October 29, 2004

Mr. Joseph Solymossy
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 05000282/2004007;
05000306/2004007

Dear Mr. Solymossy:

On September 30, 2004, 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 8, 2004, 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'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 inspectors identified two NRC-identified findings of very low significance (Green). One of the findings also resulted in a violation of NRC requirements. Because this violation was of very low safety significance and was entered into your corrective action program, the NRC is treating the finding as Non-Cited Violation in accordance with Section VI.A.1 of the NRC's Enforcement Policy. In addition, one licensee-identified violation is listed in Section 4OA7 of this report.

If you contest the subject or severity of the 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, 2443 Warrenville Road, Suite 210, Lisle, IL 60532-4352; 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 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). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

/RA/

Ann Marie Stone, Chief
Branch 3
Division of Reactor Projects

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

Enclosure: Inspection Report 05000282/2004007; 05000306/2004007
w/Attachment: Supplemental Information

cc w/encl: C. Anderson, Senior Vice President, Group Operations
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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:	05000282/2004007; 05000306/2004007
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, 2004
Inspectors:	J. Adams, Senior Resident Inspector D. Karjala, Resident Inspector J. Cameron, Project Engineer D. McNeil, Senior Operations Engineer B. Orlikowski, Resident Inspector, Monticello M. Mitchell, Radiation Specialist L. Haeg, Reactor Inspector C. Zoia, Operations Engineer F. Ramirez, Reactor Inspector
Approved by:	Ann Marie Stone, Chief Branch 3 Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

IR 05000282/2004007, 05000306/2004007; 07/01/04 - 09/30/04; Prairie Island Nuclear Generating Plant, Units 1 and 2; Licensed Operator Requalification Program, and Problem Identification and Resolution.

This report covers a 3-month period of baseline resident inspection and an announced baseline inspection on radiation protection. The inspection was conducted by the resident inspectors and inspectors from the Region III office. Two green findings with one associated violation were identified by the inspectors. 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. Inspector-Identified and Self-Revealed Findings

Cornerstone: Mitigating Systems

C Green. The inspectors identified that the facility licensee failed to notify the NRC of a permanent change in the medical status of a licensed operator within 30 days of identification. This was considered to be a violation of 10 CFR 50.74(c), "Notification of Change in Operator or Senior Operator Status."

This finding was more than minor because this could have resulted in a medically disqualified operator executing licensed operator duties in the control room. This could, therefore, potentially affect the health and safety of the public. The finding was of very low safety significance because no actual consequences were noted due to the adverse medical condition, and no adverse operational events were observed to have occurred due to inadequate medical conditioning of the operator's license (Section 1R11).

Cornerstone: Barrier Integrity

- Green. A finding of very low safety significance was identified by the inspectors for untimely corrective actions to meet a regulatory commitment. In response to Generic Letter (GL) 89-13, "Service Water System Problems Affecting Safety-Related Equipment," the licensee committed to test the containment fan coil units (CFCUs) at the maximum recommended frequency of every 5 years. The Unit 1 CFCUs were last tested in 1995. The primary cause of this finding was related to the cross-cutting area of Corrective Action. Despite three Corrective Action Program (CAP) documents in 2003 and two CAPs in 2004, the testing was postponed to December of 2004, 9 years since the previous test.

  The finding was more than minor because if left uncorrected it would become a more significant safety concern and it affected the barrier integrity cornerstone objective of providing assurance that the containment will protect the public from releases caused by accidents or events. The finding was of very low safety significance because it did not represent an actual reduction of the containment pressure control function. No violations of NRC requirements were identified. (Section 4OA2.2)

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 until August 12, 2004, when the unit commenced coastdown in preparation for refueling outage 1R23. Power decreased to approximately 78 percent of full power. On October 10, 2004, the unit was shut down for a refueling and steam generator replacement outage. The unit remained shut down for the remainder of the inspection period.

Unit 2 was operated at or near full power throughout the inspection period except that power was reduced to approximately 88 percent of full power on July 8, 2004, due to an inadvertent addition of boric acid to the reactor coolant system. During the performance of corrective maintenance a control valve was slightly open because of a mal-adjusted stop nut which allowed boric acid into the Volume Control Tank. The unit was returned to full power within 5 hours from the start of the event. On August 29, 2004, power was reduced to approximately 44 percent of full power for quarterly turbine valve testing. The unit was returned to full power within 7 hours and operated at or near full power for the remainder of the inspection period.

1. REACTOR SAFETY

Cornerstone: Initiating Events, Mitigating Systems, and Barrier Integrity

1RST Post-Maintenance and Surveillance Testing (71111.ST) (Pilot)

.1 Post-Maintenance Testing

a. Inspection Scope

During this inspection period, the inspectors completed five post-maintenance inspection samples, comprised of the following post-maintenance testing activities:

- Unit 2 over power delta temperature (OPDT) circuit changes on July 7, 2004;
- boric acid isolation valve 2VC-15-38 leakage on July 8, 2004;
- 4.16 kilo-Volt (kV) circuit breaker 26-2 following replacement of the control device on July 22, 2004;
- emergency safety feature actuation system relay 1CSB associated with the B train of containment spray following its replacement on July 30, 2004; and
- D6 radiator fans weekly run test following inspection of fan shaft for damage on September 15, 2004;

During the performance of these inspections, the inspectors conducted in-plant observations and/or in-office reviews of documentation to ensure that testing activities met the following attributes:

- testing activities satisfied the test procedure acceptance criteria;
- effects of the testing had been adequately addressed prior to the commencement of the testing;
- measurement and test equipment calibrations were current;

- test equipment was used within the required range and accuracy;
- applicable prerequisites described in the test procedures were satisfied;
- affected systems or components were removed from service in accordance with approved procedures;
- testing activities 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;
- equipment was returned to a position or status required to support the operability of the system in accordance with approved procedures; and
- all problems identified during the testing were appropriately documented in the corrective action program.

The documents reviewed by the inspectors are listed in the Attachment.

b. Findings

No findings of significance were identified.

.2 Surveillance Testing

a. Inspection Scope

During this inspection period, the inspectors completed nine inspection samples, comprised of the following surveillance testing activities:

- Surveillance Procedure (SP) 2295, D5 Diesel Generator 6 Month Fast Start Test, on August 2, 2004;
- SP 1055.1, 121 Control Room Clean Up Ventilation System Filter Removal Efficiency Test, on August 11, 2004;
- SP 1102, 11 Turbine-Driven Auxiliary Feedwater Pump Monthly Test; on August 13, 2004;
- A Unit 2 reactor coolant system (RCS) chemistry sample and analysis on September 13, 2004;
- SP 2305, D6 Diesel Generator Monthly Slow Start Test, on September 14, 2004;
- SP 1092A; Safety Injection Check Valve Test (Head Off) Part A: High Head Injection Flow Path Verification, on September 15, 2004;
- SP 1092B; Safety Injection Check Valve Test (Head Off) Part B: RWST [Refueling Water Storage Tank] to RHR [Residual Heat Removal] Flow Path Verification; on September 15, 2004;
- SP 1072.21, Unit 1 Local Leak-Rate Test (LLRT) of Reactor Coolant Drain Tank (RCDT) to Gas Analyzer Penetration 21 performed on September 22, 2004; and
- SP 1834; Unit 1 Containment Coating Inspection on September 23, 2004.

Observation of surveillance testing activities associated with SP 1102, SP 1092A, and SP 1092B completed the quarterly baseline inspection requirement to observe an inservice testing activity for a risk significant pump or valve. Observation of SP 1072.21 completed the requirement to observe a LLRT during each refueling outage.

Observation of the Unit 2 RCS chemistry sample completed the annual baseline inspection requirement to observe a chemistry technician obtain and analyze an RCS sample for the RCS Specific Activity performance indicator as required by Inspection Procedure 71151.

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

- preconditioning does 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 was clearly stated, demonstrated operational readiness, and was consistent with the system design basis;
- plant equipment calibration was correct, accurate, properly documented, and the calibration frequency was in accordance with Technical Specifications (TS), the Updated Safety Analysis Report (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 in-service testing activities, testing was performed in accordance with the applicable version of Section XI, American Society of Mechanical Engineers (ASME) Code, 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.

The documents reviewed by the inspectors are listed in the Attachment.

b. Findings

No findings of significance were identified.

1R04 Equipment Alignment (71111.04)

.1 Partial System Walkdowns

a. Inspection Scope

The inspectors performed three inspection samples comprised of partial system 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 in the Attachment 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 CAPs 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 USAR to determine the functional requirements of the systems.

The inspectors verified the alignment of the following trains:

- diesel generator D5 during the unavailability of diesel generator D6 on July 19, 2004;
- 11 safety injection pump during the unavailability of the 12 safety injection pump for planned maintenance on July 29, 2004; and
- 12 diesel-driven cooling water pump (DDCLP) during the unavailability of the 22 DDCLP on August 23, 2004;

b. Findings

No findings of significance were identified.

.2 Complete System Walkdowns

a. Inspection Scope

During the week of September 13, 2004, the inspectors performed a detailed in-plant walkdown of the alignment and condition of the Unit 1 diesel generator system, a risk significant system that provides electrical power during off-normal and accident modes of operation. This inspection effort constituted one complete system alignment inspection sample. As part of this inspection, the inspectors reviewed the documents listed in the Attachment.

The inspectors conducted in-plant walkdowns using the applicable alignment checklists to verify that system components were properly positioned to support the operation of the diesel generator systems and to verify that the as-found system configuration matched the configuration specified in the system alignment checklist. The inspectors examined the material condition of the components, such as diesel engines, generators, pumps, motors, valves, instrumentation, controls, and electrical panels. The inspectors

observed operating parameters of equipment to verify that there were no obvious deficiencies and examined all applicable outstanding design issues, temporary modifications, and operator workarounds. The inspectors verified that tagging clearances were appropriate and attached to the specified equipment. The inspectors reviewed outstanding WOs 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 TS, USAR, and other design basis documents to determine the functional requirements of the systems and verified those functions could be performed if needed. In addition, the inspectors reviewed the CAPs to verify that the licensee was identifying issues at an appropriate threshold and entering them into their corrective action program in accordance with station corrective action procedures.

b. Findings

No findings of significance were identified.

1R05 Fire Protection Area Walkdowns (71111.05Q)

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

- Fire Area 13, Unit 1 and 2 control room on July 19, 2004;
- Fire Area 18, Unit 1 and 2 cable spreading room on July 20, 2004;
- Fire Area 22, bus 121, 480 volt safeguards switchgear room on July 20, 2004;
- Fire Area 26, D2 diesel generator room on July 20, 2004;
- Fire Area 33, 11 125 volt battery room on July 20, 2004;
- Fire Area 34, 12 125 volt battery room on July 20, 2004;
- Fire Area 68, Unit 1 containment annulus on September 22, 2004.
- Fire Area 101, D5 diesel generator room on July 20, 2004; and
- Fire Area 116, D6 lube oil make-up tank room on July 20, 2004.

The inspectors also reviewed the CAPs listed in the Attachment to verify that the licensee was identifying fire protection issues at an appropriate threshold and entering them into their corrective action program in accordance with station corrective action procedures. As appropriate, the corrective actions were reviewed to determine if the actions taken were sufficient.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification (71111.11)

.1 Observation of Licensed Operator Requalification Training

a. Inspection Scope

On August 3, 2004, the inspectors performed a quarterly review during licensed operator requalification training in the simulator, completing one licensed operator requalification inspection sample. The inspectors observed a crew while in training during an as-found requalification examination 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 the 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.

b. Findings

No findings of significance were identified.

.2 Conformance With Operator License Conditions (Medical)

a. Inspection Scope

The inspectors evaluated one licensed operator's license renewal application for conformance with the requirements of 10 CFR 55.57, "Renewal of Licenses." The medical information included with a request for license renewal was compared with the medical information maintained in the operator's docket in the Region III office. The inspectors interviewed management personnel via telephone and reviewed the associated CAP report and condition evaluation (CE).

b. Findings

Introduction: The inspectors identified one finding of very low safety significance (Green) associated with a Non-Cited Violation of 10 CFR 50.74(c) for the failure to notify

the NRC of a change in medical status of a licensed operator which required a condition to the operator's Reactor Operator license within 30 days of identification.

Description: The inspectors compared the medical information accompanying a request for license renewal with the medical information currently maintained in the Region III operator's docket. The medical information in the operator's docket did not indicate a "corrective lenses" condition was required for the operator's license. The renewal request specified a "corrective lenses" condition for the license. It was determined by telephone interview that a change in the operator's medical status occurred following a biennial medical examination conducted in July 2002. The medical examination identified that the operator required a "corrective lenses" condition for the operator license in accordance with the medical requirements of 10 CFR 55.21, 55.23, and 55.25. When questioned, the licensee confirmed that the operator required glasses as a result of the medical examination in July 2002. The licensee was unable to find documentation that the request for a conditioned license was sent to the Region III offices in July/August 2002, and the licensee failed to perform any follow-up measures to ensure the operator's license was properly conditioned between July 2002 and August 2004. This issue was considered to be NRC-identified because it was identified by NRC inspectors on August 16, 2004, during a review of the operator's request for license renewal.

The facility licensee issued CAP 037957 to track this finding. Corrective actions which will address this issue had been initiated before this issue was discovered. Control of communication with the NRC and tracking of operator license requirements had been transferred to the Prairie Island Regulatory Affairs department earlier to more effectively track regulatory requirements such as this license conditioning. This license condition was overlooked because the request for license condition was missed before these functions were transferred to Regulatory Affairs. The inspectors determined that the corrective actions appeared to be adequate and should be effective in preventing this type of issue in the future.

Analysis: The inspectors reviewed the issue concerning the licensee's failure to make a timely notification to the NRC because of a change in status of licensed operators' medical condition against the guidance contained in Appendix B, "Issue Dispositioning Screening," of IMC 0612, "Power Reactor Inspection Reports." This finding affected the mitigating system cornerstone objective because inadequate evaluation or identification of medical restrictions on operator licenses could result in licensed operators who may not be medically qualified performing licensed duties in the control room, potentially endangering the health and safety of the public. Consequently, the safety significance of this issue was determined to be more than minor.

The inspector reviewed this issue in accordance with Manual Chapter 0609, "Significance Determination Process," Appendix I, "Operator Requalification Human Performance Significance Determination Process (SDP)." The SDP concerning medical issues focused on general record deficiencies exceeding a specified threshold of 20 percent of the records reviewed. Based on this SDP, the inspector determined that this finding was of very low safety significance (Green) because the failure to properly identify and inform the NRC of medical restrictions on operator licenses exceeded the 20 percent threshold (one out of one records reviewed) for record deficiencies. No

actual consequences were noted due to the adverse medical condition, and no adverse operational events were observed to have occurred due to inadequate medical conditioning of the operator's license

Enforcement: Section 50.74(c) of 10 CFR required, in part, that each facility licensee shall notify the NRC within 30 days of a permanent disability or illness to a licensed operator or senior operator as described in 10 CFR 55.25. Section 55.25 required, in part, that if a licensed operator develops a permanent physical or mental condition that causes the operator to fail to meet the requirements of Section 55.21, the facility licensee shall notify the NRC, within 30 days of learning of the diagnosis, in accordance with Section 50.74. For conditions for which a conditional license was required, the facility licensee must provide medical certification on Form NRC-396 as required by Section 55.23. Contrary to the above, in July 2002, during the required biennial medical examinations, the facility licensee was informed by the station's medical officer of the need for a medical restriction for corrective lenses for a licensed operator. The facility licensee acknowledged the medical evaluation, but failed to appropriately inform the NRC within 30 days of the change in medical condition and request a license medical restriction. On August 16, 2004, NRC inspectors identified the lack of the required medical restriction on the operator's license. This issue is in the licensee's corrective action program as CAP 037957. Because this violation was of very low safety significance and was captured in the licensee's corrective action program, this violation was being treated as a NCV consistent with Section VI.A of NRC Enforcement Policy (05000282/2004007-01; 05000306/2004007-01). The licensee implemented corrective action and satisfactorily verified that the operator was performing licensed duties with corrective lenses.

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 and two structure, system, or component (SSC)/train function oriented maintenance effectiveness samples completing a total of four samples. The inspectors assessed the licensee's maintenance effectiveness associated with repetitive problems on the following SSCs:

- plant circuit breakers during the week of August 2, 2004;
- reactor vessel level indicating system (RVLIS) during the week of September 19, 2004;
- D5 diesel generator during the week of September 19, 2004; and
- 1N31 source range detector during the week of September 27, 2004.

The inspectors reviewed 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 circuit breakers for risk significant mitigating equipment, an emergency alternating current power supply (diesel generator) for risk significant and safety-related mitigating equipment, and important reactor coolant system level and nuclear instrumentation relied upon in emergency operating procedures 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 actions were commensurate with the significance of the identified issues. The documents reviewed by the inspectors are listed in the Attachment.

b. Findings

No findings of significance were identified.

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

a. Inspection Scope

The inspectors reviewed risk assessments for the following six maintenance activities, completing six risk assessment and emergent work control inspection samples:

- the simultaneous unavailability of the 22 component cooling water heat exchanger and the 125 station air compressor for planned maintenance on July 19, 2004;
- the emergent failure of breaker 26-2 with the declaration of inoperability of the 26 load sequencer, D6 diesel generator, concurrent with the out-of-service of the 125 service air compressor, and 122 instrument air dryer on July 20, 2004;
- the simultaneous unavailability of the 22 charging pump and the 21 auxiliary feedwater pump for planned maintenance on August 3, 2004;
- the simultaneous unavailability of D5 diesel generator, bus 15 load sequencer, and bus 25 load sequencer for planned maintenance on September 15, 2004;
- the simultaneous unavailability of bus 15, bus 111, 17 inverter, and D2 diesel generator for planned maintenance on September 22, 2004; and
- the simultaneous unavailability of bus 15, 121 air compressor, 17 inverter, and 11 cooling water pump for planned maintenance on September 28, 2004.

During these reviews, the inspectors compared the licensee's risk management actions to those actions specified in the licensee's procedures for the assessment and management of risk. The inspectors verified 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. The inspectors used the licensee's daily configuration risk assessment records, observations of shift turnover meetings, observations of daily plant status meetings, and observations of shiftily outage meetings to verify that the equipment configurations had been properly listed, that protected equipment had been identified and was being

controlled where appropriate, and that significant aspects of plant risk were communicated to the necessary personnel. The documents reviewed by the inspectors are listed in the Attachment.

b. Findings

No findings of significance were identified.

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

.1 Closure of Moisture Separator Reheater Steam Supply Valves on a Loss of Power Supply

a. Inspection Scope

On September 9, 2004, the inspectors discussed with operators the actions taken to address an emergent failure of the power supply for the moisture separator reheater steam supply valves. The loss of the power supply resulted in a loss of turbine efficiency and a power mismatch between the reactor and turbine power. The inspectors also performed an in-office review of operator actions and compared their actions to the actions specified in annunciator response and abnormal operating procedures. The inspectors compared the plant's response to the expected response of a failure of the power supply to instrument panel 313.

The inspectors reviewed the CAPs listed in the Attachment to verify that the licensee was identifying equipment and human performance issues at an appropriate threshold and entering them into their corrective action program in accordance with station corrective action procedures. This inspection effort completed one inspection sample for personnel performance related to non-routine plant evolutions and events.

b. Findings

No findings of significance were identified.

.2 Taking Unit 1 Pressurizer Solid and Control of the Reactor Coolant System in a Water Solid Configuration

a. Inspection Scope

On September 11, 2004, the inspectors discussed with and observed control room operators collapse the bubble in the Unit 1 pressurizer, place the reactor coolant system in a water solid configuration, and control reactor coolant system pressure and temperatures. The inspectors compared operator actions to the actions specified in plant operating procedures. The inspectors reviewed descriptions of expected plant response provided in plant operating procedures and compared actual control room instrument response to the expected instrument response.

The inspectors reviewed the CAPs listed in the Attachment to verify that the licensee was identifying equipment and human performance issues at an appropriate threshold

and entering them into their corrective action program in accordance with station corrective action procedures. This inspection effort completed one personnel performance related to non-routine plant evolutions and events inspection sample.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15)

a. Inspection Scope

The inspectors reviewed the technical adequacy of four operability evaluations completing four operability evaluation inspection samples. The inspectors conducted these inspections by in-office review of associated documents and in-plant observations of affected areas and plant equipment. The inspectors compared degraded or nonconforming conditions of risk significant SSCs associated with mitigating systems against the functional requirements described in 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 (AWI) 5AWI 3.15.5, "Operability Determinations." The following operability evaluations were reviewed:

- CE 005637 that documented the operability of the 12 DDCLP with unusual surveillance data on July 21, 2004;
- Operability Recommendation (OPR) 000507 that documented the operability of transformer CT12, which supplies electrical power from offsite to safety related 4kV buses, with the presence of a bulge in the cold shrink cable termination on July 23, 2004;
- OPR 000511 that documented the operability of the 11 and 12 RHR pumps with current transducers, which provide an isolation function between safety-related and non safety related circuits, that were purchased without all required qualifications on August 24, 2004; and
- OPR 000514 that documented the operability of the 12 DDCLP with the suction bell bearing water flow switch stuck at 0 gallons per minute (gpm) on September 9, 2004.

b. Findings

No findings of significance were identified.

1R16 Operator Workarounds (71111.16)

a. Inspection Scope

On August 11, 2004, the inspectors evaluated a licensee identified operator workaround associated with the 21 steam generator power operated relief valve hand controller completing one operator workaround inspection sample. The inspectors reviewed associated procedures and conducted discussions with operators to determine if the

21 steam generator power operated relief valve mitigating function or the operator's ability to implement abnormal or emergency operating procedures were affected.

The inspectors also reviewed the CAPs to verify that the licensee was identifying operator workaround issues at an appropriate threshold, entering them into their corrective action program, and resolving them in accordance with station corrective action procedures. The documents reviewed by the inspectors are listed in the Attachment.

b. Findings

No findings of significance were identified.

1R17 Permanent Plant Modifications (71111.17)

a. Inspection Scope

The inspectors reviewed modification package 03FH02 and WO 0405444, which changed the OPDT reactor trip setpoint calculation, completing one permanent plant modification inspection procedure sample. Specifically, this modification removed the delta flux input to the reactor trip setpoint calculation circuitry on Unit 2. The modification was also performed on Unit 1. The modification was performed under Facility Operating License DPR-60 Amendment 153 which was requested because the licensee transferred core reload safety analysis responsibility from Nuclear Management Company's (NMC) Nuclear Analysis Department to Westinghouse. The inspectors performed an in-office review of the design change package. A detailed list of the documents reviewed is included in the Attachment.

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 the twenty-third Unit 1 refueling outage 1R23 conducted between September 10 and September 30, 2004. These inspection activities represent one refueling 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. Specifically, the inspectors assessed whether the licensee planned to effectively manage elements of shutdown risk pertaining to reactivity control, decay heat removal, inventory control, electrical power availability, and containment integrity.

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;
- performed walkdowns of the main control room to observe the alignment of systems important to shutdown risk;
- observed the operability of RCS instrumentation and compared channels and trains against one another;
- performed in-plant walkdowns to observe ongoing work activities and foreign material exclusion control; and
- conducted in-office reviews of selected issues that the licensee entered into its corrective action program to verify that identified problems were being entered into the program with the appropriate characterization and significance

Additionally, the inspectors performed in-plant observations of the following specific activities:

- Unit 1 shutdown and initial cooldown;
- alignment of the RHR system for shutdown cooling and control of reactor coolant system cooldown;
- reactor vessel head leakage examination per Inspection Procedure 71111.08, paragraph 02.03.b and SP 1407;
- reactor coolant system boric acid corrosion control inspection per Inspection Procedure 71111.08, paragraph 02.03.a and SP 1405;
- control room staff draining reactor level to the reactor vessel to the flange;
- assessment of shutdown risk;
- control of containment integrity;
- reactor pressure vessel head lift;
- core unloading activities in the reactor containment, spent fuel pool, and control room; and
- reactor lower internals removal.

b. Findings

No findings of significance were identified.

1R23 Temporary Plant Modifications (71111.23)

a. Inspection Scope

The inspectors conducted an in-plant observation of the physical changes to the equipment and an in-office review of documentation associated with four temporary modifications completing four temporary modification inspection samples. As part of this inspection, the documents in the Attachment were utilized to evaluate the potential for an inspection finding.

The inspectors reviewed the following temporary modifications:

- installation of jumpers on Unit 1 to prevent automatic safety injection actuation for refueling outage activities on September 20, 2004;
- operation of the Unit 1 containment purge system on September 21, 2004;
- installation of temporary air lines to facilitate repair to a leak in the Unit 1 instrument air system in the auxiliary building on September 22, 2004; and
- removal of containment purge exhaust filters on September 30, 2004.

The inspection activities included, but were not limited to, a review of design documents, safety screening documents, and 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 inspectors also 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 station corrective action.

b. Findings

No findings of significance were identified.

1EP6 Drill Evaluation (71114.06)

a. Inspection Scope

The inspectors observed a licensed shift operating crew perform an “as-found” exercise on the simulator on August 10, 2004, completing one emergency planning simulator exercise sample. The inspectors observed activities in the control room simulator and attended the post-exercise critique. The inspectors evaluated the drill performance and verified that licensee evaluators’ observations were consistent with those of inspectors and that deficiencies were entered into the corrective action program.

b. Findings

No findings of significance were identified.

2. RADIATION SAFETY

Cornerstone: Occupational Radiation Safety

2OS1 Access Control to Radiologically Significant Areas (71121.01)

.1 Review of Licensee Performance Indicators for the Occupational Exposure Cornerstone

a. Inspection Scope

The inspectors reviewed the licensee's occupational exposure control cornerstone performance indicators (PIs) to determine whether or not the conditions surrounding the PIs had been evaluated, and identified problems had been entered into the corrective action program for resolution. This review represented one sample.

b. Findings

No findings of significance were identified.

.2 Plant Walkdowns and Radiation Work Permit Reviews

a. Inspection Scope

The inspectors reviewed licensee controls and surveys in the following three radiologically significant work areas within radiation areas, high radiation areas and airborne radioactivity areas in the plant and reviewed work packages which included associated licensee controls and surveys of these areas to determine if radiological controls including surveys, postings and barricades were acceptable:

1) Containment Steam Generator Vaults;
2) Rad Waste Building; and
3) Containment Seal Table Area.

This review represented one sample.

The inspectors reviewed the radiation work permit (RWP) and work packages used to access these three areas and other high radiation work areas to identify the work control instructions and control barriers that had been specified. Electronic dosimeter alarm set points for both integrated dose and dose rate were evaluated for conformity with survey indications and plant policy. Workers were interviewed to verify that they were aware of the actions required when their electronic dosimeters noticeably malfunctioned or alarmed. This review represented one sample.

The inspectors walked down and surveyed (using an NRC survey meter) these three areas to verify that the prescribed RWP, procedure, and engineering controls were in place, that licensee surveys and postings were complete and accurate, and that air samplers were properly located. This review represented one sample.

The inspectors reviewed RWPs for the following airborne radioactivity area to verify barrier integrity and engineering controls performance (e.g., high efficiency particulate air ventilation system operation) and to determine if there was a potential for individual worker internal exposures of >50 millirem committed effective dose equivalent: Containment Seal Table. Work areas having a history of, or the potential for, airborne

transuranics were evaluated to verify that the licensee had considered the potential for transuranic isotopes and provided appropriate worker protection. This review represented one sample.

The adequacy of the licensee's internal dose assessment process for internal exposures > 50 millirem committed effective dose equivalent was assessed. There were no internal exposures greater than 50 millirem. This review represented one sample.

The inspectors also reviewed the licensee's physical and programmatic controls for highly activated and/or contaminated materials (non-fuel) stored within spent fuel or other storage pools. This review represented one sample.

b. Findings

No findings of significance were identified.

.3 Problem Identification and Resolution

a. Inspection Scope

The inspectors reviewed the licensee's self-assessments, audits, Licensee Event Reports, and Special Reports related to the access control program to verify that identified problems were entered into the corrective action program for resolution. This review represented one sample.

The inspectors reviewed 15 corrective action reports related to access controls and three high radiation area radiological incidents when available (non-PIs identified by the licensee in high radiation areas <1R/hr). Staff members were interviewed and corrective action documents were reviewed to verify that follow-up activities were being conducted in an effective and timely manner commensurate with their importance to safety and risk based on the following:

- Initial problem identification, characterization, and tracking;
- Disposition of operability/reportability issues;
- Evaluation of safety significance/risk and priority for resolution;
- Identification of repetitive problems;
- Identification of contributing causes;
- Identification and implementation of effective corrective actions;
- Resolution of NCVs tracked in the corrective action system; and
- Implementation/consideration of risk significant operational experience feedback.

This review represented one sample.

The inspectors evaluated the licensee's process for problem identification, characterization, prioritization, and verified that problems were entered into the corrective action program and resolved. For repetitive deficiencies and/or significant individual deficiencies in problem identification and resolution, the inspectors verified that the licensee's self-assessment activities were capable of identifying and addressing these deficiencies. This review represented one sample.

The inspectors reviewed licensee documentation packages for all PI events occurring since the last inspection to determine if any of these PI events involved dose rates >25 R/hr at 30 centimeters or >500 R/hr at 1 meter. Barriers were evaluated for failure and to determine if there were any barriers left to prevent personnel access. Unintended exposures >100 millirem total effective dose equivalent (or >5 rem shallow dose equivalent or >1.5 rem lens dose equivalent), were evaluated to determine if there were any regulatory overexposures or if there was a substantial potential for an overexposure. No examples of these type of PI events occurred. This review represented one sample.

b. Findings

No findings of significance were identified.

.4 Job-In-Progress Reviews

a. Inspection Scope

The inspectors observed that were being performed in radiation areas, airborne radioactivity areas, or high radiation areas for observation of work activities that presented the greatest radiological risk to workers. This review was conducted in conjunction with Inspection Procedure 71121.02, and is documented in Section 2OS2.4 of this report. This review represented five samples.

b. Findings

No findings of significance were identified.

.5 High Risk Significant, High Dose Rate, High Radiation Areas (HRA) and VHRA Controls

a. Inspection Scope

The inspectors held discussions with the Radiation Protection Manager concerning high dose rate/high radiation area and very high radiation area controls and procedures, including procedural changes that had occurred since the last inspection, in order to verify that any procedure modifications did not substantially reduce the effectiveness and level of worker protection. This review represented one sample.

The inspectors discussed with RP supervisors the controls that were in place for special areas that had the potential to become very high radiation areas during certain plant operations, to determine if these plant operations required communication beforehand with the RP group, so as to allow corresponding timely actions to properly post and control the radiation hazards. This review represented one sample.

The inspectors conducted plant walkdowns to verify the posting and locking of entrances to high dose rate HRAs, and very high radiation. This review represented one sample.

b. Findings

No findings of significance were identified

.6 Radiation Worker Performance

a. Inspection Scope

During job performance observations, the inspectors evaluated radiation worker performance with respect to stated radiation protection work requirements and evaluated whether workers were aware of the significant radiological conditions in their workplace, the RWP controls and limits in place, and that their performance had accounted for the level of radiological hazards present. This review represented one sample.

The inspectors reviewed six radiological problem reports which found that the cause of the event was due to radiation worker errors to determine if there was an observable pattern traceable to a similar cause, and to determine if this perspective matched the corrective action approach taken by the licensee to resolve the reported problems. These problems, along with planned and taken corrective actions were discussed with the Radiation Protection Manager. This review represented one sample.

b. Findings

No findings of significance were identified.

.7 Radiation Protection Technician Proficiency

a. Inspection Scope

During job performance observations, the inspectors evaluated radiation protection technician (RPT) performance with respect to radiation protection work requirements and evaluated whether they were aware of the radiological conditions in their workplace, the RWP controls and limits in place, and if their performance was consistent with their training and qualifications with respect to the radiological hazards and work activities. This review represented one sample.

The inspectors reviewed seven radiological problem reports which found that the cause of the event was radiation protection technician error to determine if there was an observable pattern traceable to a similar cause, and to determine if this perspective matched the corrective action approach taken by the licensee to resolve the reported problems. This review represented one sample.

b. Findings

No findings of significance were identified.

2OS2 As Low As Is Reasonably Achievable Planning And Controls (ALARA) (71121.02)

.1 Inspection Planning

a. Inspection Scope

The inspectors reviewed the outage work scheduled during the inspection period and associated work activity exposure estimates for the following five work activities which were likely to result in the highest personnel collective exposures:

- Outage Containment Scaffold;
- Outage Containment Structural Modifications;
- Outage Primary and Secondary Side Water Level Control;
- Outage Insulation; and
- Outage Reactor Coolant System Cutting and Welding Activities.

This review represented one sample.

b. Findings

No findings of significance were identified.

.2 Radiological Work Planning.

a. Inspection Scope

The inspectors evaluated the licensee's list of work activities ranked by estimated exposure that were in progress and reviewed the following five work activities of highest exposure significance:

- Outage Containment Scaffold;
- Outage Containment Structural Modifications;
- Outage Primary and Secondary Side Water Level Control;
- Outage Insulation Removal; and
- Outage Reactor Coolant System Cutting and Welding Activities.

This review represented one sample.

The inspectors compared the results achieved including dose rate reductions and person-rem used with the intended dose established in the licensee's ALARA planning for these five work activities. Reasons for inconsistencies between intended and actual work activity doses were reviewed. This review represented one sample.

b. Findings

No findings of significance were identified.

.3 Verification of Dose Estimates and Exposure Tracking Systems

a. Inspection Scope

The inspectors reviewed the assumptions and bases for the current annual collective exposure estimate including procedures, in order to evaluate the licensee's methodology for estimating work activity-specific exposures and the intended dose outcome. Dose rate and man-hour estimates were evaluated for reasonable accuracy. This review represented one sample.

The licensee's process for adjusting exposure estimates or re-planning work, when unexpected changes in scope, emergent work or higher than anticipated radiation levels were encountered, was evaluated. This included determining that adjustments to estimated exposure (intended dose) were based on sound radiation protection and ALARA principles and not adjusted to account for failures to control the work. The frequency of these adjustments was reviewed to evaluate the adequacy of the original ALARA planning process. This review represented one sample.

The licensee's exposure tracking system was evaluated to determine whether the level of exposure tracking detail, exposure report timeliness, and exposure report distribution was sufficient to support control of collective exposures. RWPs were reviewed to determine if they covered too many work activities to allow work activity specific exposure trends to be detected and controlled. During the conduct of exposure significant work, the inspectors evaluated if licensee management was aware of the exposure status of the work and would intervene if exposure trends increased beyond exposure estimates. This review represented one sample.

b. Findings

No findings of significance were identified.

.4 Job Site Inspections and ALARA Control

a. Inspection Scope

The inspectors observed the following five jobs that were being performed in radiation areas, airborne radioactivity areas, or high radiation areas for observation of work activities that presented the greatest radiological risk to workers:

- Outage Containment Scaffold and Shielding;
- Outage Containment Structural Modifications;
- Outage Steam Generator Upper Assembly Removal;
- Outage ISI Robotic Activities; and
- Outage RCS Cutting and Welding Preparation and Staging.

The licensee's use of engineering controls to achieve dose reductions was evaluated to verify that procedures and controls were consistent with the licensee's ALARA reviews, that sufficient shielding of radiation sources was provided for and that the dose

expended to install/remove the shielding did not exceed the dose reduction benefits afforded by the shielding.

Job sites were observed to determine if workers were utilizing the low dose waiting areas and were effective in maintaining their doses ALARA by moving to the low dose waiting area when subjected to temporary work delays. This review represented one sample.

The inspectors attended work briefings and observed ongoing work activities to determine if workers received appropriate on-the-job supervision to ensure the ALARA requirements are met. This included verification that the first-line job supervisor ensured that the work activity was conducted in a dose efficient manner by minimizing work crew size, ensuring that workers were properly trained, and that proper tools and equipment were available when the job started. This review represented one sample.

b. Findings

No findings of significance were identified.

.5 Radiation Worker Performance

a. Inspection Scope

Radiation worker and RPT performance was observed during work activities being performed in radiation areas, airborne radioactivity areas, and high radiation areas that presented the greatest radiological risk to workers. The inspectors evaluated whether workers demonstrated the ALARA philosophy in practice by being familiar with the work activity scope and tools to be used, by utilizing ALARA low dose waiting areas and that work activity controls were being complied with. Also, radiation worker training and skill levels were reviewed to determine if they were sufficient relative to the radiological hazards and the work involved. This review represented one sample.

b. Findings

No findings of significance were identified.

.6 Problem Identification and Resolutions

a. Inspection Scope

The inspectors reviewed the licensee's self-assessments, audits, and Special Reports related to the ALARA program since the last inspection to determine if the licensee's overall audit program's scope and frequency for all applicable areas under the Occupational Cornerstone met the requirements of 10 CFR 20.1101(c). This review represented one sample.

The licensee's corrective action program was also reviewed to determine if repetitive deficiencies and/or significant individual deficiencies in problem identification and resolution had been addressed. This review represented one sample.

b. Findings

No findings of significance were identified.

2OS3 Access Control to Radiologically Significant Areas (71121.03)

Plant Walkdowns and Radiation Work Permit Reviews

a. Inspection Scope

The inspectors reviewed the Radiation Work Permits (RWPs) and work packages used to access four areas including high radiation work areas, for the upcoming Steam Generator Replacement Outage, to identify the work control instructions and control barriers that had been specified. Electronic dosimeter alarm setpoints for both integrated dose and dose rate were evaluated for conformity with survey indications and plant policy. This review represented one sample.

b. Findings

No findings of significance were identified.

Cornerstone: Public Radiation Safety

2PS1 Radioactive Gaseous and Liquid Effluent Treatment and Monitoring Systems (71122.01)

.1 Inspection Planning

a. Inspection Scope

The inspectors reviewed the most current Radiological Effluent Release Report to verify that the program was implemented as described in Radiological TSs/Offsite Dose Calculation Manual (RETS/ODCM) and to determine if ODCM changes were made in accordance with Regulatory Guide 1.109 and NUREG-0133.

The inspectors reviewed RETS/ODCM to identify the effluent radiation monitoring systems and its flow measurement devices, effluent radiological occurrence performance indicator incidents in preparation for onsite follow-up, and the USAR description of all radioactive waste systems. This review represented one sample.

b. Findings

No findings of significance were identified.

.2 Onsite Inspection

a. Inspection Scope

The inspectors walked down the major components of the gaseous and liquid release systems (e.g., radiation and flow monitors, demineralizers and filters, tanks, and vessels) to observe current system configuration with respect to the description in the USAR, ongoing activities, and equipment material condition. This review represented one sample.

The inspectors observed the routine processing (including sample collection and analysis) to verify that appropriate treatment equipment was used and that radioactive liquid waste was processed and released in accordance with procedure requirements and observed the sampling and compositing of liquid effluent samples. There was no scheduled release of radioactive liquid waste during the inspection. The inspectors observed the routine processing (including sample collection and analysis) of radioactive gaseous effluent to verify that appropriate treatment equipment was used and that the radioactive gaseous effluent was processed and released in accordance with RETS/ODCM requirements. There was no scheduled release of radioactive gaseous effluent during the inspection. This review represented one sample.

The inspectors reviewed the records of abnormal releases or releases made with inoperable effluent radiation monitors and reviewed the licensee's actions for these releases to ensure an adequate defense-in-depth was maintained against an unmonitored, unanticipated release of radioactive material to the environment. This review represented one sample.

The inspectors reviewed the licensee's technical justification for changes made by the licensee to the ODCM as well as to the liquid or gaseous radioactive waste system design, procedures, or operation since the last inspection to determine whether the changes affect the licensee's ability to maintain effluents As-Low-As-Reasonably-Achievable (ALARA) and whether changes made to monitoring instrumentation resulted in a non-representative monitoring of effluents. This review represented one sample.

The inspectors reviewed a selection of monthly, quarterly, and annual dose calculations to ensure that the licensee properly calculated the offsite dose from radiological effluent releases and to determine if any annual RETS/ODCM (i.e., Appendix I to 10 CFR Part 50 values) were exceeded. This review represented one sample.

The inspectors reviewed air cleaning system surveillance test results to ensure that the system was operating within the licensee's acceptance criteria. The inspectors reviewed surveillance test results the licensee uses to determine the stack and vent flow rates. The inspectors verified that the flow rates were consistent with RETS/ODCM or USAR values. This review represented one sample.

The inspectors reviewed records of instrument calibrations performed since the last inspection for each point of discharge effluent radiation monitor and flow measurement device and reviewed any completed system modifications and

the current effluent radiation monitor alarm setpoint value for agreement with RETS/ODCM requirements. The inspectors also reviewed calibration records of radiation measurement (i.e., counting room) instrumentation associated with effluent monitoring and release activities and the quality control records for the radiation measurement instruments. This review represented one sample.

The inspectors reviewed the results of the interlaboratory comparison program to verify the quality of radioactive effluent sample analyses performed by the licensee. The inspectors reviewed the licensee's quality control evaluation of the interlaboratory comparison test and associated corrective actions for any deficiencies identified. The inspectors reviewed the licensee's assessment of any identified bias in the sample analysis results and the overall effect on calculated projected doses to members of the public. In addition, the inspectors reviewed the results from the licensee's Quality Assurance (QA) audits to determine whether the licensee met the requirements of the RETS/ODCM. This review represented one sample.

.3 Identification and Resolution of Problems

a. Inspection Scope

The inspectors reviewed the licensee's self-assessments, audits, Licensee Event Reports (LERs), and Special Reports related to the radioactive effluent treatment and monitoring program since the last inspection to determine if identified problems were entered into the corrective action program for resolution. The inspectors also verified that the licensee's self-assessment program was capable of identifying repetitive deficiencies or significant individual deficiencies in problem identification and resolution.

The inspectors also reviewed corrective action reports from the radioactive effluent treatment and monitoring program since the previous inspection, interviewed staff and reviewed documents to determine if the following activities were being conducted in an effective and timely manner commensurate with their importance to safety and risk:

- initial problem identification, characterization, and tracking;
- disposition of operability/reportability issues;
- evaluation of safety significance/risk and priority for resolution;
- identification of repetitive problems;
- identification of contributing causes;
- identification and implementation of effective corrective actions;
- resolution of non-cited violations (NCVs) tracked in the corrective action system; and
- implementation/consideration of risk significant operational experience feedback.

This review represented one sample.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification (71151)

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

.1 Reactor Safety Strategic Area

a. Inspection Scope

The inspectors reviewed the licensee submittals for four performance indicators for Prairie Island Units 1 and 2, completing eight performance indicator verification inspection procedure samples. The inspectors reviewed the documents listed in the Attachment.

The inspectors observed a chemistry technician obtain and analyze a Unit 2 RCS sample used for the RCS Specific Activity performance indicator.

The inspectors used performance indicator guidance and definitions contained in Nuclear Energy Institute (NEI) Document 99-02, Revision 2, "Regulatory Assessment Performance Indicator Guideline," to verify the accuracy of the performance indicator data. The inspectors' review included, but was not limited to, conditions and data from logs, LERs, condition reports, and calculations for each performance indicator specified. The inspectors also 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.

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

Unit 1

- Safety System Functional Failures for the 3rd quarter 2003 through the 2nd quarter 2004;
- Reactor Scrams for the 2nd quarter 2003 through the 2nd quarter 2004;
- Unplanned Power Changes for the 3rd quarter 2003 through the 2nd quarter 2004; and
- Reactor Coolant System Activity for the 3rd quarter 2003 through the 2nd quarter 2004.

Unit 2

- Safety System Functional Failures for the 3rd quarter 2003 through the 2nd quarter 2004;
- Reactor Scrams for the 2nd quarter 2003 through the 2nd quarter 2004;
- Unplanned Power Changes for the 3rd quarter 2003 through the 2nd quarter 2004; and
- Reactor Coolant System Activity for the 3rd quarter 2003 through the 2nd quarter 2004.

b. Findings

No findings of significance were identified.

.2 Radiation Safety Strategic Area

a. Inspection Scope

The inspectors reviewed the licensee's assessment of its performance indicator for public radiation safety by reviewing the dose records related to both liquid and gaseous effluent releases from the station from January 2003 to June 2004, to determine if this data was adequately assessed and reported. Since no reportable events were identified by the licensee for all quarters of calendar year 2003 and for the 1st and 2nd quarters of calendar year 2004, the inspectors compared the licensee's data with the corrective action database for these time periods to verify that there were no unaccounted for occurrences in the Public Radiation Safety performance indicator as defined by the applicable revision of NEI 99-02.

The inspectors also reviewed the licensee's determination of Performance Indicator (PI) for the occupational radiation safety cornerstone (Occupational Exposure Control Effectiveness) to verify that the licensee accurately determined these performance indicators and had identified all occurrences required by these indicators. Specifically, the inspector reviewed the licensee's CAPs for 3rd and 4th quarter 2003 and the first three quarters of 2004 Occupational Exposure performance indicator data to ensure that there were no PI occurrences that were not identified by the licensee. Additionally, as part of plant walkdowns (Section 2OS1.1), the inspector selectively examined the adequacy of posting and controls for locked HRAs, to verify the current Occupational Exposure Control Effectiveness performance indicator. The inspector interviewed members of the licensee's staff who were responsible for performance indicator data acquisition, verification and reporting, to verify that their review and assessment of the data was adequate.

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 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 program at an appropriate threshold, that adequate attention was given to ensure timely corrective actions, and that adverse trends were identified and addressed. Minor issues entered into the licensee's corrective action program as a result of inspector observations are covered by the list of documents included in the Attachment.

b. Findings

No findings of significance were identified.

.2 Problem Identification and Resolution Annual Sample Review - Containment Fan Coil Unit Performance Testing

a. Inspection Scope

The inspectors selected a corrective action program issue for detailed review which constituted one annual problem identification and resolution inspection procedure sample. The inspectors selected testing of CFCUs in response to GL 89-13, "Service Water System Problems Affecting Safety-Related Equipment." Five CAPs were initiated in 2003 and 2004, identifying the failure to comply with the commitment to perform the testing on Unit 1 every 5 years. The effectiveness of the licensee's corrective action program was assessed by reviewing the documented history of equipment performance, CAP evaluations, corrective actions, and other corrective action program documents. A complete list of the documents reviewed is included in the Attachment.

b. Findings

Introduction: The inspectors identified a finding associated with the licensee's untimely corrective actions to fulfill a commitment to GL 89-13. The issue was considered to be a finding of very low safety significance (Green). No violation of NRC requirements was identified.

Description: Generic Letter 89-13 recommended that safety-related heat exchangers cooled by service water be tested at a minimum frequency of once every 5 years to verify heat transfer capability. The Prairie Island response to GL 89-13 stated that a periodic test program will be implemented as recommended by the Generic Letter and the licensee implemented procedure H21, "Generic Letter 89-13 Implementing Program." The safety-related cooling supply for the CFCUs was cooling water and the CFCUs are included in the scope of procedure H21. The most recent performance test on the Unit 1 CFCUs was conducted in December 1995. Licensee staff members initiated three CAPs in 2003 and two CAPs in 2004 identifying that the periodic testing was postponed. The testing has not been performed as of the end of this inspection period despite the repeated CAPs. The testing is currently scheduled for December 2004, 9 years since the previous test and 4 years past the recommended 5 year frequency. The inspectors concluded that the corrective action program was ineffective in addressing the deficiency in a timely manner.

The CAPs indicate that the testing was postponed due to unavailability of a chilled water supply. The GL 89-13 stated that alternative actions were acceptable in lieu of testing. An example of an acceptable alternative action was regular inspection and cleaning. The CAP documentation does not identify that any alternative actions were considered or evaluated.

The licensee had performed periodic flow tests which demonstrated adequate flow; therefore, this concern deals with the licensee's ability to resolve the CAPs; not in the functionality of the CFCUs.

Analysis: The inspectors determined that the failure to implement actions to meet the commitment was a deficiency warranting a significance determination accordance with IMC 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening, " issued on June 20, 2003. The inspectors determined that the finding was more than minor because if left uncorrected the finding would become a more significant safety concern, it involved the barrier integrity cornerstone, and it affected the cornerstone objective of providing reasonable assurance that the containment will protect the public from radio nuclide releases caused by accidents or events.

The inspectors evaluated the finding in accordance with IMC 0609, "Significance Determination Process." The finding was associated with the heat removal and pressure control function for the reactor containment barrier. Since the finding does not represent an actual reduction of the reactor containment pressure control function, the inspectors answered "no" to all of the SDP Phase 1 screening questions for the barrier integrity cornerstone. Therefore, this finding was considered to be of very low safety significance (Green).

Enforcement: The finding is a failure to fulfill a regulatory commitment to GL 89-13. Since the testing is not required by 10 CFR 50, no violation of regulatory requirements occurred. The issue was considered a finding of very low safety significance (FIN 05000282/2004007-02). The licensee entered the issue into the corrective action program as CAP 036991, "The Unit 1 FCU Performance Test Work Orders Were Postponed."

.3 Problem Identification and Resolution Annual Sample Review - Flow Accelerated Corrosion Program Effectiveness

a. Inspection Scope

During the week ending September 11, 2004, the inspectors selected a corrective action program issue for detailed review completing one problem identification and resolution annual inspection sample. The inspectors selected an issue associated with the flow accelerated corrosion (FAC) program originally identified by the Prairie Island Nuclear Oversight organization and entered into the corrective action program with CAP 032418 on September 12, 2003.

The inspectors conducted a review of the previously referenced CAP and other related corrective action program documents, and interviewed FAC Program Engineer, Supervisor of Inspection and Material Engineering, the Engineering Programs Manager, and the Site Engineering Director in order to assess the effectiveness of the licensee's efforts to correct the identified problem. Of the documents reviewed by inspectors, particular attention was placed on the review of the licensee's corrective actions taken to address the noted deficiencies and the effectiveness of those actions. The inspectors also ensured that the licensee had identified the full extent of the issue, conducted an appropriate evaluation, and that licensee-identified corrective actions were appropriately

prioritized. The inspectors compared the licensee's actions taken to address the issue against the requirements of the licensee's corrective action program as specified in Administrative Work Instruction 5AWI 16.0.0, "Action Request Process;" Performance Assessment Fleet Procedure FP-PA-ARP-01, "Action Request Process;" Administrative Work Instruction 5AWI 15.0.2, "Work Order Codes;" and 10 CFR Part 50, Appendix B. A complete list of the documents reviewed is included in the Attachment.

b. Findings and Observations

No findings of significance were identified.

4OA3 Event Followup (71153)

(Closed) LER 05000282/2004-001-00: Condition Prohibited by TSs Caused by Miscalibration.

On April 19, 2004, an evaluation determined that the setpoints for Control Room Air Supply Radiation Monitors (RM-23 and RM-24) had been miscalibrated and they were declared inoperable. On April 20, 2004, both RM-23 and RM-24 were recalibrated to their proper setpoints. RM-23 had been set to the wrong setpoint on February 24, 2004, and RM-24 had been set to the wrong setpoint on March 1, 2004.

The inspectors reviewed the licensee's root cause investigation report, immediate corrective actions, and corrective actions to prevent recurrence to verify that the proposed and completed corrective actions addressed the causes of the event and fully restored the function of the radiation monitors. The inspectors also assessed the significance of the finding using the significance determination process. Because the inoperable radiation monitors did not cause a loss of safety function, the finding was determined to be of very low safety significance (Green). The enforcement aspect of this issue is discussed in Section 4OA7. This LER is closed.

4OA5 Other Activities

.1 Reactor Containment Sump Blockage (NRC Bulletin 2003-01, Prairie Island Units 1 and 2) (Temporary Instruction 2515/153)

a. Inspection Scope

The inspectors performed a preliminary review of licensee activities in response to NRC Bulletin 2003-01, "Potential Impact of Debris Blockage on Emergency Sump Recirculation at Pressurized Water Reactors (PWRs)," in accordance with NRC Temporary Instruction 2515/153, "Reactor Containment Sump Blockage (NRC Bulletin 2003-01)," dated October 3, 2003. The inspectors reviewed the licensee's completed and proposed compensatory measures submitted in accordance with Bulletin 2003-01, Option 2, to verify they have been implemented or were planned and scheduled for implementation consistent with the licensee's response.

The inspectors interviewed operations and engineering personnel and reviewed training records, procedures for foreign material control and containment inspection, and the

results of containment coating and debris generation inspections. The documents reviewed by the inspectors are listed in the Attachment.

On October 7, 2003, the inspectors performed visual inspections of the as-left condition of the Unit 2 containment sumps and sump screens, and the as-left configuration of reactor cavity drain. The inspectors also walked down the Unit 2 containment to verify that the condition of the containment coatings, piping insulation, post Loss-of-Coolant-Accident (LOCA) drainage paths, and emergency core cooling system (ECCS) recirculation sumps were consistent with condition reported in the licensee's containment closeout inspection. The inspectors assessed the licensee's foreign material exclusion controls during subsequent containment entries following completion of the final containment closeout inspection.

On September 11, 2004, the inspectors conducted a walkdown shortly after a Unit 1 reactor shutdown was completed to assess the as-found conditions in the containment including the material condition and/or cleanliness of the recirculation sump, the sump screens, containment coatings, equipment insulation and general containment cleanliness. The inspectors conducted this inspection with a specific focus for the existence of loose debris upstream and in the direct vicinity of the recircualtion sump that could have blocked the sump screens or become ingested in emergency core cooling systems in the event of a LOCA.

b. Findings

Temporary Instruction Reporting Requirements

No findings of significance were identified relative to the potential impact of debris blockage on emergency sump recirculation. The following information is provided as specified by the Reporting Requirements section of Temporary Instruction 2515/153.

During the September 2003 Prairie Island Unit 2 refueling outage (2R22), plant staff from the Design Engineering department performed a containment walkdown using the guidance provided in NEI 02-01, "Condition Assessment Guidelines: Debris Sources Inside PWR Containments," Revision 1, to identify and quantify potential debris sources; and to obtain additional detailed data and photographs to support future debris transport analyses. Additionally, engineers also checked the material condition of the containment sump and sump screens, and verified that no major obstructions upstream of the sump that could prevent the return of reactor coolant to the recirculation sump. The engineers did not identify any excessive gaps in the installation of the recirculation sump screens.

During this inspection period Prairie Island Unit 1 commenced a refueling and steam generator replacement outage (1R23). Design engineers conducted a Unit 1 containment walkdown equivalent to the walkdown conducted during the previous Unit 2 walkdown. This walkdown had been performed during the November 2002, Unit 1 refueling outage, but was performed without the guidance contained in NEI 02-01. The design engineers re-performed their walkdown to quantify debris sources using NEI 02-01 guidance during the current refueling outage. The engineers did not identify any excessive gaps in the installation of the recirculation sump screens.

The inspectors assessed conditions in the respective containments during each of the refueling outages mentioned previously. The inspectors conducted this assessment following the completion of the final closeout inspections. The inspectors observed that the as-left conditions in the containment were consistent with the conditions documented in the licensee's final containment closeout inspection and the plant's design basis. The inspector's closeout assessment included as-left condition of the containment sumps, sump screens, configuration of reactor cavity drain, containment coatings, piping insulation, and post-LOCA drainage paths.

Based on inspector observations of the sump screen design, the inspectors determined two design attributes of the sump screens to be worthy of mention. First, the inspectors noted the relatively small surface area of the sump screens. The designed gross surface area of the sump screen was calculated to be 54.8 square feet. This results in an actual flow area of 38 square feet when the area of the screen blocked by level instruments and by the screen bars were subtracted.

Second, the recirculation sump screen was designed with only one screen with a mesh size (opening size) that measures 3/4 (0.750) of an inch by 3-11/16 (3.6875) inches. Based on the inspectors experience this appeared to be a very large mesh size for this application. Comparing the recirculation sump screen mesh size to the smaller opening sizes associated with ECCS equipment and fuel element upper and lower nozzles reveals the potential for flow blockage. For example, the residual heat removal heat exchanger tube inside diameter measures 0.652 inches, safety injection orifices and throttle valves opening measures 0.54 inches, fuel assembly top nozzle opening measures 0.472 inches, and fuel assembly bottom nozzle opening measures 0.188 inches. Based on the large screen opening size, the potential for excessive screen plugging with debris is minimized at the expense of an increase in potential for debris ingestion into emergency core cooling and the reactor coolant systems.

Based on discussion with the licensee, review of the licensee response to Bulletin 2003-01, and review of interim compensatory actions implemented, the licensee has recognized the potential for debris ingestion and potential flow blockage of ECCS equipment and fuel elements. The compensatory measures specified in the licensee's 60-day response letter to Bulletin 2003-01 were verified as completed by the inspectors during this inspection.

In the licensee's response to Bulletin 2003-01 the licensee committed to perform an evaluation to analyze the emergency core cooling system recirculation functions with respect to the potentially adverse post-accident debris blockage effects on the containment sump. The licensee plans to work with NEI and implement the methodology developed by NEI to resolve Generic Safety Issue 191, if appropriate for Prairie Island.

.2 (Closed) Unresolved Item (URI) 05000282/2003005-01; 05000306/2003005-01: Resolution of Questions Associated with the Tornado Design of the Auxiliary and Turbine Buildings.

The licensee referenced Calculation 02Q0357-C-001, "Assessment of Old Service Building for Seismic and Tornado Loads" in two operability evaluations concerning the

turbine and auxiliary building structures. At the time of the inspection, questions regarding the adequacy of the calculation were raised by the inspectors and the issue was identified as a unresolved item. During this current inspection period, the inspectors reviewed additional building specific calculations for the Unit 1 and 2 turbine and auxiliary buildings which the licensee had completed to determine structural integrity of the turbine and auxiliary buildings. Additional documents reviewed by the inspectors are listed in the Attachment. Based on this additional review, the inspectors had no further questions or concerns. This unresolved item is considered closed.

.3 (Closed) URI 05000282/2000013-05; 05000306/2000013-05: Unable to Determine the Safety Significance of the Failure to Analyze Cooling Water Flow to Assure Adequate Cooling during the Recirculation Phase of a loss of coolant accident (LOCA).

A concern was identified regarding the licensee's failure to analyze cooling water flow upon loss of air to certain temperature control valves to assure adequate cooling during the recirculation phase of a LOCA. The inspectors questioned how other safety related heat loads would be affected and how adequate cooling water flow could be assured for these loads during the recirculation phase. This matter was considered an unresolved item pending completion of an analysis to verify that recirculation phase heat loads would be adequately supported.

The licensee performed additional calculations which demonstrated adequate cooling water flow to safeguards loads during the recirculation phase of a LOCA. The inspectors reviewed the subsequent calculations and had no further concerns. The documents reviewed during this followup inspection are listed in the Attachment. This item is closed.

.4 (Discussed) URI 05000282/2000013-06; 05000306/2000013-06. Unable to Determine the Validity of the Practice of, After a Seismic Event, Using Assumptions for Through Wall Leakage Rather Than Complete Pipe Severance

A concern was identified regarding the inability to determine the validity of the practice of, after a seismic event, using assumptions for through wall leakage of non-seismically designed piping rather than complete pipe severance. The inspectors questioned the use of this design approach for non-seismically designed piping and were unable to determine the validity of the licensee's assumption. Pending review and evaluation of this assumption by NRC headquarters personnel, this issue was considered unresolved.

On May 3, 2004, the licensee submitted a license amendment request pursuant to 10 CFR 50.90, "to define a hydraulic analysis methodology for demonstrating functionality of the cooling water system following a design basis seismic event and to define acceptance criteria from the ASME Section III Code, Subsection ND, for stress analysis of the cooling water system non-Class I piping with design basis seismic loads." This item remains open pending NRR review and evaluation of the licensee's submital.

.5 Review of Strike Contingency Plans and Preparation for Potential Work Disruption (92709)

a. Inspection Scope

The inspectors completed review of the licensee's activities to prepare for a potential work disruption after it became evident that little progress was made towards reaching an initial labor contract agreeable to both NMC management and engineers represented by the International Brotherhood of Electrical Workers, Local 949. The inspectors reviewed the licensee's contingency staffing plans for operations, maintenance, security, emergency preparedness, and other plant departments. The inspectors also reviewed projected work schedules and use of overtime; preparatory communications with offsite law enforcement agencies and other emergency services; and planned communications with public media.

b. Findings

No findings of significance were identified.

4OA6 Meeting(s)

.1 Exit Meeting

The inspectors presented the inspection results to Mr. J. Solymossy and other members of licensee management at the conclusion of the inspection on October 8, 2004. The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

.2 Interim Exit Meetings

Interim exits were conducted for:

- Occupational Radiation Safety Access Control and Public Radiation Safety Gaseous and Liquid Effluent Treatment and Monitoring Systems with Mr. J. Solymossy on July 30, 2004.

- Occupational Radiation Safety Access Control and Public Radiation Safety Gaseous and Liquid Effluent Treatment and Monitoring Systems with Mr. R. Graham on September 24, 2004.

- Licensed operator medical issue via telephone with Mr. G. Salamon on September 17, 2004.

4OA7 Licensee-Identified Violations

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

Cornerstone: Barrier Integrity

Condition Prohibited by TSs Caused by Miscalibration

Prairie Island TS 3.3.6 requires that two channels of control room special ventilation system actuation instrumentation shall be operable in Modes 1, 2, 3, 4, and during movement of irradiated fuel assemblies. Contrary to the above, between March 1, 2004, until April 20, 2004, the licensee identified that both channels of control room special ventilation system radiation monitoring instrumentation (RM-23 and RM-24) were inoperable because they were calibrated with the wrong setpoint and the required actions for Condition A and B were not completed within the required completion time. The licensee recalibrated the radiation monitors, and entered the condition into their corrective action program. (This event was discussed in Section 4OA3 of this report.)

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee
T. Allen, Outage and Scheduling Manager
D. Anderson, Engineering Design Manager
J. Anderson, Radiation Protection Manager
T. Bacon, Operations Training Supervisor
S. Cook, Nuclear Oversight Manager
R. Graham, Director of Operations
D. Herling, Assistant Operations Manager
P. Huffman, Operations Manager
J. Lash, Training Manager
S. McCall, Engineering Programs Manager
C. Mundt, Engineering Plant and Systems Manager
S. Northard, Business Support Manager
A. Qualantone, Security Manager
G. Salamon, Regulatory Affairs Manager
T. Silverberg, Site Engineering Director
J. Solymossy, Site Vice President
T. Taylor, Performance Assessment Manager
M. Werner, Plant Manager

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed

05000282/2004007-01; 05000306/2004007-01	NCV	Failure to Inform the NRC Within 30 Days of a Change in Medical Status of a Licensed Operator in Accordance with 10 CFR 50.74(c)
05000282/2004007-02	FIN	Containment fan coil units not tested in accordance with Generic Letter 89-13 commitments

Closed

05000282/2000013-05; 05000306/2000013-05	URI	Unable to Determine the Safety Significance of the Failure to Analyze Cooling Water Flow to Assure Adequate Cooling During the Recirculation Phase of a LOCA
05000282/2003005-01; 05000306/2003005-01	URI	Resolution of Questions Associated with the Tornado Design of the Auxiliary and Turbine Buildings
05000282/2004-001-00	LER	Condition Prohibited By TSs Caused by Miscalibration

Discussed

05000282/2000013-06; 05000306/2000013-06	URI	Unable to Determine the Validity of the Practice of, After a Seismic Event, Using Assumptions for Through Wall Leakage Rather Than Complete Pipe Severance

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.

1RST Post-Maintenance and Surveillance Testing

Post-Maintenance Testing

Unit 2 OPDT Circuit Changes

Modification Package 03FH02; Revision 0
WO 0405444; Unit 2 OPDT circuit changes

2VC-15-38

WO 0406222; Calibrate Loop 2F-110 on the Boric Acid Blender
Instrument Control Preventive Maintenance (ICPM) Procedure 2-311; Boric Acid Makeup Flow Channel Calibration; Revision 3
Maintenance Standards Implementing Procedure (MSIP) 5007; ITT Grinnell Hand and Air Operated Valves; Revision 7
PINGP Drawing X-HIAW-1001-5; Flow Diagram Chemical and Volume Control System; Revision Y
Tagout Module Output for WO 0406222
PINGP Operations Manual B12A; Chemical and Volume Control System; Revision 8
Operations Log Entries for July 8, 2004
CAP 037456; Inadvertent Boration of Unit 2 Reactor Coolant System During the Performance of WO 0406222
CAP 034893; Post Maintenance Testing Steps Assigned to Engineering Without Notification
CAP 035305; Required System Engineer Reviews Deleted from Work Package
Apparent Cause Evaluation (ACE) 008854; Inadvertent Boration of Unit 2 Reactor Coolant System During the Performance of WO 0406222
CE 004448; Post Maintenance Testing Identification Responsibilities/Instructions Inadequate

4kV Breaker 26-2

CAP 037605; Bus 26 Sequencer Inoperable
WO 0406501; Troubleshoot and Repair Breaker 26-2; July 21, 2004
SP 2095; Bus 26 Load Sequencer Test; Revision 15

Emergency Safety Feature Actuation System relay 1CSB

SP 1032B; Safeguards Logic Test at Power-Train B; Revision 12
WO 0406608; Replace 1CSB Relay

CAP 034780; Post-Maintenance Testing Identification Responsibilities/Instructions Inadequate
CAP 037716; Relay 1CSB Did Not Operate As Expected During SP 1032B
CAP 036782; Negative Trend in Post-Maintenance Testing
ACE 008838; Negative Trend in Post-Maintenance Testing
Corrective Action (CA) 009173; Negative Trend in Post-Maintenance Testing
CA 009174; Negative Trend in Post-Maintenance Testing
CA 009175; Negative Trend in Post-Maintenance Testing
CA 009176; Negative Trend in Post-Maintenance Testing
CE 004448; Post-Maintenance Testing Identification Responsibilities/Instructions Inadequate
Procedure Change Request (PCR) 008379; Post-Maintenance Testing Identification Responsibilities/Instructions Inadequate
Other (OTH) 008380; Post-Maintenance Testing Identification Responsibilities/Instructions Inadequate
OTH 000767; Identification of Post-Maintenance Testing

D6 Radiator Fans Weekly Run Test

SP 2305; D6 Diesel Generator Monthly Slow Start Test; Revision 24
WO 0407262; D6 Engine 1 High Temperature/Low Temperature Radiator Fan 1; September 15, 2004
Test Procedure (TP) 2296B; D6 Radiator Fans Weekly Run Test; September 15, 2004
Operators Logs Dated September 15, 2004
CAP 038522; D6 Radiator Fan Tripped During SP 2305

Surveillance Testing

SP 2295

SP 2295; D5 Diesel Generator 6 Month Fast Start Test; Revision 27
CAP 037782; Increased Crankcase Pressure Observed on D5 Engine 1 During Monthly SPs

SP 1055.1

SP 1055.1; 121 Control Room Clean Up Ventilation System Filter Removal Efficiency Test; Revision 13
WO 0310914; 121 Control Room Clean Up Filter Efficiency Test; August 9, 2004

SP 1102

SP 1102; 11 Turbine-Driven Auxiliary Feedwater Pump Monthly Test; Revision 79
PINGP Procedure H 10.1; ASME Inservice Testing Program; Revision 15
TS 5.5.7; Inservice Testing Program
CAP 037438; Multiple Starts Required to Complete 21 Auxiliary Feedwater Pump SP 2100 Monthly

CAP 036372; Cooling Water Pump Bearing Water Supply Three-Way Valve Should Be in the Inservice Testing Program

Unit 2 RCS Chemistry Sample

Radiation Protection Implementing Procedure 3607; Unit 2 CVCS [Chemical and Volume Control System] Demineralizer Samples; Revision 3
Gamma Spectrum Analysis, Unit 2 RCS; September 13, 2004

SP 2305

SP 2305; D6 Diesel Generator Monthly Slow Start Test; Revision 24
PINGP Operations Manual B20.7; Emergency Diesel Generator; Revision 5
PINGP Operations Manual B38C; Unit 2 Diesel Generators; Revision 3
Technical Specifications 3.8; Electrical Power Systems and Buses
Operations Log Entries for September 15, 2004
CAP 036851; D6 Fuel Oil Day Tank Reading Out of Specification

SP1092A

SP 1092A; Safety Injection Check Valve Test (Head Off) Part A: High Head Injection Flow Path Verification; Revision 23
PINGP Procedure H10.1; ASME Testing Program; Revision 15
Technical Specification 5.5.7; Inservice Testing Program
CAP 038584; Evaluate Process of Changing Inservice Testing Requirements via Procedure Changes/ Temporary Procedure Changes

SP 1092B

SP 1092B; Safety Injection Check Valve Test (Head Off) Part B: RWST to RHR Flow Path Verification; Revision 13
PINGP Procedure H 10.1; ASME Inservice Testing Program; Revision 15
Technical Specification 5.5.7; Inservice Testing Program
CAP 038401; Temporary Change Notice for SP 1405 Created a Potential to Miss ANI [American Nuclear Insurer] Contact for SP 1392

SP 1072.21

SP 1072.21; Local Leakage Rate Test of Penetration 21 (RCDT to Gas Analyzer); Revision 17
CAP 038758; CV-31545 exceeded LLRT administrative limit

SP 1834

SP 1834; Unit 1 Containment Coating Inspection; Revision 0
CAP 038812; Rust Found on Piping to CRDM Cooling Coils
WO 0309867; Containment Coating Repair

1R04 Equipment Alignment

D5 Diesel Generator

Integrated Checklist C1.1.20.7-9; D5 Diesel Generator Valve Status; Revision 10
Integrated Checklist C1.1.20.7-10; D5 Diesel Generator Auxiliaries and Local Panels and Switches; Revision 7
Integrated Checklist C1.1.20.7-11; D5 Diesel Generator Main Control Room Switch and Indicating Light Status; Revision 4
Integrated Checklist C1.1.20.7-12; D5 Diesel Generator Circuit Breakers and Panel Switches; Revision 9

11 Safety Injection Pump

Integrated Checklist C1.1.18-1; Safety Injection, Containment Spray, Caustic Addition and Hydrogen Control System Checklist Unit 1; Revision 44
PINGP Drawing X-HIAW-1-45; Flow Diagram Unit 1 Safety Injection System; Revision AC
CAP 036267; Configuration and Control Issues With CHAMPS Equipment Module Data
CE 005127; Configuration and Control Issues With CHAMPS Equipment Module Data
Engineering Work Request (EWR) 009312; Initiate Activities to Address Shield Building Exhaust Filter Exhaust Temperature Indication Configuration Control Issue

12 Diesel-Driven Cooling Water Pump

Integrated Checklist C1.1.35-3; Cooling Water System; Revision 23
CAP 037260; Troubleshooting Process Not Being Used for 12 DDCLP Replacement
CAP 037598; 12 DDCL Pump Performance Per SP 1106A Was 103.5 percent in April 2004

D1 and D2 Diesel Generator System

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 14
Integrated Checklist C1.1.20.7-4; D1 Diesel Generator Circuit Breakers and Panel Switches; Revision 12
Integrated Checklist C1.1.20.7-5; D2 Diesel Generator Valve Status; Revision 19
Integrated Checklist C1.1.20.7-6; D2 Diesel Generator Auxiliaries and Room Cooling Local Panels; Revision 9
Integrated Checklist C1.1.20.7-7; Diesel Generator D2 Main Control Room Switch and Indicating Light Status; Revision 13
Integrated Checklist C1.1.20.7-8; D2 Diesel Generator Circuit Breakers and Panel Switches; Revision 16

1R05 Fire Protection

Plant Safety Procedure F5, Appendix A, Revision 15; Fire Strategies for Fire Areas 13, 18, 22, 26, 33, 34, 68, 101, and 116
Plant Safety Procedure F5, Appendix F, Revision 19; Fire Hazard Analysis for Fire Areas;13, 18, 22, 26, 33, 34, 68, 101, and 116
IPEEE NSPLMI-96001, Appendix B; Internal Fires Analysis; Revision 2
CAP 036809; 12/22 Battery Room Connecting Fire Door not Closing Completely
Operations Log Entries for September 9, 2004
CAP 038327; SGT project buried Fire Protection Header valves
CA 009570; SGT project buried Fire Protection Header valves
PINGP Form 1224; dated September 10, 2004

1R11 Licensed Operator Requalification Program

Simulator Evaluation Guide P9160S-001 ATT.SQ-47, Revision 0
5AWI 3.15.0; Plant Operation; Revision 15
One Specific Application for Operator License Renewal; received at Region III August 16, 2004
One Specific NRC Form 396; Certification of Medical Examination by Facility Licensee; maintained in Region III Operator Licensing Archive
CAP 037957; Possible Error in Operator License Renewal Application - Form 396; dated August 17, 2004

1R12 Maintenance Effectiveness

Circuit Breakers
CAP 026962; Breaker 12RYBT Bad Racking Mechanical Lead Screw
CAP 030769; Unplanned LCO [Limiting Condition for Operation] Not Met Due to 21 RHR Out of Service
CAP 031333; Failure of Indicating Light Circuit for Breaker 25-7 21 RHR Pump
CAP 033496; Breaker 231 Manual/Mechanical Trip Has Been Defeated by an Improper Repair
CE 003898; Breaker 231 Manual/Mechanical Trip Has Been Defeated by an Improper Repair
Maintenance Rule Evaluation (MRE) 000063; Breaker 12RYBT Bad Racking Mechanical Lead Screw
MRE 000169; Unplanned LCO Not Met Due to 21 RHR Out of Service
MRE 000189; Failure of Indicating Light Circuit for Breaker 25-7 21 RHR Pump

RVLIS Failures

Maintenance Rule System Specific Basis Document fot The Event Monitoring System; Revision 11
Maintenance Rule Risk Significant Equipment List
Monthly Maintenance Rule Unavailability Report for August 2004
CAP 023799; Unit 1 Train B ICCM [Inadequate Core Cooling Monitor] Monitor Not Readable

CAP 024949; Unit 1 ICCM Train B Remote Display Not Working
CAP 025441; Continuously Repeating the Same Work to Correct Train B ICCM Bad Pixels Symptoms
CAP 025713; Unplanned LCO Action Entered due to Train B ICCM OOS [Out-of-Service]
CAP 027196; Six Incore Thermocouples Were Found Suspect During the Performance of SP 1274
CAP 028067; Unit 1 Thermocouple 10 Location D-70 Reading “Bad” Quality on ERCS [Emergency Reactor Computer System]
CAP 031976; Bad Batteries on CMOS [Complementary Metal Oxide Semiconductor] RAM [Random Access Memory] Board for ICCM
CAP 034235;A Train RVLIS in Alarm for Hydraulic Isolator
CAP 034674; Maintenance Rule Risk Significant SSCs Not Receiving a(2) Reliability Monitoring
CAP 037824; Unit 1 A Train ICCM/RVLIS Power Supplies Found Out-of-Tolerance
CAP 037904; Unit 2 A Train RVLIS Declared Out-of-Service
CAP 037965; ICCM Locked Up and Will Not Respond During the Performance of SP 1213
ACE 008579; Continuously Repeating the Same Work to Correct Train B ICCM Bad Pixels Symptoms
MRE 00008; Unit 1 Train B ICCM Monitor Not Readable
MRE 000029; Unit 1 ICCM Train B Remote Display Not Working
MRE 000035; Unplanned LCO Action Entered due to Train B ICCM OOS
MRE 000071; Six Incore Thermocouples Were Found Suspect During the Performance of SP 1274
MRE 000092; Unit 1 Thermocouple 10 Location D-70) Reading “Bad” Quality on ERCS
MRE 000201; Bad Batteries on CMOS RAM Board for ICCM
MRE 000237; A Train RVLIS in Alarm for Hydraulic Isolator
MRE 000322; Unit 1 A Train ICCM/RVLIS Power Supplies Found Out-of-Tolerance
MRE 000323; Unit 2 A Train RVLIS Declared Out-of-Service
MRE 000324; ICCM Locked Up and Will Not Respond During the Performance of SP 1213
OTH 003596; Update Maintenance Rule Risk Significant Equipment List with Results of Two Unit Probabilistic Risk Assessment Model Update

<u>D5 Performance Problems</u>

Maintenance Rule a(1) System Status Summary as of September 03, 2004
Maintenance Rule System Specific Basis Document for the Emergency Diesel Generator System; Revision 11
Maintenance Rule Risk Significant Equipment List
Monthly Maintenance Rule Unavailability Report for August 2004
CAP 028344; D5 Diesel was Out-of-Service for 5 Hours Before Any LCO Work was Released to Work
CAP 030761; D5 Engine 1 Crankcase Pressure Had Short Term High Readings During SP 2093
CAP 033753; D5 Engine 1 Piston Combustion Chamber Lip Cracks on Two Cylinders
CAP 033764; Apparent Cracked Cylinder Head on D5 Engine 2 Cylinder B4

CAP 033765; D5 Generator LCO Entered Early
CAP 034971; D5 Engine 2 Radiator Fan Breaker Tripped on Thermal Overload
CAP 035006; Two LCOs on D5 Within 1 Week
CAP 037023; D5 Crankcase Pressure and Cylinder Temperature Issues
CAP 037509; Error in Monthly Maintenance Rule Unavailability Monitoring Report for Diesel Generators Identified
CA 009323; Error in Monthly Maintenance Rule Unavailability Monitoring Report for Diesel Generators Identified
CE 005582; Error in Monthly Maintenance Rule Unavailability Monitoring Report for Diesel Generators Identified
MRE 000168; D5 Engine 1 Crankcase Pressure Had Short Term High Readings During SP 2093
MRE 000223; D5 Engine 1 Piston Combustion Chamber Lip Cracks on Two Cylinders
MRE 000224; Apparent Cracked Cylinder Head on D5 Engine 2 Cylinder B4
MRE 000252; D5 Engine 2 Radiator Fan Breaker Tripped on Thermal Overload
MRE 000303; D5 Crankcase Pressure and Cylinder Temperature Issues

1N31 Source Range Detector

Maintenance Rule System Specific Basis Document - NI Nuclear Instrumentation
Work Order Module 0407193; Replace Failed Detector 1N31
Monthly Maintenance Rule Unavailability Report for August 2004
Maintenance Rule a(1) System Status Summary as of September 29, 2004
CAP 022789; 2N31 Failed During Refueling Outage. High Indication
CAP 003178; 1N31-NC101 Level Trip B/S cal As-Left apparently OOT
CAP 003178; NIS Detector Well 1N31/1N35 Leaked By a Pinched O-Ring
General Condition Report GEN20012026.DOC; 12/2000 1N31 Slow Response
MRE 000338; 1N31 Failed Low During 1R23
MRE 000213; NIS Source Range Testing

1R13 Maintenance Risk Assessments and Emergent Work Control

22 Component Cooling Water Heat Exchanger and 125 Service Air Compressor

PINGP Procedure H24.1; Assessment and Management of Risk Associated with Maintenance Activities; Revision 7
PINGP Procedure H24.1, Appendix A; Phase 1 Risk Assessment Preparation; Revision 0
PINGP Procedure H24.1, Appendix B; Phase 2 Risk Assessment Preparation; Revision 0
Abnormal Operating Procedure AB-2; Tornado/Severe Weather/High Winds; Revision 24
Unit 2 Risk Assessment for July 19, 2004
Plant Equipment Out-Of-Service List for July 19, 2004
CAP 030413; Issues With Risk Assessment Performed by Operations for Emergent Conditions
CA 005623; Issues With Risk Assessment Performed by Operations for Emergent Conditions

Emergent Failure of Breaker 26-2

PINGP Procedure H24.1; Assessment and Management of Risk Associated with Maintenance Activities; Revision 7
Unit 2 Risk Assessment for July 20, 2004
Control Room Logs for July 20, 2004
CAP 037604; 122 Instrument Air Dryer Purge Valve Stuck Closed
CAP 037605; Bus 26 Load Sequencer Inoperable

22 Charging and 21 Auxiliary Feedwater Pump

PINGP Procedure H24.1; Assessment and Management of Risk Associated with Maintenance Activities; Revision 7
Unit 2 Risk Assessment for August 3, 2004
Equipment Out-of-Service (EOOS) Monitor Calculation for August 3, 2004
Plant Equipment Out-of-Service Log for August 3, 2004
CAP 037103; WO 311505 - SP 2139A - Not Identified as Maintenance Rule Equipment Until 2 Days Before Work Week 4306A

D5 Diesel Generator, Bus 15 and Bus 25 Load Sequencers

Risk Assessment for Work Week 4407B; Sequence 6; September 14, 2004
Equipment Out-of-Service (EOOS) Monitor Calculation for September 14, 2004, Sequence 6
Work Order 0404855; Transfer of 480 Volt Buses 111 and 112 to Alternate Source

Bus 15, Bus 111, 17 Inverter, and D2 Diesel Generator

PINGP Procedure H24.1; Assessment and Management of Risk Associated with Maintenance Activities; Revision 7
Unit 2 Risk Assessment for September 22, 2004
Unit 2 Risk Assessment for September 23, 2004
Equipment Out-of-Service (EOOS) Monitor Calculation for September 22, 2004

Bus 15, 121 Air Compressor, 17 Inverter, and 11 Cooling Water Pump

Unit 2 Risk Assessment for Septermber 28, 2004
CAP 038887; “B” Cooling Water VLCO Plan Was Rescheduled With No Tracking Process

1R14 Nonroutine Evolutions

Closure of Moisture Separator Reheater Steam Supply Valves on a Loss of Power Supply

Unit 1 Operating Logs for September 09, 2004
PINGP Abnormal Operating Procedure C20.17 AOP2; Computer UPS [Uninterruptible Power Supply] Removal From Service; Revision 11

CAP 038338; Inverter 33 Power Surge Disabled Essential Computer Equipment
CAP 038344; Loads Fed from Panel 313 were Lost for a Brief Time. 33 UPS Loads. 33 Inverter
CAP 038345; During Troubleshooting of Inverter 33, Breaker CB-4 Opened Causing Loss of Loads on Panel 313
CAP 038347; Effect of Operating Turbine with Moisture Separator Reheater Valves Closed
Attachment to CAP 038345; Internal Correspondence P. Vitko to V. Varma; dated September 9, 2004
CAP 038353; Unplanned Power Change During 33 Inverter Deenergization

Taking Unit 1 Pressurizer Solid and Control of the Reactor System in a Water Solid Configuration

PINGP Operating Procedure 1C1.3; Unit 1 Shutdown; Revision 53
Unit 1 Operating Logs for September 11, 2004
CAP 038114; Breaker 181, MCC [Motor Control Center] has a Bad Overload Alarm Relay

1R15 Operability Evaluations

12 DDCLP Unusual Surveillance Data

CAP 037598; 12 DDCL Pump Performance Per SP 1106A Was 103.5 percent
CE 005637; 12 DDCL Pump Performance Per SP 1106A Was 103.5 percent
CAP 036785; 12 DDCL Pump In Alert Range
OPR 000494; 12 DDCL Pump In Alert Range

CT 12 Termination

CAP 037611; 3M Cold Shrink Termination (Pothead) Affected by Water From Within the Cable
OPR 000507; 3M Cold Shrink Termination (Pothead) Affected by Water From Within the Cable

RHR Current Transducer Qualification

CAP 038037; Current Transducers for RHR Pumps Not Qualified As Isolation Device
OPR 000511; Current Transducers for RHR Pumps Not Qualified As Isolation Device
Operable But Degraded (OBD) 009491; Current Transducers for RHR Pumps Not Qualified As Isolation Device

12 DDCLP Suction Bell Bearing Water Flow Switch

CAP 038350; 12 DDCLP Suction Bell Bearing Water Flow Switch Stuck at 0 GPM
OPR 000514; 12 DDCLP Suction Bell Bearing Water Flow Switch Stuck at 0 GPM
PINGP 1478, Revision 1; Operability Recommendation Form; 11, 12, 121 Safeguard CL Pumps

CE 005931; 12 DDCLP Suction Bell Bearing Water Flow Switch Stuck at 0 GPM
Operators Logs on September 9, 2004
CAP 023064; Assess Classification of the Bearing Lube Water Supply Piping/Flow Switches
CA 000840; Assess Classification of the Bearing Lube Water Supply Piping/Flow Switches
OTH 000895; Assess Classification of the Bearing Lube Water Supply Piping/Flow Switches
CAP 023118; Incomplete Engineering Judgement
CAP 023779; Unable to Make Bearing Water Flow Adjustments on DDCLP Flows
CE 000388; Unable to Make Bearing Water Flow Adjustments on DDCLP Flows
PCR 001540; Unable to Make Bearing Water Flow Adjustments on DDCLP Flows
OBD 000012; Unable to Make Bearing Water Flow Adjustments on DDCLP Flows
CE 000759; Cooling Water System on the Site Top 10 Equipment Issues ist
Request for Training (RFT) 002948; Update on Cooling Water White Finding and Cooling Water Mod
CAP 033621; 22 DDCLP Found With Stuck Lineshaft Water Flow Switch
CE 003951; 22 DDCLP Found With Stuck Lineshaft Water Flow Switch
CAP 036192; 121 MD [Motor Driven] Cooling Water Pump Loss of Bearing Water Flow came in Three Times During Shift
ACE 008274; Perform Apparent Cause Evaluation for Entry into PRA Orange Condition when D5 was OOS and the Bearing Water Low Flow Condition on 12 DDCP Pump Occurred

1R16 Operator Workarounds

21 Steam Generator Power Operated Relief Valve Hand Controller Workaround

PINGP Operating Procedure C7; Reactor Control System; Revision 11
WO 0405095; Adjust, Repair, or Replace as Required 21 Steam Generator Power Operated Relief Valve Hand Controller
CAP 035653; Steam Generator Power Operated Relief Valve May Open When Placed In Manual Due to Hand Controller Problem
CAP 037135; Leak By of the Unit 2 Chemical and Volume Control System Isolation Valves Results in 3 to 5 Gallon Per Minute Leak and Relief Valve Lift
CE 004837; Steam Generator Power Operated Relief Valve May Open When Placed In Manual Due to Hand Controller Problem
CE 005445; Leak By of the Unit 2 Chemical and Volume Control System Isolation Valves Results in 3 to 5 Gallon Per Minute Leak and Relief Valve Lift

1R17 Permanent Plant Modifications

Modification Package 03FH02; Revision 0
WO 0405444; Unit 2 OPDT Circuit Changes
CAP 037367; Mod Process Did Not Prompt Simulator Update
CAP 037420; Possible Wrong Values Used To Determine Delta I Doghouse Values
CAP 037355; Unit 2 Flux Map Results Using BEACON

CAP 037454; Unit 2 Transient Fq Including Penalty Factor Exceeds Tech Spec Limit
CAP 037544; TS Entry

1R20 Refueling and Other Outage Activities

Operating Procedure 1C1.3; Unit 1 Shutdown; Revision 53
SP 1405; Mid-Cycle and Refueling Outage Boric Acid Corrosion Examinations Inside Containment; Revision 0
SP 1407; Leakage Examination of Canopy Seals, Mechanical Joints; and Other Pressure Retaining Components on the Reactor Vessel Head; Revision 0
5AWI 15.6.1; Shutdown Safety Assessment; Revision 1
PINGP Form 1102; Unit 1 Shutdown Safety Assessment; Revision 19
Maintenance Procedure D58.1.9; Unit 1 - Reactor Vessel Head Removal; Revision 10
Unit 1 Operating Logs for September 10 through September 30, 2004
CAP 038366; Rod Bottom Lights and IRPI Indications Following U1 Reactor Shutdown
CAP 038428; 1N31 Failed Low During 1R23
CAP 038535; Three Workers in Containment for Reactor Head Lift on the Wrong RWP
CAP 038541; 1R23 - Reactor Head Bumps Ladder Guard
Maintenance Procedure D58.1.7; Unit 1 Reactor Lower Internals Removal; Revision 1
CAP 038624; Pre-job Brief for Lower Internals Removal Was Poorly Executed

1R23 Temporary Modifications

SP 1294; Installation/Removal of Automatic SI Reset Bypasses; Revision 10
Operating Procedure 1C1.3; Unit 1 Shutdown; Revision 53
SP 1547; Unit 1 Safeguards Logic Functional Test at Cold Shutdown; Revision 29
SP 1143; Feedwater Isolation, FW Pump Trip and Turbine Trip Relay Contact Verification Test; Revision 13
SP 1083; Unit 1 Integrated SI Test With a Simulated Loss of Offsite Power; Revision 29
Operating Procedure 1C1.2; Unit 1 Startup Procedure; Revision 33
Drawing NF-39600; Auxiliary Building HVAC Flow Diagram
Drawing NF-39602-1; Reactor Building Unit 1 Ventilation Flow Diagram
Drawing NF-39602;2; Reactor Building Unit 2 Ventilation Flow Diagram
WO 0100984; Repair Air Line Leak Above Laundry Tanks
Temporary Modification Package for T-Mod 04T178;
PINGP 1229, Rev. 11 NMC Standard 10 CFR 50.59 Screening
QF-0543 (FP-E-MOD-03) Rev. 0 Temporary Modification Index
QF-0515A (FP-E-MOD-04) Rev. 1 Design Input Checklist Part A
QF-0515B (FP-E-MOD-04) Rev. 0 Design Input Checklist Part B
QF-0506 (FP-E-MOD-02) Rev. 0 Configuration Change Process Screening
QF-0540 (FP-E-MOD-03) Rev. 0 Temporary Modification Control Form
FP-E-MOD-03 Temporary Modifications Fleet Procedure
CAP 038943 22 Aux Building M/U air handler motor overloads when supplying design flow

1EP6 Drill Evaluation

Simulator Evaluation Guide P9160S-001 ATT.SQ-47, Revision 0
Prairie Island Nuclear Generating Plant Emergency Plan; Annex A; Revision 30

2OS1 Access Control to Radiologically Significant Areas

Airborne Area Log; September 12 to14, 2004
Gamma Spectrum Analysis Report 04-11157; Air Sampler Filter Analysis-Seal Table; dated September 12, 2004
Gamma Spectrum Analysis Report 04-11158; Air Sampler Filter Analysis-Seal Table; dated September 12, 2004
PMETS Report-Personnel Exposures per RWP, RWP 41089 Incore Thimble Rube ECT and Associated Work; from September 1 to 21, 2004
RPIP 1120; Posting of Restricted Areas; Revision 22
Technical Specifications 5.7; Administrative Controls High Radiation Area, Unit 1; Amendment 158
CAP 038342; Dropped Dosimeter in a Test Pipe and Exposed It With a Radiography Source; dated September 9, 2004
CAP 038430; Operation Drained Steam Generator Without Notifying Radiation Protection Supervisor; dated September 12, 2004
CAP 038492; Radiograph Caused Multiple Alarm Trips; dated September 14, 2004
CAP 038479; 1R23 Addition Shielding Required Around Seal Table-Delayed Work; dated September 13, 2004
CAP 038518; Seal Table Air Samples Indicated Higher Than Usual for the Job; dated September 14, 2004
CAP 038610; Crew Unable to Review ALARA Review; dated September 18, 2004
CAP 039659; Entry into Posted Contamination Area Without Required Protective Clothing; dated September 20, 2004
CAP 038622; Decision Made to open Hatch Cover Without Contacting Radiation Protection Group; dated September 18, 2004
CAP 038666; Radiation Protection Hold Point No signed In SGT Work Package; dated September 20, 2004
CAP 038698; Contamination Still in Clean Area Outside Radiological Controlled Area; dated September 21, 2004
CAP 038732; Worker Had Two Assigned TLDs on TLD Rack; dated September 22, 2004
CAP 038753; Worker Left Security Access After Alarming Monitor Twice; dated September 22, 2004
CAP 038782; Radiological Area Posted Wrong; dated September 23, 2004
CAP 038784; Inadequate Control of Airborne Effluents at U1 Equipment Hatch; dated September 23, 2004
CAP 038790; Individual Contaminated at Equipment Hatch from Fall Protection Harness; dated September 23, 2004
CAP 038793; Clear Plastic (face shield covers) Found on Bridge in SFP Area; dated September 23, 2004
CAP 039954; Worker Entered RHR Pit HRA on Wrong RWP and Received Dose Alarm; dated September 27, 2004

2OS2 As Low As Is Reasonably Achievable Planning And Controls (ALARA)

PINGP 2004-SGR Outage Containment Scaffold ALARA Plan; Revision 0
PINGP 2004-SGR Outage Containment Structural Mods ALARA Plan; Revision 0
PINGP 2004-SGR Outage Equipment Hatch ALARA Plan; Revision 0
PINGP 2004-SGR Outage Primary and Secondary Side Water Level Control Plan; Revision 0
PINGP 2004-SGR Outage Install and Remove Temprary RCS and RCP Restraints and Lower Support Feet ALARA Plan; Revision 0
PINGP 2004-SGR Outage Insulation ALARA Plan; Revision 0
PINGP 2004-SGR Outage RCS Cutting and Welding Activities ALARA Plan; Revision 0
RPIP 1004; Radiation Protection ALARA Program; Revision 5
RPIP 1121; RWP Issue; Revision 20
RPIP 1160; ALARA Reviews; Revision 5
RWP 153; 755 Fuel Receiving SFP and Containment Transfer Canals; Revision 3
RWP 161; 755 Fuel Receiving Spent Fuel Pit; Revision 2
RWP 1089; U1 Containment - 735' Seal Table Area; Revision 0
RWP 1406; SGR Scaffolding Installation and Removal, Revision 0
RWP 1407; SGR Insulation Remove and Install and Associated Work in Containment and Annulus; Revision 0
RWP 1414; Temporary Supports Remove and Replace
RWP 1410; SGR RCS Cutting and Welding Activities; Revision 0
Spent Fuel Transfer Canal Drain, Decon and Associated Work ALARA Plan; Revision 0
CAP 038557; Dose Goal Discrepancy for RWP 1142; dated September 16, 2004
CAP 038558; Dose Goal For Spent Fuel Transfer Canal Exceeded; dated September 16, 2004
CAP 037974; ALARA Plan and Radiation Work Permit Were Not Adequate for Transfer Canal Work; dated August 18, 2004

4OA1 Performance Indicator Verification

CAP 031239; Containment Control in Locked High Radiation Area May Not be Adequate to Prevent Inadvertent Entry; dated July 8, 2003
CAP 033408; Locked High Radiation Area (Tech Spec HRA) Not Barricaded or Posted per TS 5.7.2; dated October 9, 2003

2OS3 Access Control to Radiologically Significant Areas

RWP 1406; SGR Scaffolding Installation and Removal; Revision 0
RWP 1407; SGR Insulation Remove and Install and Associated Work in Containment and Annulus; Revision 0
RWP1410; SGR: RCS Cutting and Welding Activities; Revision 0
RWP 1414; Temporary Supports Remove and Replace ; Revision 0
RWP 161; Drain-down, Decontamination, and Refill of the Spent Fuel Pool Transfer Canal; Revision 1
RWP 153; Inspection/Repair of Spent Fuel Pool and Containment Refuel Cavity Side Fuel Transfer System; Revision 3

2PS1 Radioactive Gaseous and Liquid Effluent Treatment and Monitoring Systems

CAP 009617; Investigate Reason for Factor of Eight Change in Silica Gel Tritium Efficiency
CAP 025782; Submersible Pump Without a Run Timer Installed in Unit 1Turbine Building Sump
CAP 029091; High Efficiency Particulate Air Filters Installed in Pre-filter Location in 121 Spent Fuel Pool Special and In-Service Purge Vent System
CAP 029579; Unit 2 Turbine Building Sump Compositor Timer Not Functioning Properly
CAP 029726; Gradbed ODCM Required Sample Greater Than 25 percent Late
CAP 035527; ODCM Requirements for Spent Fuel Pool Effluent Release Near Miss
CAP 037271; Isolation Not Holding During Performance of WO 0405984
CAP 037309; Waste Gas Release While Filling the 121 CVCS Holdup Tank
CAP 037652; Spikes on R-31 During Radiography in Barrel Yard
CAP 037717; Not All identified Assessment Issues Entered into Team Track
PINGP H Procedure; Offsite Dose Calculation Manual; Revision 18
PINGP 1314AA; Equipment/System Problem Investigation; Revision 2
PINGP 4505; Liquid Waste Tank Release Instructions; Revision 15
PINGP 4650; Gas Calibration of R22, R30, R35 and R37; Revision 0
PM 3557-1-21; 21 Containment Clean-up Charcoal Filter Quadrennial Replacement (232-021); Revision 8
PM 3557-1-22; 22 Containment Clean-up Charcoal Filter Quadrennial Replacement (232-022); Revision 8
SP 1027; Radiation Monitoring Calibration; Revision 21
SP 1140; 121 Spent Fuel Pool Special and In-Service Purge Ventilation System Filter Removal Efficiency Test; Revision 13
SP 1140.1; 121 Spent Fuel Pool Special and In-Service Purge Ventilation System Filter Removal Efficiency Test; Revision 15
SP 1140.2; 122 Spent Fuel Pool Special and In-Service Purge Ventilation System Filter Removal Efficiency Test; Revision 10
SP 1140.2; 122 Spent Fuel Pool Special and In-Service Purge Ventilation System Filter Removal Efficiency Test; Revision 12
SP 1172; Ventilation System Monthly Operation; Revision 30
SP 1176A; Auxiliary Building Special Ventilation Train A Flow Verification; Revision 2
SP 1176B; Auxiliary Building Special Ventilation Train B Flow Verification; Revision 1
SP 1184A; Spent Fuel Pool Special Ventilation Train A Flow Verification; Revision 1
SP 1184B; Spent Fuel Pool Special Ventilation Train B Flow Verification; Revision 1
SP1229; Effluent Radiation Monitoring Quarterly Functional Test; Revision 20
SP 1783.1; Westinghouse Radiation Monitor Electronic Calibration; Revision 6
SP 1783.2; NMC Rad Monitor Electronic Calibration; Revision 7
Observation Report 2004-002-6-022; NOO Report Radioactive Gaseous and Liquid Effluent Treatment and Monitoring Systems; dated June 25, 2004
NMC Assessment Handbook; Radioactive Waste Processing-Radioactive Gaseous and Liquid Effluent Treatment and Monitoring Systems; Revision 7
Chemistry Focused Self-Assessment Quarter-2 2004
2003 Annual Radioactive Effluent Report and ODCM; dated May 14, 2004
Prairie Island Update Safety Analysis Report; Section 7; Revision 26
Results of Radiochemistry Cross Check Program; dated July 8, 2004

4OA1 Performance Indicator Verification

Calculated Performance Indicator Data for the Unit 1 and Unit 2 Safety System Functional Failure for the 3rd Quarter 2003, 4th Quarter 2003, 1st Quarter 2004, and the 2nd Quarter 2004
Calculated Performance Indicator Data for the Unit 1 and Unit 2 Reactor Scrams for the 2nd Quarter 2003, 3rd Quarter 2003, 4th Quarter 2003, 1st Quarter 2004 and the 2nd Quarter 2004
Calculated Performance Indicator Data for the Unit 1 and Unit 2Unplanned Power Changes for the 3rd Quarter 2003, 4th Quarter 2003, 1st Quarter 2004, and the 2nd Quarter 2004
Calculated Performance Indicator Data for the Unit 1 and Unit 2 Reactor Coolant System Activity for the 3rd Quarter 2003, 4th Quarter 2003, 1st Quarter 2004, and the 2nd Quarter 2004
Unit 1 Operating Logs from April 1, 2003 through June 30, 2004
Unit 2 Operating Logs from April 1, 2003 through June 30, 2004
Plant Procedure H33.2; Mitigating Systems Cornerstone Unavailability Performance Indicator Reporting Instructions; Revision 7
Plant Procedure H33.1; Performance Indicator Reporting Instructions; Revision 5
Plant Procedure H33; Performance Indicator Reporting; Revision 5
CAP 031729; Emergency Plan Classification DEP [Drill/Exercise Performance]

4OA2 Identification and Resolution of Problems

Containment Fan Cooler Performance Testing

Letter to NRC from Prairie Island Nuclear Generating Plant; Generic Letter 89-13 Response; January 29, 1990
Procedure H21; Generic Letter 89-13 Implementing Program; Revision 8
CAP 026180; 12 FCU Fouling
CAP 029952; Postpone Unit 1 Containment Fan Coil Unit Performance Testing
CAP 032061; Unit 1 Containment Fan Coil Units Performance Tests Postponed
CAP 034309; Fan Coil Unit Performance Testing Does Not Appear to Meet GL 89-13 Response
CAP 035976; Postpone Unit 1 FCU Performance Testing From Until May or June 2004
CAP 036299; Additional Corrective Actions Related to ACE 008771
CAP 036991; The Unit 1 FCU Performance Test Work Orders Were Postponed

Flow Accelerated Corrosion Program Effectiveness

CAP 032418; FAC (Erosion/Corrosion) Program Assessed as Ineffective - Significant QA Finding
CAP 032698; Corporate Directive 5.17 for FAC is Vague and Weak
CAP 038568; Service Water Fleet Procedure Does Not Match PINGP Examination Methodology
Detailed Attachment to CAP 032418; FAC Program Shortfalls

EWR 009455; Issue Unit 1 FAC SSE [System Susceptibility Evaluation] as a Technical Manual

EWR 009456; Issue Unit 1 FAC SNM [Susceptible Non-Modeled Program] as a Technical Manual
EWR 009457; Issue Unit 2 FAC SSE as a Technical Manual
EWR 009458; Issue Unit 2 FAC SNM as a Technical Manual
ACE 008711; FAC (Erosion/Corrosion) Program Assessed as Ineffective - Significant QA Finding
OTH 007724; FAC (Erosion/Corrosion) Program Assessed as Ineffective - Significant QA Finding
OTH 007726; FAC (Erosion/Corrosion) Program Assessed as Ineffective - Significant QA Finding
OTH 007727; FAC (Erosion/Corrosion) Program Assessed as Ineffective - Significant QA Finding
OTH 007728; FAC (Erosion/Corrosion) Program Assessed as Ineffective - Significant QA Finding
OTH 007729; FAC (Erosion/Corrosion) Program Assessed as Ineffective - Significant QA Finding
OTH 007730; FAC (Erosion/Corrosion) Program Assessed as Ineffective - Significant QA Finding
OTH 007731; FAC (Erosion/Corrosion) Program Assessed as Ineffective - Significant QA Finding
OTH 007732; FAC (Erosion/Corrosion) Program Assessed as Ineffective - Significant QA Finding
OTH 007733; FAC (Erosion/Corrosion) Program Assessed as Ineffective - Significant QA Finding
PCR 007816; FAC (Erosion/Corrosion) Program Assessed as Ineffective - Significant QA Finding
Prairie Island FAC Program Elements
Prairie Island FAC Program Improvement Plan

4OA3 Event Followup

LER 05000282/2004-001-00; Condition Prohibited By TSs Caused by Miscalibration; June 18, 2004
CAP 035873; RM-23 High Alarm Setpoint Found OOT
CAP 035874; RM-24 Alarm Setpoints Found OOT During SP 1783.2
CE 004924; RM-23 High Alarm Setpoint Found OOT
CAP 036273; Hi & Hi Hi Alarm Setpoint for R-23 and R-24 Found Out of Tolerance
Root Cause Evaluation RCE 000191; Control Room Radiation Monitor Setpoint Miscalibration; Revision 0
CA 009047; Revise Setpoint Change Process(es) to Ensure Future Needs Are Implemented
5AWI3.14.1; Setpoint Control; Revision 14
Temporary Change Notice 2004-0405; Setpoint Control; April 28, 2004
CA 009048; Revise Calibration Card Setpoint File System
CA 009053; Revise CAI Card Setpoint File Users Manual

4OA5 Other Activities

Temporary Instruction 2515/153

Temporary Instruction 2515/153; Reactor Containment Sump Blockage
NRC Bulletin 2003-001; potential Impact of Debris Blockage on Emergency Sump Recirculation at Pressurized-Water Reactors
PINGP 60-Day Response Letter to Bulletin 2003-01; dated August 6, 2003
NRC Acknowledgment Letter for the Bulletin 2003-01 Response from NRC to Mr. J. Solymossy; dated August 25, 2003
PINGP Supplement to 60-Day Response to Bulletin 2003-01; dated May 14, 2004
NEI 02-01;Condition Assessment Guidelines: Debris Sources Inside PWR Containments
SP 2834; Unit 2 Containment Coating Inspection; Revision 1; completion date October 13, 2003
SP 1834; Unit Containment Coating Inspection; Revision 0; completion date November 24, 2002
SP 1001B; Unit 1 Control Room Log-Modes 1 and 2; Revision 5
SP 1750[2750]; Post Outage Containment Close-Out Inspection; Revision 26
Emergency Operating Procedure (EOP) 1E-1; Loss of Reactor or Secondary Coolant; Revision 21
EOP 1ES-1.2; Unit 1 Transfer to Recirculation; Revision 18
EOP 1ES-1.3; Unit 1 Transfer to Recirculation with One Safeguard Train Out of Service; Revision 13
Plant Safety Procedure F3-17.2; Long Term Core Cooling; Revision 0
Requalification Cycle 2004-01 Attendance Records
Requalification Cycle 2004-02 Attendance Records
Licensed Requalification Lesson Plan; Requalification Cycle 04-01; #P9104L-0101; NRC Bulletin 2003-01 and Procedure F3-17.2; Revision 0
Simulator Instructors Guide; Requalification Cycle 04-02; Lesson Plan P9160S-001; Title: SIG-04-02; Revision 0
Briefing Notes for NRC Bulletin 2003-01 and Procedure F3-17-2, Long Term Core Cooling (Training materials for Emergency Response Organization Supervisors, Group Leaders, and Technical Support Center Support Staff)
CE 000199; No Technical Basis is Given In Safety Evaluation #12 for Its Conclusions
Commitment (COM) 027516; NRC Commitment From Response to Bulletin 2003-01
COM 027517; NRC Commitment From Response to Bulletin 2003-01
COM 027519; NRC Commitment From Response to Bulletin 2003-01
COM 027520; NRC Commitment From Response to Bulletin 2003-01
COM 027521; NRC Commitment From Response to Bulletin 2003-01
COM 027522; NRC Commitment From Response to Bulletin 2003-01
COM 027523; NRC Commitment From Response to Bulletin 2003-01
EWR 026078; Evaluate Containment Level Instrument Uncertainty Application
EWR 026091; Determine Minimum Required Containment Spray Operation During LOCA
Operating Experience 026823; Potential Impact of Debris Blockage on Emergency Sump Recirculation at PWRs
OTH 026879; Determine Affects of Debris In the Residual Heat Removal System During Post-LOCA Recirculation

OTH 026881; Determine Affects of Debris In the Safety Injection System During Post-LOCA Recirculation

OTH 026882; Determine Affects of Debris On the Ability To Provide Core Cooling
RFT 028845; Assess the Need for Training Related to the New F3-17.2
RFT 026893; Provide Operator Training on Bulletin 2003-01

Closure of URI 05000282/2003005-01; 05000306/2003005-01

Design Basis Document DBD STR-02; Design Basis Document for the Auxiliary Building; Revision 2
Design Basis Document DBD STR-03; Design Basis Document for the Turbine Building; Revision 2
Pioneer Service and Engineering Company Structural Calculation Book 9
Stevens and Associates Calculation 02Q0357-C-001; Assessment of Old Service Building for Seismic and Tornado Loads
Stevens and Associates Calculation 03Q0418-C-001; Assessment of the Auxiliary Building for Tornado Loads
Stevens and Associates Calculation 03Q0418-C-002; Assessment of the Turbine Building for North-South Tornado Loads
Stevens and Associates Calculation 03Q0418-C-003; Assessment of the Turbine Building for East-West Tornado Loads
USAR Section 12.2.1.4.3.6
CAP 031668; Obstruction Block Auxiliary and Turbine Building Blowout Panels
OPR 000433; Obstruction Block Auxiliary and Turbine Building Blowout Panels
CAP 031775; Portions of Auxiliary and Turbine Buildings Designed for Less Than Required wind Loads
OPR 000434; Portions of Auxiliary and Turbine Buildings Designed for Less Than Required wind Loads
OBD 000064; Portions of Auxiliary and Turbine Buildings Designed for Less Than Required wind Loads

Closure of URI 00050282/2000013-05; 00050306/2000013-05

Calculation Number ENG-ME-202; PINGP CL System Model Database - Default Modes 1, 4 and 5; Revision 3
Calculation Number ENG-ME-350; Fan Coil Unit Two Phase Flow Analysis; Revision 0; Addendum 2
Calculation Number ENG-ME-474; CL System Operation During LOCA and Post-LOCA Recirculation; Revision 1
Proto-Power Calculation Number 01-043; Revision C of PINGP CL System Model Database; Revision A
Proto-Power Calculation Number 01-046; Evaluation of System Operation for Mode 4A and Post LOCA Recirculation with 93 Percent Pump Curves; Revision B
Condition Report 20004834; Need a Calculation to Demonstrate CL System Capability During Sump Recirculation; dated October 30, 2000
ASME OM Code; Part 6, Inservice Testing of Pumps in Light-Water Reactor Power Plants; Table 3b, Ranges for Test Parameters; 1987 Edition through 1988 Addenda
USAR Section 10.4.1; Cooling Water System; Revision 25

Discussion of URI 05000282/2000013-06; 05000306/2000013-06

J. A. Grobe (Division of Reactor Safety - Region III) Memorandum to S. C. Black (NRR); Request for Technical Assistance - Design Basis Assumptions for Non-Seismic Piping Failures at the Prairie Island Plant (TIA 2001-02); March 27, 2001
L. B. Marsh (NRR) Memorandum to J. A. Grobe (Division of Reactor Safety - Region III); Response to Task Interface Agreement (TIA 2001-02) and Task Interface Agreement (TIA 2001-04) Regarding Evaluation of Service Water System Design Basis Requirements at Prairie Island (TAC No. MB1402, MB1403, MB1855, and MB1856); August 29, 2002
Nuclear Management Company, LLC; Prairie Island Nuclear Generating Plant, Units 1 and 2; License Amendment Request (LAR) for Resolution of Unresolved Items Related to Methods for Evaluation of Cooling Water System; May 3, 2004

LIST OF ACRONYMS USED

ACE	Apparent Cause Evaluation
ADAMS	Agencywide Documents Access and Management System
ALARA	As-Low-As Reasonably Achievable
ASME	American Society of Mechanical Engineers
AWI	Administrative Work Instruction
CA	Corrective Action
CAP	Corrective Action Program
CE	Condition Evaluation
CFCU	Containment Fan Coil Unit
CFR	Code of Federal Regulations
CL	Cooling Water
COM	Commitment
DDCLP	Diesel-Driven Cooling Water Pump
DRP	Division of Reactor Projects
ECCS	Emergency Core Cooling Systems
EWR	Engineering Work Request
FAC	Flow Accelerated Corrosion
FCU	Fan Coil Unit
GL	Generic Letter
HRAs	High Radiation Area
ICCM	Inadequate Core Cooling Monitor
IMC	Inspection Manual Chapter
IR	Inspection Report
kV	kilo-Volt
LER	Licensee Event Report
LLRT	Local Leak Rate Test
LOCA	Loss of Coolant Accident
MRE	Maintenance Rule Evaluation
NCV	Non-Cited Violation
NEI	Nuclear Energy Institute
NMC	Nuclear Management Company, LLC
NRC	U.S. Nuclear Regulatory Commission
NRR	Office of Nuclear Reactor Regulation
OBD	Operable But Degraded
ODCM	Offsite Dose Calculations Manual
OOS	Out-of-Service
OPDT	Over Power Delta Temperature
OPR	Operability Recommendation
OTH	Other
PCR	Procedure Change Request
PINGP	Prairie Island Nuclear Generating Plant
PWR	Pressurized Water Reactor
QA	Quality Assurance
RCDT	Reactor Coolant Drain Tank
RCS	Reactor Coolant System
RETS	Radiological Effluent Technical Specifications
RHR	Residual Heat Removal System

RPT	Radiation Protection Technician
RVLIS	Reactor Vessel Level Indicating System
RWP	Radiation Work Permit
RWST	Refueling Water Storage Tank
SDP	Significance Determination Process
SI	Safety Injection
SNM	Susceptible Non-Modeled Program
SP	Surveillance Procedure
SSC	Structure, System, or Component
SSE	System Susceptibility Evaluation
TCV	Temperature Control Valve
TIA	Task Interface Agreement
TS	Technical Specifications
URI	Unresolved Item
USAR	Updated Safety Analysis Report
WO	Work Order