-Month Inspection of Control Room Air Handling Unit	
WO 0202371	12-Month Inspection of Control Room Air Handling Unit	
WO 0202635	Leak Check 122 Control Room Chiller	
WO 0203915	Control Room Train B Chilled Water Pump Test	

WO 0203943	Alternating In-Service Control Room Chillers	
WO 9406919	Change Wire Codes at Pump Push Button Station	
Drawing NF-39603-1	Admin Bldg, Screen House, and Control Room Flow Diagram	Revision AL
Drawing NF-40890-3	External Connections Motor Control Center 1T	Revision N
TS 3.13	Control Room Air Treatment System	Revision 91
TS 4.14	Control Room Air Treatment System Tests	Revision 91
USAR 10.3.3	Control Room Ventilation System	Revision 23
<u>D2 Diesel Generator 6-Month Inspection</u>		
PM 3001-2-D2	D2 Diesel Generator 18-Month Inspection	Revision 17
PM 3001-4-D2	D2 Diesel Generator Inspection Electrical	Revision 5
SP 1306	D2 Diesel Generator 18-Month Relay Functional Test	Revision 6
SP 1307	D2 Diesel Generator 6-Month Fast Start Test	Revision 22
TS 3.7	Auxiliary Electrical Systems	Revision 110
TS 4.6	Periodic Testing of the Emergency Power System	Revision 91
<u>1R22 Surveillance Testing</u>		
<u>22 Turbine-Driven AFW Pump Monthly Test</u>		
TS 3.4.B	Auxiliary Feedwater System	Revision 123
TS 4.8.A	Auxiliary Feedwater System	Revision 116
USAR 1.9	Condensate, Feedwater and Auxiliary Feedwater Systems	Revision 23
Plant Procedure B28B	Auxiliary Feedwater System	Revision 5
SP 2102	22 Turbine-Driven AFW Pump Monthly Test	Revision 69
<u>D1 Diesel Generator Monthly Slow-Start Test</u>		
TS 3.7	Auxiliary Electrical Systems	Revision 110
TS 4.6	Periodic Testing of Emergency Power System	Revision 147
Plant Procedure B38A	Unit 1 Diesel Generators	Revision 5

SP 1093	D1 Diesel Generator Monthly Slow Start Test	Revision 73
<u>12 Diesel Cooling Water Pump Monthly Test</u>		
TS 3.3.D	Cooling Water System	Revision 131
TS 4.2	Inservice Inspection and Testing of Pumps and Valves Requirements	Revision 60
TS 4.5.B.1.b	Component Test, Pumps	Revision 161
USAR 10.4.1	Cooling Water System	Revision 22
Plant Procedure B35	Cooling Water System	Revision 5
SP 1106A	12 Diesel Cooling Water Pump Monthly Test	Revision 61
AR CAP 025178	12 Diesel Driven Cooling Water Pump	September 12, 2002
AR CAP 025186	12 DDCLP Fell in the Performance Curve Alert Range During 9/12/02 Run	September 12, 2002
<u>D6 Diesel Generator 6-Month Fast-Start Test</u>		
TS 4.6.A.2	Periodic Testing of Emergency Power System	Revision 113
Operating Procedure 2C38	D5/D6 Fuel Oil System	Revision 16
SP 2307	D6 Diesel Generator 6 Month Fast Start Test	Revision 17
AR CAP 025281	Positive Glycol Test D5 Engine 2	September 18, 2002
AR CAP 025334	WO to Fill D6 Coolant Expansion Tanks Issued While Monthly Diesel Run In Progress	September 20, 2002
AR CAP 025241	Discrepancy Between SP 2305 and SP 2307 for 2LI-6011A for Acceptance Criteria	September 16, 2002
<u>D5 Diesel-Driven Generator 6-Month Fast-Start Test</u>		
TS 3.7	Auxiliary Electrical Systems	Revision 110
TS 4.6.A.2	Periodic Testing of Emergency Power System	Revision 113
Plant Procedure B38C	Unit 2 Diesel Generators	Revision 2
SP 2295	D5 Diesel Generator 6-Month Fast Start Test	Revision 23

WO 0206045	SP 2295 D5 Diesel Generator 6-Month Fast Start Test	September 30, 2002
AR CAP 025506	D5 Generator Stator Temperature Channel 3 Failed	September 30, 2002
AR CAP 025507	SP 2295 D5 Fast Start Scheduled When D5 1B Was Scheduled OOS [Out-of-service]	September 30, 2002
AR CAP 025515	D5 2A Air Dryer Dust Filter Drain Plugged	October 1, 2002

#### 4OA1 Performance Indicator Verification

##### Safety System Functional Failure

LER 1-01-02	Auto Activation of Unit 1 4160 Volt Safeguards Bus 16 Source Sequencer Following Grid Disturbance Caused by Severe Weather	Revision 0
LER 1-01-03	Plant In Unanalyzed Condition Due To Flood Panel Deficiencies	Revision 0
LER 1-01-03	Plant In Unanalyzed Condition Due to Flood Panel Deficiencies	Revision 1
LER 1-01-04	Water Intrusion Into a Control Rod Electrical Cabinet Results in Dropped Rods Causing a Negative Flux Reactor Trip	Revision 0
LER 1-01-05	Fault and Fire in Non-Safeguards Circuit Breaker Results in Reactor Trip and Auxiliary Feedwater Actuation	Revision 0
LER 1-01-06	Security Responders Out of Position Due to Plant Fire	Revision 0
LER 2-01-01	Failure to Meet TS Limiting Condition for Operation Verification Within Eight Hour Limit Due to Personnel Error	Revision 0
LER 2-01-02	Emergency Diesel Generator Out-of-service Longer Than TS Allowed Outage Time	Revision 0
LER 2-01-03	Technical Specification Required Shutdown of Unit 2 Due to Declared Inoperability of Both Emergency Diesel Generators	Revision 0
LER 2-01-03	Technical Specification Required Shutdown of Unit 2 Due to Declared Inoperability of Both Emergency Diesel Generators	Revision 1
LER 2-01-03	Technical Specification Required Shutdown of Unit 2 Due to Declared Inoperability of Both Emergency Diesel Generators	Revision 2

LER 2-01-04	Manual Turbine Trip/Reactor Trip Due to High Differential Condenser Backpressure	Revision 0
LER 2-01-05	Manual Reactor Trip on Unit 2, Initiated in Response to a High Differential Pressure Between the Turbine Steam Condensers, Caused By an Inadvertent Venting of One Condenser While Isolating a Steam Leak	Revision 0
	Operator Logs from April 1, 2001, to March 31, 2002	
NEI 99-02	Regulatory Assessment Performance Indicator Guideline	Revision 2
	Prairie Island Nuclear Generating Plant Quarterly Equipment Performance Report	2nd Quarter 2001
	Prairie Island Nuclear Generating Plant Quarterly Equipment Performance Report	3rd Quarter 2001
	Prairie Island Nuclear Generating Plant Quarterly Equipment Performance Report	4th Quarter 2001
	Prairie Island Nuclear Generating Plant Quarterly Equipment Performance Report	1st Quarter 2002
Plant Procedure H33	Performance Indicator Reporting	Revision 5
Plant Procedure H33.3	Safety System Functional Failure Performance Indicator Reporting Instructions	Revision 0
PINGP Form 1318C	Performance Indicator-Safety System Functional Failure	2 <sup>nd</sup> Quarter 2001
PINGP Form 1318C	Performance Indicator-Safety System Functional Failure	3 <sup>rd</sup> Quarter 2001
PINGP Form 1318C	Performance Indicator-Safety System Functional Failure	4 <sup>th</sup> Quarter 2001
PINGP Form 1318C	Performance Indicator-Safety System Functional Failure	1 <sup>st</sup> Quarter 2002
<u>Reactor Coolant System Specific Activity</u>		
TS 3.1-10	Maximum Coolant Activity	Revision 147
SP 1057	Unit 1 Reactor Coolant Monthly Radiochemical Analysis	Revision 17
	Unit 1 Radiochemistry Report	July 1, 2001 to May 31, 2002
	Unit 2 Radiochemistry Report	July 1, 2001 to May 31, 2002

NEI 99-02	Regulatory Assessment Performance Indicator Guideline	Revision 2
<u>Unplanned Power Changes</u>		
NEI 99-02	Regulatory Assessment Performance Indicator Guideline	Revision 2
Plant Procedure H33.2, Figure 1	Data Sheets 3 <sup>rd</sup> Quarter 2001 to 2 <sup>nd</sup> Quarter 2002	Revision 3
PINGP Form 1318A	Data Sheets 3 <sup>rd</sup> Quarter 2001 to 2 <sup>nd</sup> Quarter 2002	Revision 0

#### 4OA2 Identification and Resolution of Problems

LER 1-98-15	Containment to RHR MOVs [Motor Operated Valves] Appendix R Safe Shutdown Analysis Issues	10/26/98
CR 19982008	FPFI [Fire Protection Functional Inspection] Question FP-I072: Sump B to RHR MOVs Not on SSEL [Safe Shutdown Equipment List]. Can NPSH [Net Positive Suction Head] be obtained if these MOVs spuriously open due to a fire?	9/25/98
GEN-PI-034	Appendix R Equipment List Review - Decay Heat Removal Function	3/30/99
GEN-PI-035	Appendix R Equipment List Review - RCS [Reactor Coolant System] Inventory Control Function	5/25/99
GEN-PI-036	Appendix R Equipment List Review - Safe Shutdown Support Function	5/25/99
GEN-PI-037	Appendix R Equipment List Review - Process Monitoring Function	5/25/99
GEN-PI-038	Appendix R Equipment List Review - Electrical Power Supply Function	7/9/99
GEN-PI-039	Appendix R Equipment List Review - Containment Integrity Function	7/9/99
AR CAP 024536	Appendix R Equipment List Evaluations Should Be Canceled	8/7/02
AR CAP 024537	Appendix R Commitment Closed Prematurely	8/7/02

#### G 4OA3 Event Followup

AR CAP 024536	Appendix R Equipment List Evaluations Should Be Canceled	8/7/02
LER 1-02-01	Condition Prohibited by TS Due to Potential for Auxiliary Building Special Vent Zone Boundary Degradation	September 16, 2002
AR CAP 024185	ABSVZ Boundary at Hot Chem Lab	July 16, 2002
AR OPR 000324	Operability Recommendation for Aux Building Special Vent Zone Boundary Issue	July 16, 2002
Plant Procedure D54, Temporary Change Notice 2002-1367	Control of Openings in the Aux Building Special Ventilation Zone Boundary	July 25, 2002
Log Entry	Category 1 Special Vent Zone Report	September 8, 2002