

November 13, 2007

Mr. Michael D. Wadley
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 05000282/2007004;
05000306/2007004

Dear Mr. Wadley:

On September 30, 2007, 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 October 4, 2007, with you and other members of your staff.

This inspection examined activities conducted under your license as they relate to safety and to compliance with the Commission 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, two licensee-identified violations were identified and are listed in Section 4OA7 of this report.

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, D.C. 20555-0001, with a copy to the Regional Administrator, U.S. Nuclear Regulatory Commission-Region III, 2443 Warrenville Road, Suite 210, Lisle, IL 60532-4352; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555-0001; and the Resident Inspector Office at the Prairie Island Nuclear Generating Plant.

In accordance with 10 CFR 2.390 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), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

Richard A. Skokowski, Chief
Branch 3
Division of Reactor Projects

Docket Nos. 50-282; 50-306; 72-010
License Nos. DPR-42; DPR-60; SNM-2506

Enclosure: Inspection Report 05000282/2007004; 05000306/2007004
w/Attachment: Supplemental Information

cc w/encl: D. Cooper, Senior Vice President and Chief
Nuclear Officer
M. Sellman, President and Chief Executive Officer
Regulatory Affairs Manager
J. Rogoff, Vice President, Counsel & Secretary
Nuclear Asset Manager
State Liaison Officer, Minnesota Department of Health
Tribal Council, Prairie Island Indian Community
Administrator, Goodhue County Courthouse
Commissioner, Minnesota Department
of Commerce
Manager, Environmental Protection Division
Office of the Attorney General of Minnesota

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Letter to M. Wadley from R. Skokowski dated November 13, 2007

SUBJECT: PRAIRIE ISLAND NUCLEAR GENERATING PLANT, UNITS 1 AND 2
NRC INTEGRATED INSPECTION REPORT 05000282/2007004;
05000306/2007004

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket Nos. 50-282; 50-306; 72-010
License Nos. DPR-42; DPR-60; SNM-2506

Report No: 05000282/2007004; 05000306/2007004

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, 2007

Inspectors: J. Adams, Senior Resident Inspector
D. Karjala, Resident Inspector
P. Zurawski, Resident Inspector
J. Bartleman, Reactor Engineer
G. O'Dwyer, Reactor Engineer

Approved by: Richard A. Skokowski, Chief
Branch 3
Division of Reactor Projects

SUMMARY OF FINDINGS

IR 05000282/2007004, 05000306/2007004; 07/01/07 - 09/30/07; Prairie Island Nuclear Generating Plant, Units 1 and 2; Routine Baseline Inspection Report.

This report covers a three month period of baseline resident inspection and announced baseline inspection by regional inspectors. The inspection was conducted by the resident inspectors and inspectors from the Region III office. No findings of significance were identified. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter 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 4, dated December 2006.

A. Inspector-Identified and Self-Revealed Findings

No findings of significance were identified.

B. Licensee-Identified Violations

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

REPORT DETAILS

Summary of Plant Status

Unit 1 operated at or near full power throughout the inspection period.

Unit 2 operated at or near full power throughout the inspection period except that power was reduced to about seven percent from September 28 through October 1, 2007, for condenser cleaning and turbine balancing.

1. REACTOR SAFETY

Cornerstone: Initiating Events, Mitigating Systems, and Barrier Integrity

1R04 Equipment Alignment (71111.04)

.1 Partial Walkdowns

a. Inspection Scope

The inspectors performed partial system equipment alignment inspection samples comprised of in-plant walkdowns of accessible portions of trains of risk-significant equipment associated with the Mitigating Systems and Barrier Integrity cornerstones. The inspectors conducted the inspections during times when the trains were of increased importance due to the redundant trains or other related equipment being unavailable. The inspectors also reviewed documents entering deficient conditions associated with equipment alignment issues into the corrective action program verifying that the licensee was identifying issues at an appropriate threshold and entering those issues into their corrective action program in accordance with the corrective action procedures.

The inspectors utilized the valve and electric breaker checklists, where applicable, 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 performance deficiencies. The inspectors reviewed outstanding work requests, work orders (WOs), and corrective action program action requests (CAPs) associated with the operable trains to verify that those documents did not reveal issues that could affect the completion of the available train(s) safety functions. 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 completed two inspection samples by verifying the alignment of the following trains:

- D1 diesel generator during the unavailability of D2 diesel generator for planned testing on July 9, 2007; and

- D6 diesel generator during the unavailability of D5 for troubleshooting on July 16, 2007.

Key documents used by the inspectors in conducting this inspection are listed in the Attachment to this report.

b. Findings

No findings of significance were identified.

.2 Complete Walkdowns

a. Inspection Scope

During the week of August 13, 2007, the inspectors performed a detailed in-plant walkdown of the alignment and condition of the Unit 2 component cooling system. The component cooling system is a risk-significant and safety-related mitigating system that removes heat from major components in the Nuclear Steam Supply System under normal conditions and from all components associated with removal of reactor core decay heat under accident conditions. The inspectors also reviewed CAPs associated with equipment alignment issues to verify that the licensee was identifying issues at an appropriate threshold and entering them into their corrective action program in accordance with the licensee's corrective action procedures.

The inspectors used applicable alignment checklists and plant drawings to verify that system components were properly positioned to support the completion of system safety functions and to verify that the as-found system configuration matched the configuration specified in the system alignment checklists and plant drawings. The inspectors examined the material condition of the components, such as pumps, supports and snubbers, motors, valves, instrumentation, controls, bus relays, and electrical panels. Where applicable, the inspectors examined outstanding design issues, temporary modifications, and operator workarounds. Where applicable, the inspectors verified that tagging clearances were appropriate and attached to the specified equipment. The inspectors reviewed outstanding WOs, work requests, and CAPs associated with the trains to determine if any degraded conditions existed that could affect the accomplishment of the system's safety functions. The inspectors referred to the Technical Specifications (TS), USAR, and other design basis documents to determine the functional requirements of the systems and verified those functions could be performed if needed. Key documents used by the inspectors in conducting this inspection are listed in the Attachment to this report.

This review constituted the completion of one inspection sample.

b. Findings

No findings of significance were identified.

1R05 Fire Protection Area Walkdowns (71111.05)

a. Inspection Scope

The inspectors conducted in-office and in-plant reviews of portions of the licensee's Fire Hazards Analysis and Fire Strategies to verify consistency between these documents and the as-found configuration of the installed fire protection equipment and features in the fire protection areas listed below. 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, their potential to impact equipment that could initiate a plant transient, or their impact on the plant's ability to respond to a security event. The inspectors assessed the control of transient combustibles and ignition sources, the material and operational condition of fire protection systems and equipment, and the status of fire barriers. In addition, the inspectors reviewed CAPs associated with fire protection issues to verify that the licensee was identifying issues at an appropriate threshold and entering them into their corrective action program in accordance with corrective action procedures.

The following 10 fire areas were inspected by in-plant walkdowns supporting the completion of 10 fire protection zone walkdown samples:

- Fire Area 22, Bus 111 Switchgear Room, on July 5, 2007;
- Fire Area 31/32, Auxiliary Feedwater Pump Rooms, on August 15, 2007;
- Fire Area 80, Bus 121 Switchgear Room, on July 5, 2007;
- Fire Area 58, Unit 1 Auxiliary Building Elevation 695, on July 6, 2007;
- Fire Area 59, Unit 1 Auxiliary Building Elevation 715, on July 6, 2007;
- Fire Area 73, Unit 2 Auxiliary Building Elevation 695, on July 6, 2007;
- Fire Area 74, Unit 2 Auxiliary Building Elevation 715, on July 6, 2007;
- Fire Area 79, Train A Event Monitoring Room, on July 6, 2007;
- Fire Area 60, Unit 1 Auxiliary Building Elevation 735, on July 10, 2007; and
- Fire Area 75, Unit 2 Auxiliary Building Elevation 735, on July 10, 2007.

Key documents used by the inspectors in conducting this inspection are listed in the Attachment to this report.

b. Findings

No findings of significance were identified.

1R06 Flood Protection Measures (71111.06)

Review of Operating Experience Smart Sample FY2007-02 Related to NRC Information Notice 2005-30 and Issues Associated with Conduit/Hydrostatic Seals

a. Inspection Scope

The inspectors reviewed licensee actions taken to address concerns described in NRC Information Notice 2005-30, and operating experience communication of the Kewaunee

Turbine Building internal flooding issues. This inspection completed one internal flooding inspection sample.

The inspectors conducted a review of the details associated with the Kewaunee internal flooding issues and Turbine Building design to the Prairie Island plant design for similar internal flooding vulnerabilities. The inspectors reviewed the licensee's corrective action program to verify that the licensee had entered and adequately evaluated the concerns identified at Kewaunee as part of their operating experience review process. The inspectors reviewed licensee procedures for the inspection and evaluation of flood seals, interviewed engineers responsible for internal flood protection, and conducted in-plant walkdown of internal flooding features with a specific focus on the penetration into the residual heat removal pump pits.

b. Findings

No findings of significance were identified.

1R07 Heat Sink Performance (71111.07B)

Biennial Review of Heat Sink Performance

a. Inspection Scope

The inspectors reviewed the performance of the 121 safeguards control room chiller and the 22 diesel-driven cooling water pump jacket water heat exchanger which satisfied the requirement for two samples. These heat exchangers were chosen for review based on many factors, e.g., the high risk assessment worth in the licensee's probabilistic risk analysis, the important safety-related mitigating system support functions and relatively low margin. This review resulted in the completion of two inspection samples. While on-site, the inspectors verified that the inspection, engineering, and maintenance activities were adequate to ensure proper heat transfer. This was done by conducting independent heat transfer capability calculations, reviewing the methods used to inspect the heat exchangers, verifying that the as-found results were appropriately dispositioned, and personnel interviews. The inspectors also verified, by review of procedures, test results, and interviews that chemical treatments, ultrasonic tests, and methods used to control biotic fouling corrosion and macro-fouling were sufficient to ensure required heat exchanger performance. The inspectors verified that the condition and operation of these heat exchangers were consistent with design assumptions in heat transfer calculations by reviewing related procedures and surveillance. This was performed by reviewing inspect/clean work orders, calculations, and completed surveillance tests. During the inspection, the inspectors walked down the accessible portions of the selected heat exchangers, and verified installation configurations complied with design documents and material condition was adequate.

Also while on-site, the inspectors verified two attributes of the ultimate heat sink as required by the NRC inspection procedure 71111.07B, Section 2.02, Items d.6 and d.7. The inspectors verified that the licensee had appropriate controls in place to ensure functionality of the ultimate heat sink during adverse weather conditions, e.g., icing or high temperatures. The inspectors also verified that the licensee had appropriately

completed recent performance testing for each of the three safety-related cooling water pumps. During the inspection, the inspectors walked down the screen house, focusing on the accessible portions of the safety-related intake bay, and cooling water pumps, and verified installation configurations complied with design documents and material condition was adequate.

The inspectors reviewed corrective action documents concerning heat exchanger or heat sink performance issues to verify that the licensee had an appropriate threshold for identifying issues. The inspectors also evaluated the effectiveness of the corrective actions for identified issues, including the engineering justifications for operability.

The documents that were reviewed are included in the Attachment to this report.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification (71111.11)

a. Inspection Scope

On July 16, 2007, the inspectors performed a quarterly review of licensed operator requalification training in the simulator, completing one licensed operator requalification inspection sample. The inspectors observed a crew during an evaluated exercise in the plant's simulator facility. The inspectors compared crew performance to licensee management expectations. The inspectors verified that the crew completed all of the critical tasks for each exercise scenario. For any weaknesses identified, the inspectors observed that the licensee evaluators noted the weaknesses and discussed them in the critique at the end of the session.

The inspectors assessed the licensee's effectiveness in evaluating the requalification program ensuring that licensed individuals would operate the facility safely and within the conditions of their licenses, and evaluated licensed operator mastery of high-risk operator actions. The inspection activities included, but were not limited to, a review of high-risk activities, emergency plan performance, incorporation of lessons learned, clarity and formality of communications, task prioritization, timeliness of actions, alarm response actions, control board operations, procedural adequacy and implementation, supervisory oversight, group dynamics, interpretations of TS, simulator fidelity, and licensee critique of performance.

Key documents used by the inspectors in conducting this inspection are listed in the Attachment to this report.

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness (71111.12)

a. Inspection Scope

The inspectors reviewed repetitive maintenance activities to assess maintenance effectiveness, including Maintenance Rule (10 CFR 50.65) activities, work practices, and common cause issues. The inspectors performed two issue/problem-oriented maintenance effectiveness samples under the Mitigating Systems and Barrier Integrity cornerstones. The inspectors assessed the licensee's maintenance effectiveness associated with problems on:

- Recurring unavailability of cooling water system components; and
- Diesel generator D5 unavailability due to fuel rack position indication and elevated crankcase pressure.

The inspectors conducted in-office reviews of the licensee's Maintenance Rule evaluations of equipment failures for maintenance preventable functional failures and equipment unavailability time calculations, comparing the licensee's evaluation conclusions to applicable Maintenance Rule (a)(1) performance criteria. Additionally, the inspectors reviewed scoping, goal-setting (where applicable), performance monitoring, short-term and long-term corrective actions, functional failure definitions, and current equipment performance status.

The inspectors reviewed CAPs for significant equipment failures associated with risk-significant and safety-related mitigating equipment to ensure that those failures were properly identified, classified, and corrected. The inspectors reviewed other CAPs to assess the licensee's problem identification threshold for degraded conditions, the appropriateness of specified corrective actions, and that the timeliness of the implementation of corrective actions was commensurate with the safety significance of the identified issues. Key documents used by the inspectors in conducting this inspection are listed in the Attachment to this report.

b. Findings

No findings of significance were identified.

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

a. Inspection Scope

The inspectors conducted in-plant walkdowns and in-office reviews of risk assessments for the following combinations of equipment unavailability completing five risk assessment and emergent work control inspection samples:

- Planned unavailability of the 121 instrument air compressor, the 121 instrument air receiver, and along with the emergent condition of the transmission system in a Yellow condition on July 25, 2007;

- Planned unavailability of the 12 motor-driven auxiliary feedwater pump, the 12 containment spray pump, and the 124 station air compressor on August 16, 2007;
- Planned unavailability of the 22 component cooling pump, the 22 component cooling heat exchanger, and the 124 station air compressor on September 4, 2007;
- Planned unavailability of the 12 component cooling pump, the 12 component cooling heat exchanger, and the 124 station air compressor on September 10, 2007;
- Planned unavailability of the 121 and 122 safeguards traveling screens, the 22 charging pump, and the 124 station air compressor, along with the emergent unavailability of the Byron 345kV [kiloVolt] transmission line and severe weather on September 18, 2007.

Key documents used by the inspectors in conducting this inspection are listed in the Attachment to this report.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15)

a. Inspection Scope

The inspectors reviewed the technical adequacy of six operability evaluations completing six operability evaluation inspection samples. The inspectors conducted these inspections by in-office review of associated documents and in-plant walkdowns of affected areas and plant equipment.

The inspectors compared degraded or nonconforming conditions of risk-significant structures, systems, or components associated with barrier and mitigating systems and against the functional requirements described in the TS, USAR, and other design basis documents; determined whether compensatory measures, if needed, were implemented; and determined whether the evaluation was consistent with the requirements of Administrative Work Instruction 5AWI 3.15.5, "Operability Determinations." The following operability evaluations were reviewed by inspectors:

- Prompt operability of transformer CT 11 which had 7 of 18 cooling fans out of service on July 11, 2007;
- Operability Recommendation (OPR) 01109322, documenting the operability of the 11 and 21 reactor coolant pumps with seal parts installed without proper evaluation on September 4, 2007;
- Prompt operability of CAP 01099609, evaluating the impact of potential water hammer on line downstream of Unit 1 pressurizer power operated relief valves;
- Prompt operability of CAP 01104923, evaluating the D5 engine 1 dirty fuel oil tank level increase;

- OPR 01106141 that documents the historical operability of a failure of Breaker 26-9 to manually close during Surveillance Procedure (SP) 2090B on August 13, 2007; and
- OPR 01109516 documenting the operability of Safety Injection Pipe 3/4-2SI-7A with a missing pipe support on September 4, 2007.

Key documents used by the inspectors in conducting this inspection are listed in the Attachment to this report.

b. Findings

No findings of significance were identified.

1R19 Post-Maintenance Testing (71111.19)

a. Inspection Scope

The inspectors assessed post-maintenance testing completing six post-maintenance test inspection samples. The inspectors selected post-maintenance tests associated with important mitigating, initiating events, and barrier integrity systems to ensure that the testing was performed adequately, demonstrated that the maintenance was successful, and that operability of associated equipment and/or systems was restored. The inspectors conducted these inspections by in-office review of documents, in-plant walkdowns of associated plant equipment, and interviews with responsible personnel. The inspectors observed and assessed the post-maintenance testing activities for the following maintenance activities:

- D5 diesel generator following troubleshooting for elevated crankcase pressure on July 17, 2007;
- Replacement of the 22 containment spray (CS) pump breaker following failure of breaker 26-9 to close during a surveillance test on August 9, 2007;
- 12 motor-driven auxiliary feedwater pump auxiliary lube oil pump following replacement of the timer relay on August 17, 2007;
- Control valve (CV)-31199, boric acid to 11 boric acid blender, following corrective maintenance on August 21, 2007;
- Refueling water storage tank to safety injection pumps valve MV-32183 following corrective maintenance on September 6, 2007; and
- CV-31411, component cooling water heat exchanger temperature control valve, following the execution of corrective and preventive maintenance activities on September 11, 2007.

The inspectors reviewed the appropriate sections of the TS, USAR, and maintenance documents to determine the systems safety functions and the scope of the maintenance. The inspectors also reviewed CAPs to verify that the licensee was identifying issues at an appropriate threshold and entering them into their corrective action program in accordance with the licensee's corrective action procedures. Key documents used by the inspectors in conducting this inspection are listed in the Attachment to this report.

b. Findings

No findings of significance were identified.

1R20 Refueling and Other Outage Activities (71111.20)

a. Inspection Scope

The inspectors observed the licensee's performance during a planned Unit 2 maintenance outage (2F2402) conducted between September 29, 2007, and October 1, 2007. The purpose of the outage was to clean condenser tubes and balance the turbine generator. These inspection activities represent one outage inspection sample.

This inspection consisted of an in-office review of the licensee's outage schedule, safe shutdown plan, and procedures governing the outage. Key documents used by the inspectors in conducting this inspection are listed in the Attachment to this report.

The inspectors conducted in-plant observations of the following outage activities daily:

- Attended outage management turnover meetings to verify that the current shutdown risk status was accurate, well understood, and adequately communicated; and
- Performed walkdowns of the main control room to observe the alignment of systems important to shutdown risk.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

During this inspection period, the inspectors completed five surveillance inspection samples. Observation of SP 1088 and SP 1106B completed the quarterly inservice testing inspection sample requirement of a risk-significant pump or valve surveillance test. The observation of SP 2132 completed the requirement for a containment isolation sample. The inspectors selected the following surveillance testing activities as samples:

- SP 2307, "D6 Diesel Generator 6-Month Fast Start Test," on July 2, 2007;
- SP 2132, "Unit 2 Personnel and Maintenance Airlock Door Seal Test," on August 22, 2007;
- SP 1106B, "22 Diesel-Driven Cooling Water Pump Monthly Test," on August 12, 2007;
- D2 Diesel Generator 18-Month 24-Hour Load Test on July 9, 2007; and
- SP 1088A, "Train A Safety Injection Quarterly Test," on July 26, 2007.

During completion of the inspection samples, the inspectors observed in-plant activities and reviewed procedures and associated records to verify, when applicable, that:

- Preconditioning did not occur;
- Effects of the testing had been adequately addressed by control room personnel or engineers prior to the commencement of the testing;
- Acceptance criteria were clearly stated, demonstrated operational readiness, and were consistent with the system design basis;
- Plant equipment calibration was correct, accurate, properly documented, and the calibration frequency was in accordance with TS, USAR, procedures, and applicable commitments;
- Measuring and test equipment calibration was current;
- Test equipment was used within the required range and accuracy;
- Applicable prerequisites described in the test procedures were satisfied;
- Test frequency met TS requirements to demonstrate operability and reliability;
- The tests were performed in accordance with the test procedures and other applicable procedures;
- Jumpers and lifted leads were controlled and restored where used;
- Test data/results were accurate, complete, and valid;
- Test equipment was removed after testing;
- Where applicable for inservice testing activities, testing was performed in accordance with the applicable version of American Society of Mechanical Engineers Code, Section XI, and reference values were consistent with the system design basis;
- Where applicable, test results not meeting acceptance criteria were addressed with an adequate operability evaluation or declared inoperable;
- Where applicable for safety-related instrument control surveillance tests, reference setting data have been accurately incorporated in the test procedure;
- Equipment was returned to a position or status required to support the performance of its safety functions; and
- All problems identified during the testing were appropriately documented in the corrective action program.

Key documents used by the inspectors in conducting this inspection are listed in the Attachment to this report.

b. Findings

No findings of significance were identified.

1R23 Temporary Plant Modifications (71111.23)

a. Inspection Scope

The inspectors conducted in-plant observations of the physical changes to the equipment and an in-office review of documentation associated with one temporary modification. This constituted one temporary modification inspection sample. The inspectors reviewed Temporary Modification EC 10362, which was implemented to remove parts from the manual valve actuator on CV-39412 (11 and 13 fan cooling unit

chilled water return valve) to eliminate the possibility of the damaged threads on the hand wheel stem shaft interfering with the valves safety-related function to close.

The inspection activities included a review of design documents, safety screening documents, and the USAR to determine that the temporary modification was consistent with modification documents, drawings, and procedures. The inspectors also reviewed the post-installation test results to confirm that tests were satisfactory and the actual impact of the temporary modification on the permanent system and interfacing systems were adequately verified. The key documents reviewed by the inspectors are listed in the Attachment to this report.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification (71151)

Cornerstones: Mitigating Systems

Mitigating System Performance Index (MSPI) Verification of Emergency Alternating Current (EAC) Power Systems, High Pressure Safety Injection (HPSI), and Auxiliary Feedwater (AFW)

a. Inspection Scope

The inspectors reviewed the licensee's MSPI unavailability and unreliability data, Consolidated Data Entry MSPI reports, monitored component demands, and demand failures, where applicable, for Prairie Island Units 1 and 2, EAC, HPSI, and AFW, completing six performance indicator verification inspection samples. The inspectors used performance indicator guidance and definitions contained in National Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 4, to verify the accuracy of the performance indicator data. The inspectors' review included conditions and data from control room narrative logs, control room limiting condition of operation (LCO) logs and calculations. The inspectors did not review MSPI risk coefficients since none had changed since the previous performed review.

The inspectors reviewed the CAPs listed in the Attachment to this report to verify that the licensee was identifying issues at an appropriate threshold and entering them into their corrective action program in accordance with corrective action procedures. Key documents used by the inspectors in conducting this inspection are listed in the Attachment to this report.

The licensee's reporting of the following performance indicators were verified:

Unit 1

- Unit 1 EAC MSPI for the Third Quarter 2006 through the Second Quarter 2007;
- Unit 1 HPSI MSPI for the Third Quarter 2006 through the Second Quarter 2007; and
- Unit 1 AFW MSPI for the Third Quarter 2006 through the Second Quarter 2007.

Unit 2

- Unit 2 EAC MSPI for the Third Quarter 2006 through the Second Quarter 2007;
- Unit 2 HPSI MSPI for the Third Quarter 2006 through the Second Quarter 2007; and
- Unit 2 AFW MSPI for the Third Quarter 2006 through the Second Quarter 2007.

b. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems (71152)

.1 Routine Review of Identification and Resolution of Problems

a. Inspection Scope

As required by NRC Inspection Procedure 71152, "Identification and Resolution of Problems," and in order to help identify repetitive equipment failures or specific human performance issues for follow-up, the inspectors performed screening of all items entered into the licensee's corrective action program. This was accomplished by reviewing the description of each new CAP and attending selected daily management review committee meetings. Documents reviewed are listed in the Attachment to this report. This does not constitute an inspection sample.

b. Findings

No findings of significance were identified.

.2 Selected Issue Follow-up Inspection - Operator Workarounds

a. Inspection Scope

As required by NRC Inspection Procedure 71152, "Identification and Resolution of Problems," the inspectors performed a review of the operator workarounds. This review verified that the licensee is identifying operator workaround problems at an appropriate threshold and entering them in the corrective action program, and has proposed or implemented appropriate corrective actions.

The issue selected for in-depth review was the three-way valves controlling bearing water sources for the safeguards cooling water pumps require operations to change out seal water filters once per shift. A bearing water supply modification was being

implemented in three phases and was in progress with an estimated completion in September 2007.

This constitutes the completion of one inspection sample. The key documents reviewed by the inspectors associated with this inspection are listed in the Attachment to this report.

b. Findings and Observations

No findings of significance were identified.

4OA3 Event Follow-up (71153)

a. Inspection Scope

(Closed) Licensee Event Report (LER) 05000306/2007-001-01: Unit 2 Reactor Trip, Supplement 1.

On April 5, 2007, at approximately 9:08 a.m., Unit 2 tripped during surveillance testing of the Unit 2 train "A" safeguards logic. A spurious train "A" safety injection actuation occurred resulting in actuation of the reactor protection system and the reactor trip. The train was in "Test" at the time and should not have caused the reactor trip. The licensee entered the event into the corrective action program as CAP 01086219, replaced the defective Westinghouse MG-6 relay, and conducted a root cause evaluation of the event. The root cause was determined to be high electrical resistance on the relay contacts that did not allow enough current to reach the reset coil of the relay, resulting in failure of the relay to reset. It was further determined that the high electrical resistance was due to lack of developing and implementing a preventive maintenance program for MG-6 relays. Corrective actions planned include replacement and testing of the relays and implementation of a preventive maintenance strategy for the MG-6 relays. The LER supplement and root cause evaluation report were reviewed by the inspectors and no findings of significance were identified. This LER supplement is closed. The NRC's review of the original LER and disposition of the associated regulatory aspects were documented in NRC Inspection Report 05000306/2007003.

4OA6 Meeting(s)

.1 Exit Meeting

The inspectors presented the inspection results to Mr. M. Wadley and other members of licensee management at the conclusion of the inspection on October 4, 2007. The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

.2 Interim Exit Meeting

An interim exit meeting was conducted for:

- The results of the heat sink biennial inspection were presented to the Director of Site Operations, Mr. J. Sorensen, and other members of licensee management and staff at the conclusion of the inspection on June 29, 2007.

4OA7 Licensee-Identified Violations

The following three violations of very low significance were identified by the licensee and are violations of NRC requirements which meets the criteria of Section VI of the NRC Enforcement Manual, NUREG-1600, for being dispositioned as Non-Cited Violations.

Cornerstone: Initiating Events, Mitigating Systems, and Barrier Integrity

.1 Degraded Fire Barrier Between Auxiliary Feedwater Pump Rooms

On August 9, 2007, the licensee identified that a four-inch penetration between Fire Areas 31 and 32 was not intact due to the three-inch fire hose passing through the penetration. Fire Areas 31 and 32 contain all Unit 1 and 2 safety-related auxiliary feedwater pumps, instrument air compressors, and both Unit 1 and Unit 2 remote shutdown panels. The licensee's investigation determined that this condition had existed for the previous ten years. During portions of that 10-year period, compensatory measures were not continuously in place. The Prairie Island Operating License Condition DPR-42 for Unit 1 and DPR-60 for Unit 2 required that the licensee maintain, in effect, all provisions of the approved fire protection program. The licensee failed to meet this requirement when the required compensatory measures per Plant Safety Procedure F5, Appendix K, "Fire Protection Systems Operability Requirements," Revision 10, had not been maintained as required. A risk evaluation conducted by a Region III fire protection inspector and a senior risk analyst using the fire protection significance determination process, determined that the finding was of very low safety significance (Green) since no credible fire scenarios were identified that would damage important safe shutdown equipment in both areas. The licensee immediately restored the penetration integrity upon discovery and entered the deficient condition into their corrective action program with CAP 01106157.

.2 22 Containment Spray Pump Failed to Close During Surveillance Test Due to Improperly Performed Maintenance

On August 9, 2007, plant operators were performing a quarterly surveillance test of the 22 CS pump. Step 7.4.3 of SP 2090B directed operators to start the pump. When the control switch was taken to the start position, the safety-related 22 CS pump failed to start. The licensee's troubleshooting revealed that open circuit condition existed in the breaker closing circuit. The licensee entered this deficient condition into their corrective action program with CAP 01106141 and conducted a root cause investigation of the event. The root cause investigation identified that the breaker's L2 auxiliary contacts were not correctly adjusted during a major overhaul performed in May 2005. The root cause evaluation identified the improper assembly of the breaker linkage between the L2 auxiliary contacts and the breaker main contacts. Maintenance procedures were also identified as having insufficient guidance for successful completion of the maintenance activity. Appendix B, Criterion V, of 10 CFR 50 requires that procedures

include appropriate qualitative or quantitative acceptance criteria for determining that important activities have been satisfactorily accomplished. Plant Maintenance Procedure PE 0008, "5HK250/350 Breaker Testing Maintenance and Repair - Major," Revision 3, contained neither appropriate qualitative or quantitative acceptance criteria, and therefore, failed to meet the regulatory requirements. The failure of the 22 CS pump did not result in a significant increase in either the core damage frequency or the large early release fraction. Therefore, the risk significance of this event was of very low safety significance (Green).

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee

M. Wadley, Site Vice President
T. Allen, Nuclear Safety Assurance Manager
J. Anderson, Radiation Protection and Chemistry Manager
M. Carlson, Engineering Director
M. Davis, Regulatory Affairs Analyst
K. Den Herder, GL 89-13 Program Owner
F. Forrest, Operations Manager
P. Gorman, Employee Concerns Manager
P. Huffman, Plant Manager
J. Kivi, Regulatory Compliance Engineer
C. Mundt, General Supervisor, Instrument and Control Maintenance
S. Northard, Regulatory Affairs Manager
C. Sansome, former GL 89-13 Program Owner
S. Skoyen, Engineering Project Manager
J. Sorensen, Director Site Operations
E. Weinkam, NMC Licensing Director
P. Wiltse, Maintenance Manager

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

05000306/2007-001-01 LER Unit 2 Reactor Trip, Supplement 1

Closed

05000306/2007-001-01 LER Unit 2 Reactor Trip, Supplement 1

Discussed

None.

LIST OF DOCUMENTS REVIEWED

The following is a list of documents reviewed during the inspection. Inclusion on this list does not imply that the NRC inspectors reviewed the documents in their entirety but rather that selected sections of portions of the documents were evaluated as part of the overall inspection effort. Inclusion of a document on this list does not imply NRC acceptance of the document or any part of it, unless this is stated in the body of the inspection report.

1R04 Equipment Alignment

D1 Diesel Generator

Integrated Checklist C1.1.20.7-1; D1 Diesel Generator Valve Status; Revision 20
Integrated Checklist C1.1.20.7-2; D1 Diesel Generator Auxiliaries and Room Cooling Local Panels; Revision 9
Integrated Checklist C1.1.20.7-3; Diesel Generator D1 Main Control Room Switch and Indicating Light Status; Revision 15
Integrated Checklist C1.1.20.7-4; D1 Diesel Generator Circuit Breakers and Panel Switches; Revision 12

D6 Diesel Generator

Integrated Checklist C1.1.20.7-13; D6 Diesel Generator Valve Status; Revision 14
Integrated Checklist C1.1.20.7-14; D6 Diesel Generator Auxiliaries and Local Panels and Switches; Revision 12
Integrated Checklist C1.1.20.7-15; D6 Diesel Generator Main Control Room Switch and Indicating Light Status; Revision 6
Integrated Checklist C1.1.20.7-16; D6 Diesel Generator Circuit Breakers and Panel Switches; Revision 8

Complete System Alignment of Unit 2 Component Cooling System

Integrated Checklist C1.1.14-2; Unit 2 Component Cooling System; Revision 29
USAR Section 10.4.2; Component Cooling System; Revision 29
CAP 01074131; Unable to Sample Component Cooling System
CAP 01093523; Calculation ENG-ME-541 Instrument Uncertainty Considerations
CAP 01093627; Jacking Screws Found Engaged on Train A CC Pump Motors
CAP 01094529; Reference for Component Cooling Water Test in USAR
WO 00018803; 21 CC Pump Large Motor Monitor Light Not Lit
WO 00019542; Slight Seal Leak on 21 CC Pump
WO 00019551; 21 CC Surge Tank Isolation Valve Stuck Open
WO 00021649; 21 CC Pump Outboard Bearing Oil Leak
WO 00025707; 21 CC Heat Exchanger Cooling Water Outlet Temperature Control Valve Has Air Leak

1R05 Fire Protection

Plant Safety Procedure F5, Appendix A, Revision 23; Fire Strategies for Fire Areas 22, 31, 32, 80, 58, 59, 73, 74, 79, 60, and 75
Plant Safety Procedure F5, Appendix F, Revision 20; Fire Hazard Analysis for Fire Areas 22, 31, 32, 80, 58, 59, 73, 74, 79, 60, and 75

Prairie Island Fire Protection Safety Evaluation Report; dated September 6, 1979
Fire Protection Procedure F5 Appendix A; Fire Protection Systems Operability
Requirements; Revision 10
CAP 01106157; Auxiliary Feedwater Pump Room Penetration Left Unsealed Without
Compensatory Measures
CAP 01044959; Safety Evaluation Report Committed Damper Not Installed in the
Auxiliary Feedwater Pump Room
CAP 01110752; Auxiliary Feedwater Pump Room Trench Fire Barrier Not Appropriately
Labeled
CAP 01111082; Auxiliary Feedwater Pump Room to Turbine Building Trench Missing
Appendix R III.G Barrier

1R06 Flood Protection Measures (Internal)

Internal Flooding Smart Sample FY2007-02
Procedure H36; Plant Flooding; Revision 1
Test Procedure 1398; Verification of Physical Inputs to Internal Flooding Evaluations;
Revision 0
Preventive Maintenance (PM) Procedure 3586-10; Periodic Structures Inspection;
Revision 4
Procedure H24.3; Structures Monitoring Program; Revision 3
Administrative Work Instruction 5AWI 8.9.0; Internal Flooding Drainage Control;
Revision 4
CAP 00888906; Internal Flood Design Deficiencies
CAP 01091143; Clogged Floor Drain in the 121 Cooling Water Pump Room
CAP 01003634; NRC Information Notice 05-30, Internal Flooding Events

1R07 Biennial Heat Sink Performance

CAP 01007864; Evaluate Adjusting Flows for SP 1106A/B/C as OWA; dated
December 17, 2006
CAP 01047971; Pin Hole Leak Near CV-31653, Clg. WTR STRNR Backwash CV; dated
September 1, 2006
CAP 01010370, QF-0406 SnapShot Report on BL 89-13 Program; dated June 8, 2007
CAP 01072887; Pin Hole Leak on 12 Clg. WTR STRNR Increasing; dated
January 19, 2007
CAP 01015584; 121/122 SFGDS TRVL SCRNL - Fasteners Holding on Mesh Corroded;
dated February 20, 2006
CAP 01019252; TS-16484 Contacts are Chattering White 22 DDCLWP is Running;
dated March 18, 2006
CAP 01047990; 12 CL Strainer; Pin Hole Leak; dated September 1, 2006
CAP 01059372; Permanent Plant Equipment Removed Without Modification; dated
November 2, 2006
CAP 01058250; 2CL-25-1 22 DD CL Pump HX Relief Valve Leaking; dated
October 27, 2006
CAP 01058242; Uncertainty in Profile of the Approach Canal; dated October 27, 2006
CAP 01055103; Control Room Chiller Backup Air Usage; dated October 11, 2006
CAP 01085258; Problems Encountered with SP 1106C 121 Clg. Water Pump Test;
dated April 1, 2007

CAP 01086262; Refurbishment needed for SFGDS TRVING Screens Equipment; dated April 5, 2007
 CAP 01051475; MRE Conclusions for SFGRD TRVLNG SCR N DPS Issued; dated September 21, 2006
 CAP 01087705; 122 SFGDS TRVLG SCR N DPS 7038605 is Reading <0; dated April 13, 2007
 CAP 01010936; Develop New Acceptance Criteria for SP's 1106 A, B, C to Preclude the Need to Manipulate; January 18, 2006
 CAP 01047971; Pin Hole Leak Near CV-31653, Clg. WTR STRNR Backwash CV; dated September 1, 2006
 CAP 01072887; Pin Hole Leak on 12 Clg. WTR STRNR Increasing; dated January 19, 2007
 CAP 01015584; 121/122 SFGDS TRVL SCR N - Fasteners holding on Mesh Corroded; dated February 20, 2006
 CAP 01019252; TS-16484 Contacts are Chattering White 22 DDCLWP is Running; dated March 18, 2006
 CAP 01047990; 12 CL Strainer; Pin Hole Leak; dated September 1, 2006
 CAP 01059372; Permanent Plant Equipment Removed Without Modification; dated November 2, 2006
 CAP 01058250; 2CL-25-1 22 DD CL Pump HX Relief Valve Leaking; dated October 27, 2006
 CAP 01058242; Uncertainty in Profile of the Approach Canal; dated October 27, 2006
 CAP 01055103; Control Room Chiller Backup Air Usage; dated October 11, 2006
 CAP 01085258; Problems Encountered with SP 1106C 121 Clg. Water Pump Test; dated April 1, 2007
 CAP 01086262; Refurbishment needed for SFGDS TRVING Screens Equipment; dated April 5, 2007
 CAP 01051475; MRE Conclusions for SFGRD TRVLNG SCR N DPS Issued; dated September 21, 2006
 CAP 01087705; 122 SFGDS TRVLG SCR N DPS 7038605 is Reading <0; dated April 13, 2007
 EC-0000010877; Evaluation of CL Pump Minimum Design Limits; dated May 18, 2007
 ENG-ME-573; Two Plugging Limits for 12 and 22 DDCLP JWHX; Revision 1
 ENG-ME-202; PINGP CL System Model Database; Revision 6
 ENG-ME-219; Safeguards CL Pump NPSHR Static Head Equivalent; Revision 0
 ENG-ME-404; Loss of Offsite Power with One CL Pump; Revision 4
 ENG-ME-474; CL System Operations During LOCA and Post-LOCA Re-circulation; Revision 5A
 ENG-ME-611; CL System Response to a Seismic Event; Revision 1
 H21; Generic Letter 89-13 Implementing Program; Revision 12
 H49; Service Water and Fire Protection Inspection Program; Revision 1
 Health and Status Reports; Cooling Water; dated June 30, 2007
 Health and Status Reports; Safeguards Chilled Water; dated June 30, 2007
 MOD 05CL05 (EC 652); Improving CL flow monitoring; dated May 15, 2007
 NOS Report-2003-001-6-024; Emergent Assessment; dated February 27, 2003
 NOS Report-2003-004-6-022; Engineering Programs; dated December 12, 2003
 NOS Report-2004-004-6-027; Flow Accelerated Corrosion and GL 89-13 Programs; dated February 2, 2005

OPR 000556; 2 CL/ZX swapover CVs Leak By When in Safeguards Closed Position; dated September 28, 2005
OPR 01050685-07; Cooling Water Line 24-CL-12 Has a Pinhole Leak; Revision 0
PINGP 1066, CL/FP PIPE OR CL HX Internal Inspection Form, Revision 7
SP 1106A; 12 Diesel Cooling Water Pump Monthly Test; Revision 70
SP 1106B; 22 Diesel Cooling Water Pump Monthly Test; Revision 67
SP 1106C; 121 Cooling Water Pump Quarterly Test; Revision 29
WO 0504845; PM 3138-2 - 121 Control Room Chiller (075-011) Annual Inspection; dated October 3, 2005
WO 270609; PM 3138-2 - 121 Control Room Chiller (075-011) Annual Inspection; dated October 23, 2006
WO 288569; TP 1687, 121 Control Room Chiller (075-011) Annual Inspection; dated December 28, 2006
WO 288569; TP 1687, 121 Control Room Chiller (075-011) Annual Inspection; dated April 1, 2007
WO 0400974; PM 3002-2-22 - 22 DDCLP JWHX Annual Inspection; dated August 23, 2004
WO 0503019/94493 (passport); PM 3002-2-22 - 22 DDCLP JWHX Annual Inspection; dated November 19, 2005
WO 0509203/100061 (passport); Elective WO - 22 DDCLP JWHX Annual Inspection; dated November 17, 2005
WO 158714; PM 3002-2-22 - 22 DDCLP JWHX Annual Inspection; dated October 11, 2006
WO 0504845; PINGP 1066 - 121 CR Chiller (075-011) Annual Inspection; dated October 3, 2005
WO 270609-01; PINGP 1066 - 121 CR Chiller (075-011) Annual Inspection; dated October 5, 2006
WO 305562; SP 1106A Performed on June 2, 2007; dated June 2, 2007
WO 305432; SP 1106C Performed on April 1, 2007; Revision 28
WO 288569; TP 1687, 121 CR Chiller (075-011) Annual Inspection; dated December 28, 2006
WO 288967; TP 1687, 121 CR Chiller (075-011) Annual Inspection; dated April 1, 2007
WO 0400974; - PINGP 1066 - 22 DDCLP JWHX Annual Inspection; dated August 23, 2004
WO 0503019; - PINGP 1066 - 22 DDCLP JWHX Annual Inspection; dated November 19, 2005
WO 0509203/100061 (passport); PINGP 1066 - 22 DDCLP JWHX; dated November 17, 2005
WO 0509203/100061 (passport); Elective WO - Inspect and Clean 4" and 1" CL lines on 22 DDCLP; dated November 17, 2005
WO 158714; PM - PINGP 1066 - 22 DDCLP JWHX Annual Inspection; dated October 9, 2006

Corrective Action Documents generated as a result of NRC Heat Sink inspection

CAP01099377; NRC Identified No Reference For Turbine Building Isolation Design Input; dated June 27, 2007
CAP01099589; ENG-ME-404 Revision 4 Clarifications Necessary; dated June 28, 2007
CAP01099598; Vertical CL Pumps .5 Lower than Spec.; dated June 28, 2007
CAP01099656; Flow Stabilization Guidance PCRs for SP 1106A, B and C; dated June 28, 2007
CAP01099672; Assumption of 95F Inlet Water For ENG-ME-202 Not Clear; dated June 28, 2007

PCR 01099651; SP 1106A Enhanced Stabilization Time Guidance; dated June 28, 2007
PCR 01099653; SP 1106B Enhanced Stabilization Time Guidance; dated June 28, 2007
PCR 01099655; SP 1106C Enhanced Stabilization Time Guidance; dated June 28, 2007

1R11 Licensed Operator Requalification Program

Simulator Evaluation Guide P9160S-001; ATT SQ-57; Revision 0
Administrative Work Instruction 5AWI 3.15.0; Plant Operation; Revision 21
CAP 01102073; Emergency Action Level Classifications Missed During Licensed Operator Requalification Cycle 06K Simulator Evaluations

1R12 Maintenance Rule Implementation

Cooling Water System

CAP 01072010; 21 Cooling Water Strainer Annual Inspection
CAP 01081729; 22 Cooling Water Pump Unavailability Greater Than 50%
CAP 01081737; 121 Cooling Water Pump Unavailability is 61%
CAP 01099913; 12 Diesel-Driven Cooling Water Pump Failed Inservice Test and Declared Inoperable
Cooling Water System Health and Status Report; August 1, 2007

Diesel Generator D5

CAP 01108147; D5 Diesel Generator at 53% of Unavailability Performance Criteria
Maintenance Rule A(1) Action Plan; D5 Diesel Generator System; August 21, 2007
CAP 01094234; D5 Fuel Rack Differential Rack Position Off Scale
CAP 01094961; D5 Fuel Rack Differential Rack Position Reading 1
CAP 01094238; D5 Engine 2 Elevated Crankcase Pressure
CAP 01110244; D5 Cylinder Head Deposits

1R13 Maintenance Risk Assessments and Emergent Work Control

Procedure H24.1, Appendix A; Phase 1 Risk Assessment Preparation; Revision 3
Operator Logs for July 25, 2007
Unit 1 and Unit 2 Risk Assessment for July 25, 2007
Operator Logs for August 16, 2007
Unit 1 and Unit 2 Risk Assessment for August 16, 2007
Operator Logs for September 4, 2007
Unit 2 Risk Assessment for September 4, 2007
CAP 01109960; Work on MV-32183 Not Evaluated for Risk
Operator Logs for September 10, 2007
Unit 2 Risk Assessment for September 10, 2007
Operator Logs for September 18, 2007
Unit 2 Risk Assessment for September 18, 2007

1R15 Operability Evaluations

OPR 01099452

CAP 01099452; CT 11 Transformer

CAP 01100997; Procedure C20.11 AOP2, Re-energize 4.16 kV Bus CT-12

Abnormal Operating Procedure C20.11 AOP2; Re-energize 4.16kV Bust CT-12; Revision 3

OPR 01109322

CAP 01109322; RCP Seal Parts Installed Without Proper Evaluation

Item Equivalency Evaluation 2007-072; Reactor Coolant Pump Seal and Runner

OPR 01106141

CAP 01106141; 22 CS Pump Failed to Manually Start During SP 2090B

CAP 01113832; Potential Deficiencies in 4kV Breaker Maintenance Practices

Root Cause Evaluation 01106141; 22 CS Pump Failed to Manually Start During SP 2090B

Prompt Investigation Report of 22 CS Pump Failure to Manually Start During SP 2090B;

dated August 13, 2007

OPR 01106141; 22 CS Pump Failed to Manually Start During SP 2090B

Condition Evaluation 01106141; Past Operability Evaluation of the 22 CS Pump

Maintenance Rule Evaluation 01106141; 22 CS Pump Failed to Manually Start During SP 2090B

Reportability Evaluation 01106141; 22 CS Pump Failed to Manually Start During SP 2090B

WO 0104847; PE 0007; 5HK250/350 Breaker Testing Maintenance and Repair - Minor;

dated February 2, 2002

WO 0104847; PE 0008; 5HK250/350 Breaker Testing Maintenance and Repair - Major;

dated May 14, 2005

Pipe Support Missing on Line 3/4-2SI-7A NE-116786, Sheet 22; Breaker 26-9

OPR 01109516

CAP 01109516; Pipe Support Missing on Line 3/4-2SI-7A

OPR 01109516; Pipe Support Missing on Line 3/4-2SI-7A

Prairie Island Drawing NF-39333-1D; Accumulator Test Line Expansion Loop

Prairie Island Drawing X-HIAW-1001-7; Safety Injection System

OPR 01099609

CAP 01099609; Prairie Island Susceptibility to Water Hammer

CAP 01059625; RHR Pump Suction Pressure Relief Valve Failed As-Found

Plant Isometric Drawing X-HIAW-1106-2545; Reactor Building Reactor Piping

Plant Isometric Drawing X-HIAW-1106-2547; Reactor Building Reactor Piping

Plant Isometric Drawing X-HIAW-1106-2596; Reactor Building Reactor Piping

Plant Isometric Drawing XH-106-338; Reactor Building Reactor Piping

Prairie Island Safety Analysis Report; Section 4; Low Temperature Overpressure Protection System

OPR 01104923

CAP 01104923; D5 Fuel Oil Leakage Tank Problems

1R19 Post-Maintenance Testing

D5 Diesel Generator

WO 00332605; Perform Troubleshooting and Adjustments for High Crankcase Pressure SP 2093; D5 Diesel Generator Monthly Slow Start Test; Revision 82
WO 00307523; Replace Timer on 12 Motor-Driven AFW Pump Auxiliary Lube Oil Pump

CV-31199

WO 00312209; Repeat Packing Leak on CV-31199
CAP 01072098; Packing Leak Repeat on CV-31199, Boric Acid to 11 Blender
CAP 01108051; No Reactivity Plan Prepared for Work on Boric Acid to Blender Valve

MV-32183

WO 00327727; PM 32183L Refueling Water Storage Tank to Safety Injection Motor-Operated Valve Lubrication
WO 00292301-04; Perform Motor-Operated Valve PM and D70.1 Testing
WO 00292301-05; MV-32183, Perform Return to Service Testing
CAP 01109960; Work on MV-32183 Not Evaluated for Risk

CV 31411

SP 1155B Component Cooling System Quarterly Test, Train B, performed on September 11, 2007
WO 00294346-01; Repair Broken Wingnut on CV-31411 Air Regulator Drain
WO 00321703-01; PM 3141-1 Air Operated Valve Testing
WO 00334428-02; Stop Nut Installation on CV-31411
CAP 01110359; Change Management Lacking for Engineering Change 9591
CAP 01110728; D100 for CV-31411 Delayed to Measure the 12 Component Cooling Water Travel Stop

22 CS Pump

CAP 01106141; 22 CS Pump Failed to Manually Start During SP 2090B
SP 2090B; Containment Spray Pump Quarterly Test; Revision 12

1R20 Refueling and Other Outage Activities

Operating Procedure 2C1.4; Unit 2 Power Operation; Revision 39
Unit 2 Turbine Bearing Outage Schedule; PI-2F2402OT; September 27, 2007

1R22 Surveillance Testing

SP 2307

SP 2307; D6 Diesel Generator 6-Month Fast Start Test; Revision 28
CAP 01099992; 2LSH-6106, D6 Engine 1 Fuel Oil Leakage Tank High

SP 2132

SP 2132; Unit 2 Personnel and Maintenance Airlock Door Seal Test; Revision 37

SP 1088A

SP 1088A; Train A Safety Injection Quarterly Test; Revision 11
CAP 01103456; Fan Coil SP Suspended , Unable to Establish Plant Conditions

SP 1335

SP 1335; D1 Diesel Generator 18-Month 24-Hour Load Test; Revision 8
CAP 01100991; D2 Speed Oscillations
CAP 01100956; Work Order 309757 Not Completed Per Schedule

SP 1106B

SP 1106B; 22 Diesel Cooling Water Pump Monthly; Revision 67
CAP 01101827; 22 Diesel-Driven Cooling Water Pump Jacket Water Temperature Indication Swinging

1R23 Temporary Modifications

Engineering Change (EC) 10362

EC 10362; Disable Manual Operator for CV-3941, 11/13 Fan Coil Unit Chilled Water Return Control Valve

EC 10362; Modification Classification; Disable Manual Operator for CV-3941, 11/13 Fan Coil Unit Chilled Water Return Control Valve

EC 10362; Design Input Checklist; Disable Manual Operator for CV-3941, 11/13 Fan Coil Unit Chilled Water Return Control Valve

EC 10362; Design Verification Assignment; Disable Manual Operator for CV-3941, 11/13 Fan Coil Unit Chilled Water Return Control Valve

EC 10362; Design Review Comment Form; Disable Manual Operator for CV-3941, 11/13 Fan Coil Unit Chilled Water Return Control Valve

EC 10362; Temporary Modification Extension; Disable Manual Operator for CV-3941, 11/13 Fan Coil Unit Chilled Water Return Control Valve

EC 10362; Modification Package Index; Disable Manual Operator for CV-3941, 11/13 Fan Coil Unit Chilled Water Return Control Valve

Maintenance Procedure D-100; Air Operator Valve Diagnostic Testing Procedure; Revision 10

CAP 01105677; 50.59 Evaluation for Equipment OOS Not Performed in a Timely Manner for ECR 1585

CAP 01051409; CV-39412 has Dual Indication When Closed

CAP 01077015; CV-39412, 11/13 Fan Coil Unit Return Valve Operational Readiness is Unknown

Fleet Procedure FP-E-Mod-03; Temporary Modifications; Revision 3

4OA1 Performance Indicator Verification

Control Room Narrative Logs for July 1, 2006, through June 30, 2007

Control Room LCO Logs for July 1, 2006, through June 30, 2007

MSPI Failure Determination Data Entry Form for CAP 01085806

MSPI Failure Determination Data Entry Form for CAP 01094961-05

EAC MSPI Demand Failure Records, July 1, 2006, through June 30, 2007

HPSI MSPI Demand Failure Records, July 1, 2006, through June 30, 2007

AFW MSPI Demand Failure Records, July 1, 2006, through June 30, 2007

EAC MSPI Unavailability/Unreliability Data Records, July 1, 2006, through June 30, 2007
HPSI MSPI Unavailability/Unreliability Data Records, July 1, 2006, through June 30, 2007
AFW MSPI Unavailability/Unreliability Data Records, July 1, 2006, through June 30, 2007
CAP 01111023; 22 Turbine-Driven Auxiliary Feedwater Pump Run Hours Provided for MSPI
Incorrect
CAP 01042284; Error in MSPI Data Reporting for April 2006
CAP 01041014; MSPI Margin for Unit 2 Emergency Diesel Generators
CAP 01043085; Data Error Identified in MSPI Basis Document
CAP 01043085; Data Errors Identified in MSPI Basis Document

4OA2 Identification and Resolution of Problems

Prairie Island Operator Workarounds; August 2007
Operator Work Around Aggregate Impact; August 2007
Engineering Change 383; Cooling Water Bearing Water; Revision 1
Engineering Change 384; Cooling Water Bearing Water Booster Pump Power and Control;
Revision 0
Engineering Change 385; Cooling Water Bearing Water Check Valves; Revision 0

4OA3 Event Follow-up

LER 2007-001-01, Supplement 1; Unit 2 Reactor Trip; July 26, 2007

LIST OF ACRONYMS USED

ADAMS	Agencywide Documents Access and Management System
AFW	Auxiliary Feedwater
CAP	Corrective Action Program/Corrective Action Program Action Request
CFR	Code of Federal Regulations
CS	Containment Spray
CV	Control Valve
DRP	Division of Reactor Projects
EAC	Emergency Alternating Current
EC	Engineering Change
HPSI	High Pressure Safety Injection
IR	Inspection Report
kV	kiloVolt
LCO	Limiting Condition of Operation
LER	Licensee Event Report
MSPI	Mitigating System Performance Index
NRC	U.S. Nuclear Regulatory Commission
OPR	Operability Recommendation
PARS	Publicly Available Records
PM	Preventative Maintenance
SDP	Significance Determination Process
SP	Surveillance Procedure
TS	Technical Specification
USAR	Updated Safety Analysis Report
WO	Work Order