



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

REGION III
2443 WARRENVILLE ROAD, SUITE 210
LISLE, IL 60532-4352

August 08, 2008

Mr. David A. Christian
President and Chief Nuclear Officer
Dominion Energy Kewaunee, Inc.
Innsbrook Technical Center
5000 Dominion Boulevard
Glen Allen, VA 23060-6711

**SUBJECT: KEWAUNEE POWER STATION NRC INTEGRATED INSPECTION REPORT
05000305/2008003**

Dear Mr. Christian:

On June 30, 2008, the U.S. Nuclear Regulatory Commission (NRC) completed an integrated inspection at your Kewaunee Power Station. The enclosed report documents the inspection findings, which were discussed on July 16, 2008, with Mr. S. Scace and other members of your staff.

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

Based on the results of this inspection, one NRC-identified finding of very low safety significance was identified. The finding involved a violation of NRC requirements. However, because of its very low safety significance, and because the issue was entered into your corrective action program, the NRC is treating this issue as a Non-Cited Violation (NCV) in accordance with Section VI.A.1 of the NRC Enforcement Policy. Additionally, a licensee-identified violation is listed in Section 4OA7 of this report.

If you contest the subject or severity of this NCV, 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 Kewaunee Power Station.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records System (PARS)

Mr. D. Christian

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Sincerely,

/RA/

Michael Kunowski, Chief
Branch 5
Division of Reactor Projects

Docket No. 50-305
License No. DPR-43

Enclosure: Inspection Report 05000305/2008003
w/Attachment: Supplemental Information

cc w/encl: S. Scace, Site Vice President
M. Wilson, Director, Nuclear Safety and Licensing
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J. Kitsembel, Public Service Commission of Wisconsin
P. Schmidt, State Liaison Officer

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SUBJECT: KEWAUNEE POWER STATION NRC INTEGRATED INSPECTION REPORT
05000305/2008003

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No: 50-305
License No: DPR-43

Report No: 05000305/2008003

Licensee: Dominion Energy Kewaunee, Inc.

Facility: Kewaunee Power Station

Location: Kewaunee, WI

Dates: April 1, 2008, through June 30, 2008

Inspectors: S. Burton, Senior Resident Inspector
P. Higgins, Resident Inspector
J. Cassidy, Senior Health Physicist
T. Bilik, Reactor Inspector
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Approved by: Michael Kunowski, Chief
Branch 5
Division of Reactor Projects

Enclosure

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SUMMARY OF FINDINGS

IR 05000305/2008003; 03/31/2008 – 06/30/2008; Kewaunee Power Station; Adverse Weather Protection.

This report covers a three-month period of inspection by resident inspectors and announced baseline inspections by regional inspectors. One Green finding was identified by the inspectors. The finding was considered an NCV of NRC regulations. 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 4, dated December 2006.

A. NRC-Identified and Self-Revealed Findings

Cornerstone: Initiating Events

Green. A finding of very low safety significance (Green) and an NCV of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified by the inspectors following an inspection of licensee preparations for adverse weather protection. Specifically, the licensee failed to perform inspections for hot weather operations as required by plant procedure GNP-12.06.01, "Hot and Cold Weather Operations."

The finding was greater than minor in accordance with IMC 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening," dated September 20, 2007, because if left uncorrected would become a more significant safety concern. Specifically, the licensee failed to implement the provisions of GNP-12.06.01, "Hot and Cold Weather Operations," which resulted in a failure to ensure pre-summer readiness of numerous safety-related and risk-significant systems. The inspectors evaluated the finding using Attachment 0609.04, of IMC 0609, "Significance Determination Process," dated January 10, 2008, and answered "no" to all of the questions in the Initiating Events column; therefore, the finding was determined to be of very low safety significance. The inspectors determined that the primary cause for this finding was related to the cross-cutting area of human performance, work practices component, because personnel have been trained in the need for procedural use and adherence, but failed to follow applicable procedures. Specifically, the procedure which required the performance of plant inspections for hot weather operations, and the maintenance of QA documentation for these inspections, was not followed [H.4(b)] (Section 1R01.2).

B. Licensee-Identified Violations

A violation of very low safety significance that was identified by the licensee has been reviewed by inspectors. Corrective actions planned or taken 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

Kewaunee was shut down during the entire month of April for a refueling outage. Following refueling, the unit was restarted on May 8, 2008, reached full power operation on May 12, and operated at full power for the remainder of the inspection period with the following exception:

- On May 27, the unit power was reduced to 70% power to repair an oil leak on a turbine valve.

1. REACTOR SAFETY

Cornerstone: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Protection (71111.01)

.1 Readiness of Offsite and Alternate Alternating Current (AC) Power Systems

a. Inspection Scope

The inspectors verified that plant features and procedures for operation and continued availability of offsite and alternate AC power systems during adverse weather were appropriate. The inspectors reviewed the licensee's procedures affecting these areas and the communications protocols between the transmission system operator (TSO) and the plant to verify that the appropriate information was being exchanged when issues arose that could impact the offsite power system. Examples of aspects considered in the inspectors' review included:

- the coordination between the TSO and the plant during off-normal or emergency events;
- the explanations for the events;
- the estimates of when the offsite power system would be returned to a normal state; and
- the notifications from the TSO to the plant when the offsite power system was returned to normal.

The inspectors also verified that plant procedures addressed measures to monitor and maintain availability and reliability of both the offsite AC power system and the onsite alternate AC power system prior to or during adverse weather conditions. Specifically, the inspectors verified that the procedures addressed the following:

- the actions to be taken when notified by the TSO that the post-trip voltage of the offsite power system supplying power to the plant would not be acceptable to assure the continued operation of the safety-related loads without transferring to the onsite power supply;
- the compensatory actions identified to be performed if it is not possible to predict the post-trip voltage at the plant for the current grid conditions;

- a re-assessment of plant risk based on maintenance activities which could affect grid reliability, or the ability of the transmission system to provide offsite power; and
- the communications between the plant and the TSO when changes at the plant could impact the transmission system, or when the capability of the transmission system to provide adequate offsite power was challenged.

The inspectors also reviewed corrective action program items to verify that the licensee was identifying adverse weather issues at an appropriate threshold and entering them into their corrective action program in accordance with station corrective action procedures. Documents reviewed are listed in the Attachment.

This inspection constitutes one readiness of offsite and alternate AC power systems sample as defined in Inspection Procedure 71111.01-05.

b. Findings

No findings of significance were identified.

.2 Summer Seasonal Readiness Preparations

a. Inspection Scope

The inspectors performed a review of the licensee's preparations for summer weather for selected systems, including conditions that could lead to an extended drought as a result of high temperatures.

During the inspection, the inspectors focused on plant specific design features and the licensee's procedures used to mitigate or respond to adverse weather conditions. Additionally, the inspectors reviewed the Updated Safety Analysis Report (USAR) and performance requirements for systems selected for inspection, and verified that operator actions were appropriate as specified by plant specific procedures.

The inspectors' reviews focused specifically on the following plant systems:

- evaluation of station adverse weather procedures for extreme weather conditions; and
- walkdown inspection of safeguards alley.

The inspectors also reviewed corrective action program items to verify that the licensee was identifying adverse weather issues at an appropriate threshold and entering them into its corrective action program in accordance with station corrective action procedures. Documents reviewed are listed in the Attachment.

This inspection constitutes one seasonal adverse weather sample as defined in Inspection Procedure 71111.01-05.

b. Findings

Failure to Follow the Provisions of General Nuclear Procedure, GNP-12.06.01, "Hot and Cold Weather Operations"

Introduction: A finding of very low safety significance and an associated Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified by the inspectors for failure to perform inspections for hot weather operations as required by plant procedure GNP-12.06.01, "Hot and Cold Weather Operations."

Description: General Nuclear Procedure, GNP-12.06.01, "Hot and Cold Weather Operations," required that the licensee perform, prior to April 1, a pre-summer inspection checklist and that this checklist be retained as a Quality Assurance Record. This procedure required the licensee to perform pre-summer readiness inspections on numerous safety-related and risk-significant systems. On May 28, 2008, during a routine baseline inspection of adverse weather protection, the inspectors requested a copy of the completed checklist and the licensee was unable to produce a copy of the completed checklist. In condition report (CR) CR100329, dated May 31, 2008, the licensee documented that the procedural requirements of GNP-12.06.01, were recorded as completed in the schedule on May 23, 2008, but that completed checklist documentation to verify this could not be located. Corrective action (CA) CA076415 dated June 3, 2008, was initiated to determine the cause and corrective actions for this issue.

The inspectors determined that the licensee failed to implement the provisions of GNP-12.06.01, "Hot and Cold Weather Operations," because the licensee failed to complete the required inspections by April 1, 2008. Additionally, the licensee was unable to provide the inspectors with Quality Assurance Record documentation for its pre-summer inspection that was recorded as completed on May 23, 2008. After the end of the inspection period, the licensee provided a completed copy of GNP-12.06.01, dated June 27, 2008.

Analysis: The inspectors determined that the licensee's failure to complete the summer readiness inspections on safety-related equipment and risk-significant systems was contrary to procedure GNP-12.06.01 and was a performance deficiency.

The finding was determined to be greater than minor because the finding, if left uncorrected, would become a more significant safety concern. Specifically, failure to perform the inspections required by the procedure may result in inoperable or degraded safety-related equipment or risk-significant systems due to hot weather. The inspectors concluded this finding was associated with the Initiating Events Cornerstone.

The inspectors determined the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 - Initial Screening and Characterization of Findings," Table 4a for the Initiating Events Cornerstone. Since all of the questions in this cornerstone column were answered no, the finding was determined to be of very low safety significance (Green).

This finding has a cross-cutting aspect in the area of human performance, work practices component, because the licensee personnel have been trained on the need for

procedure use and adherence but failed to follow applicable procedures. Specifically, the licensee's failure to complete the summer readiness inspections on safety-related equipment and risk-significant systems was contrary to procedure GNP-12.06.01. [H.4(b)]

Enforcement: 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," requires, in part, that activities affecting quality be prescribed by documented instructions, procedures, or drawings of a type appropriate to the circumstances and be accomplished in accordance with these instructions, procedures, or drawings.

Contrary to the above, on April 1, 2008, the licensee failed to perform the activities prescribed by a documented procedure. Specifically, the licensee failed to implement the provisions of GNP-12.06.01, "Hot and Cold Weather Operations," which resulted in a failure to ensure pre-summer readiness of numerous safety-related and risk-significant systems.

Because this violation was of very low safety significance and it was entered into the licensee's corrective action program as CR 100329, and the inspections and documentation required by the procedure were completed as part of CA 076415, this violation is being treated as an NCV, consistent with Section VI.A.1 of the NRC Enforcement Policy (NCV 05000305/2008-003-01).

1R04 Equipment Alignment (71111.04)

.1 Quarterly Partial System Walkdowns

a. Inspection Scope

The inspectors performed partial system walkdowns of the following risk-significant systems:

- component cooling water train "A";
- emergency diesel generator "B";
- residual heat removal (RHR); and
- spent fuel pool cooling.

The inspectors selected these systems based on their risk significance relative to the Reactor Safety Cornerstones at the time they were inspected. The inspectors attempted to identify any discrepancies that could impact the function of the system, and, therefore, potentially increase risk. The inspectors reviewed applicable operating procedures, system diagrams, USAR, Technical Specification (TS) requirements, outstanding work orders, CRs, and the impact of ongoing work activities on redundant trains of equipment in order to identify conditions that could have rendered the systems incapable of performing their intended functions. The inspectors also walked down accessible portions of the systems to verify system components and support equipment were aligned correctly and operable. The inspectors examined the material condition of the components and observed operating parameters of equipment to verify that there were no obvious deficiencies.

The inspectors also verified that the licensee had properly identified and resolved equipment alignment problems that could cause initiating events or impact the capability

of mitigating systems or barriers and entered them into the corrective action program with the appropriate significance characterization. Documents reviewed are listed in the Attachment.

These activities constituted four partial system walkdown samples as defined in Inspection Procedure 71111.04-05.

b. Findings

No findings of significance were identified.

.2 Semi-Annual Complete System Walkdown

a. Inspection Scope

The inspectors performed a complete system alignment inspection of the emergency diesel generator "A" to verify the functional capability of the system. This system was selected because it was considered both safety-significant and risk-significant in the licensee's probabilistic risk assessment. The inspectors walked down the system to review mechanical and electrical equipment line-ups, electrical power availability, system pressure and temperature indications, component labeling, component lubrication, component and equipment cooling, hangers and supports, and operability of support systems, and to ensure that ancillary equipment or debris did not interfere with equipment operation. A review of a sample of past and outstanding work orders (WOs) was performed to determine whether any deficiencies significantly affected the system function. In addition, the inspectors reviewed the corrective action program (CAP) database to ensure that system equipment alignment problems were being identified and appropriately resolved. Documents reviewed are listed in the Attachment.

These activities constituted one complete system walkdown sample as defined in Inspection Procedure 71111.04-05.

b. Findings

No findings of significance were identified.

1R05 Fire Protection (71111.05)

.1 Routine Resident Inspector Tours (71111.05Q)

a. Inspection Scope

The inspectors conducted fire protection walkdowns which were focused on availability, accessibility, and the condition of firefighting equipment in the following risk-significant plant areas:

- auxiliary building mezzanine and basement;
- turbine building operations floor and mezzanine;
- auxiliary feed pump rooms and 480-volt bus rooms;
- emergency diesel generator "A"; and
- emergency diesel generator "B."

The inspectors reviewed areas to assess if the licensee had implemented a fire protection program that adequately controlled combustibles and ignition sources within the plant, effectively maintained fire detection and suppression capability, maintained passive fire protection features in good material condition, and had implemented adequate compensatory measures for out-of-service, degraded or inoperable fire protection equipment, systems, or features in accordance with the licensee's fire plan. The inspectors selected fire areas based on their overall contribution to internal fire risk as documented in the plant's Individual Plant Examination of External Events with later additional insights, their potential to impact equipment which could initiate or mitigate a plant transient, or their impact on the plant's ability to respond to a security event. The inspectors verified that fire hoses and extinguishers were in their designated locations and available for immediate use; that fire detectors and sprinklers were unobstructed; that transient material loading was within the analyzed limits; and fire doors, dampers, and penetration seals appeared to be in satisfactory condition. The inspectors also verified that minor issues identified during the inspection were entered into the licensee's corrective action program. Documents reviewed are listed in the Attachment.

These activities constituted five quarterly fire protection inspection samples as defined in Inspection Procedure 71111.05-05.

b. Findings

No findings of significance were identified.

1R06 Flooding (71111.06)

.1 Internal Flooding

a. Inspection Scope

The inspectors reviewed selected risk important plant design features and licensee procedures intended to protect the plant and its safety-related equipment from internal flooding events. The inspectors reviewed flood analyses and design documents, including the USAR, engineering calculations, and abnormal operating procedures to identify licensee commitments. In addition, the inspectors reviewed licensee drawings to identify areas and equipment that may be affected by internal flooding caused by the failure or misalignment of nearby sources of water, such as the fire suppression or the circulating water systems. The inspectors performed a walkdown of the following plant area(s) to assess the adequacy of watertight doors and verify drains and sumps were clear of debris and were operable, and that the licensee complied with its commitments:

- auxiliary building to safeguards alley watertight door (door 8); and
- Division 2 service water spray shield installed in Division 1 diesel generator room.

The inspectors also reviewed licensee's corrective action documents with respect to past flood-related items to verify the adequacy of the corrective actions. Documents reviewed are listed in the Attachment.

This inspection constitutes two internal flooding samples as defined in Inspection Procedure 71111.06-05.

b. Findings

No findings of significance were identified.

1R07 Annual Heat Sink Performance (71111.07)

.1 Heat Sink Performance

a. Inspection Scope

In April 2008, the inspectors reviewed the licensee's testing of auxiliary building basement fan coil units and associated heat exchangers to verify that potential deficiencies did not mask the licensee's ability to detect degraded performance, to identify any common cause issues that had the potential to increase risk, and to ensure that the licensee was adequately addressing problems that could result in initiating events that would cause an increase in risk. The inspectors reviewed the licensee's observations as compared against acceptance criteria, the correlation of scheduled testing and the frequency of testing, and the impact of instrument inaccuracies on test results. Inspectors also verified that test acceptance criteria considered differences between test conditions, design conditions, and testing conditions. Documents reviewed are listed in the Attachment.

This inspection constitutes one sample as defined in Inspection Procedure 71111.07-05.

b. Findings

Lack of Calculation to Show That the Auxiliary Building Fan Floor Fan Coil Units (FCUs) Can Perform Their Safety-Related Function at the Maximum Design Service Water Temperature

Introduction: The inspectors identified an unresolved item (URI) due to lack of a calculation to demonstrate that the auxiliary building fan floor FCUs can perform their safety-related function at the maximum design service water temperature of 80°F (degrees Fahrenheit) . Specifically, the inspectors questioned the adequacy of the licensee's corrective actions in resolving this issue. This issue is unresolved pending NRC review of the results of the new calculation.

Description: The auxiliary building floor contains two FCUs whose safety-related function is to maintain the temperature in the area at 120°F or less. This is the environment qualification temperature for the equipment that is located in this area, categorized as mild environment.

These FCUs are cooled by the service water system which has a maximum design inlet temperature of 80°F.

Last summer, the licensee commenced a reconstitution of its heating, ventilation and air conditioning calculations. During this effort, the licensee became aware that the calculation used to determine the amount of heat generated in the auxiliary building floor FCU area had several non-conservative assumptions. As an example of these non-conservatisms, the licensee assumed:

- A loss of off-site power (LOOP) during the postulated loss of coolant accident (LOCA) is the most limiting design basis accident for this case. This is a non-conservative assumption as there is additional heat loads generated from nonsafety-related components involved in a non-LOOP LOCA, such as lighting.
- That the refueling water storage tank (RWST) was full of water; therefore, some heat was exchanged with the tank during this scenario. This might not be the case since during a LOCA, the RWST would empty as the transient develops.
- That there is some leakage of hot air from the Zone SV [special ventilation] charcoal filters to the environment. The exhaust for this hot air is on the fan floor. The licensee assumed that some of this hot air leaked to the environment but no design basis was found for the number. The licensee performed a test and determined that the actual leakage was much less than what the calculation assumed; therefore, this is a non-conservative assumption.

Additionally, the calculation did not take into account the heat generated by the FCU pump motors.

All these non-conservatism questioned the operability of the auxiliary building fan FCUs as well as the other equipment in the area, which is supported by the system including the shield building and special ventilation zone air handling systems.

The licensee performed an operability evaluation and included all the non-conservatism from the previous calculation. The result of this operability evaluation was the FCUs were operable up to a service water inlet temperature of 71°F, but nonconforming with their design requirement of 80°F. Through this inspection cycle, the FCUs and supported systems have remained operable.

The licensee is currently performing a more thorough calculation.

The inspectors have the following concerns:

- The service water temperatures may rise to 71°F in approximately the June and July time frame (last year, service water inlet temperature of 77°F was recorded during July). If the licensee fails to prove operability of the FCUs by then, the plant would have to shutdown per TS 3.0.3.
- The inspectors believe that there is not enough conservatism in the design assumptions to prove operability above 71°F.

Currently, the licensee is taking the corrective actions necessary to resolve this issue. This issue is unresolved pending NRC review of the results of the calculation (URI 05000305/2008003-02).

1R08 Inservice Inspection Activities (71111.08P)

From March 26, 2008, through April 10, 2008, the inspectors conducted a review of the implementation of the licensee's Inservice Inspection (ISI) Program for monitoring degradation of the reactor coolant system (RCS), steam generator (SG) tubes, emergency feedwater systems, risk-significant piping and components and containment systems. Documents reviewed are listed in the Attachment.

The inspections described in Sections 1R08.1, 1R08.2, 1R08.3, IR08.4 and 1R08.5 below count as one inspection sample as defined in Inspection Procedure 71111.08-05.

.1 Piping Systems ISI

a. Inspection Scope

The inspectors observed the following non-destructive examinations mandated by the American Society of Mechanical Engineers (ASME) Code, Section XI, to evaluate compliance with the ASME Code, Section XI and Section V requirements and, if any indications and defects were detected, to determine if these were dispositioned in accordance with the ASME Code or an NRC approved alternative requirement.

- Ultrasonic examination (UT) of containment spray pump 1B discharge piping to penetration 29E, (6" elbow-to-pipe weld) weld RCS-W111;
- UT of containment spray pump 1B discharge piping to penetration 29E, (6" pipe-to-pipe weld) weld RCS-W112;
- Dye penetrant examination of containment spray pump 1B discharge piping to penetration 29E, (6" elbow-to-pipe weld) weld RCS-W111; and
- Dye penetrant examination of containment spray pump 1B discharge piping to penetration 29E, (6" pipe-to-pipe weld) weld RCS-W112.

The inspectors reviewed the following examination completed since the beginning of the previous refueling outage with relevant/recordable conditions/indications accepted for continued service to determine if acceptance was in accordance with the ASME Code, Section XI, or an NRC approved alternative.

- UT of steam generator weld SG-W10 ("B" SG girth weld).

The inspectors reviewed the following pressure boundary weld repairs completed on risk-significant systems since the beginning of the last refueling outage to verify that the welding and any associated non-destructive examinations were performed in accordance with the Construction Code and ASME Code, Section XI. Additionally, the inspectors reviewed the welding procedure specification and supporting weld procedure qualification records to determine if the weld procedure(s) were qualified in accordance with the requirements of Construction Code and the ASME Code Section IX.

- RCS replacement valve RC-46 pipe-to-valve welds (welds 05-14596-1, 2, and 7).
- Chemical and volume control (CVC) system valve CVC-204A pipe-to-valve welds (welds 06-10400-1, 2, and 3).

b. Findings

No findings of significance were identified.

.2 Reactor Pressure Vessel Upper Head Penetration Inspection Activities

a. Inspection Scope

The licensee replaced the reactor pressure vessel upper head in 2004. No examination was required pursuant to NRC Order EA-03-009 and none was conducted during the

previous or current refueling outage. Therefore, no NRC review was completed for this inspection procedure attribute.

b. Findings

No findings of significance were identified.

.3 Boric Acid Corrosion Control (BACC)

a. Inspection Scope

The inspectors observed the licensee's BACC visual examinations for portions of the reactor coolant, RHR, and safety injection (SI) systems and verified whether these visual examinations emphasized locations where boric acid leaks can cause degradation of safety significant components.

The inspectors reviewed the following licensee evaluation of a RCS component with boric acid deposits to determine if degraded components were documented in the corrective action system. The inspectors also evaluated corrective actions for any degraded RCS components to determine if they met ASME Code Section XI.

- CR094046; Active Packing Leak from RC-300A.

The inspectors reviewed the following corrective actions related to evidence of boric acid leakage to determine if the corrective actions completed were consistent with the requirements of ASME Code Section XI and 10 CFR Part 50, Appendix B, Criterion XVI.

- CR013095; Dry White Boric Acid at the Body/Bonnet for RHR-10B.
- CAP028202; Dry Boric Acid Deposit on SI-303B.

b. Findings

No findings of significance were identified.

.4 Steam Generator Tube Inspection Activities

a. Inspection Scope

No examination was required pursuant to the TSs and none was conducted during the current refueling outage. Therefore, no NRC review was completed for this inspection procedure attribute.

b. Findings

No findings of significance were identified.

.5 Identification and Resolution of Problems

a. Inspection Scope

The inspectors performed a review of ISI/SG related problems entered into the licensee's corrective action program and conducted interviews with licensee staff to determine if:

- the licensee had established an appropriate threshold for identifying ISI/SG related problems;
- the licensee had performed a root cause (if applicable) and taken appropriate corrective actions; and
- the licensee had evaluated operating experience and industry generic issues related to ISI and pressure boundary integrity.

The inspectors performed these reviews to evaluate compliance with 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," requirements.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification Program (71111.11)

.1 Resident Inspector Quarterly Review (71111.11Q)

a. Inspection Scope

On June 2, 2008, the inspectors observed a crew of licensed operators in the plant's simulator during licensed operator requalification examinations to verify that operator performance was adequate, evaluators were identifying and documenting crew performance problems, and training was being conducted in accordance with licensee procedures. The inspectors evaluated the following areas:

- licensed operator performance;
- crew's clarity and formality of communications;
- ability to take timely actions in the conservative direction;
- prioritization, interpretation, and verification of annunciator alarms;
- correct use and implementation of abnormal and emergency procedures;
- control board manipulations;
- oversight and direction from supervisors; and
- ability to identify and implement appropriate TS actions and Emergency Plan actions and notifications.

The crew's performance in these areas was compared to pre-established operator action expectations and successful critical task completion requirements. Documents reviewed are listed in the Attachment.

This inspection constitutes one quarterly licensed operator requalification program sample as defined in Inspection Procedure 71111.11.

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness (71111.12)

.1 Routine Quarterly Evaluations (71111.12Q)

a. Inspection Scope

The inspectors evaluated degraded performance issues involving the following risk-significant systems:

- diesel generator;
- auxiliary feedwater; and
- internal containment spray.

The inspectors reviewed events, such as where ineffective equipment maintenance had resulted in valid or invalid automatic actuations of engineered safeguards systems, and independently verified the licensee's actions to address system performance or condition problems in terms of the following:

- implementing appropriate work practices;
- identifying and addressing common cause failures;
- scoping of systems in accordance with 10 CFR 50.65(b) of the maintenance rule;
- characterizing system reliability issues for performance;
- charging unavailability for performance;
- trending key parameters for condition monitoring;
- ensuring 10 CFR 50.65(a)(1) or (a)(2) classification or re-classification; and
- verifying appropriate performance criteria for structures, systems, and components/functions classified as (a)(2) or appropriate and adequate goals and corrective actions for systems classified as (a)(1).

The inspectors assessed performance issues with respect to the reliability, availability, and condition monitoring of the system. In addition, the inspectors verified maintenance effectiveness issues were entered into the corrective action program with the appropriate significance characterization. Documents reviewed are listed in the Attachment.

This inspection constitutes three quarterly maintenance effectiveness samples as defined in Inspection Procedure 71111.12-05.

b. Findings

No findings of significance were identified.

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

.1 Maintenance Risk Assessments and Emergent Work Control

a. Inspection Scope

The inspectors reviewed the licensee's evaluation and management of plant risk for the maintenance and emergent work activities affecting risk-significant and safety-related equipment listed below to verify that the appropriate risk assessments were performed prior to removing equipment for work:

- review of outage risk safe shutdown assessment checklists;
- review of revision to Kewaunee probabilistic risk assessment risk summary;
- emergent issue on potential degraded voltage due to energization of main transformers;
- review of revision to probabilistic risk assessment safety monitor;
- risk management for schedule changes during the week of May 7, 2008;
- downpower due to leak in actuator on HRS-2A2, A2MSR intercept valve; and
- weekly schedule changes as a result of T-ave instrument spiking.

These activities were selected based on their potential risk significance relative to the Reactor Safety Cornerstones. As applicable for each activity, the inspectors verified that risk assessments were performed as required by 10 CFR 50.65(a)(4) and were accurate and complete. When emergent work was performed, the inspectors verified that the plant risk was promptly reassessed and managed. The inspectors reviewed the scope of maintenance work, discussed the results of the assessment with the licensee's probabilistic risk analyst or shift technical advisor, and verified plant conditions were consistent with the risk assessment. The inspectors also reviewed TS requirements and walked down portions of redundant safety systems, when applicable, to verify risk analysis assumptions were valid and applicable requirements were met. Documents reviewed are listed in the Attachment

These activities constituted seven samples as defined in Inspection Procedure 71111.13-05.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15)

.1 Operability Evaluations

a. Inspection Scope

The inspectors reviewed the following issues:

- pressure and level transmitter instrument tubing over-pressurization ;
- polar crane functional checks due to radio interference;
- operation of RHR, component cooling water, and service water prior to drain-down;

- operability of emergency diesel generator "B" following control switch failure;
- containment FCU unit "A" degraded due to tube plugging;
- boron found in steam generator "A" vault;
- boric acid on bio-shield wall from crack in wall; and
- special ventilation zone train "B" declared operable with train "B" back-draft damper degraded.

The inspectors selected these potential operability issues based on the risk-significance of the associated components and systems. The inspectors evaluated the technical adequacy of the evaluations to ensure that TS operability was properly justified and the subject component or system remained available such that no unrecognized increase in risk occurred. The inspectors compared the operability and design criteria in the appropriate sections of the TS and USAR to the licensee's evaluations, to determine whether the components or systems were operable. Where compensatory measures were required to maintain operability, the inspectors determined whether the measures in place would function as intended and were properly controlled. The inspectors determined, where appropriate, compliance with bounding limitations associated with the evaluations. Additionally, the inspectors also reviewed a sampling of corrective action documents to verify that the licensee was identifying and correcting any deficiencies associated with operability evaluations. Documents reviewed are listed in the Attachment.

This inspection constitutes eight samples as defined in Inspection Procedure 71111.15-05

b. Findings

No findings of significance were identified.

1R18 Plant Modifications (71111.18)

.1 Temporary Plant Modifications

a. Inspection Scope

The inspectors reviewed the following temporary modifications:

- diesel generator emergency fuel oil transfer temporary modification; and
- Furmanite™ repair of body-to-bonnet leak on feedwater heater manual isolation valve.

The inspectors compared the temporary configuration changes and associated 10 CFR 50.59 screening and evaluation information against the design basis, the USAR, and the TSs, as applicable, to verify that the modification did not affect the operability or availability of the affected systems. The inspectors also compared the licensee's information to operating experience information to ensure that lessons learned from other utilities had been incorporated into the licensee's decision to implement the temporary modification. The inspectors, as applicable, performed field verifications to ensure that the modifications were installed as directed; the modifications operated as expected; modification testing adequately demonstrated continued system operability, availability, and reliability; and that operation of the modifications did not impact the

operability of any interfacing systems. Lastly, the inspectors discussed the temporary modification with operations, engineering, and training personnel to ensure that the individuals were aware of how extended operation with the temporary modification in place could impact overall plant performance. Documents reviewed are listed in the Attachment

This inspection constitutes two temporary modification samples as defined in Inspection Procedure 71111.18-05.

b. Findings

No findings of significance were identified.

.2 Permanent Plant Modifications

a. Inspection Scope

The following engineering design package was reviewed and selected aspects were discussed with engineering personnel:

- auxiliary feedwater pump flow control upgrade; and
- main transformer replacement.

This document and related documentation were reviewed for adequacy of the associated 10 CFR 50.59 safety evaluation screening, consideration of design parameters, implementation of the modification, post-modification testing, and to verify that relevant procedures, design, and licensing documents were properly updated. The inspectors observed ongoing and completed work activities to verify that installation was consistent with the design control documents. Documents reviewed are listed in the Attachment

This inspection constitutes two samples as defined in Inspection Procedure 71111.18-05.

b. Findings

No findings of significance were identified.

1R19 Post-Maintenance Testing (71111.19)

.1 Post-Maintenance Testing

a. Inspection Scope

The inspectors reviewed the following post-maintenance activities to verify that procedures and test activities were adequate to ensure system operability and functional capability:

- reactor protection system relay lug replacement and relay termination retest;
- emergency diesel generator "A" voltage regulator retest after repair;

- post-maintenance testing on safety injection “B” accumulator isolation valve following maintenance;
- post-maintenance testing on energizing new transformers;
- post-maintenance testing on local leak rate test for SI-351A;
- post-maintenance testing on local leak rate test for SI-51B;
- post-maintenance testing on emergency diesel generator “B” following 18-month overhaul;
- post-maintenance testing on emergency diesel generator “B” following fuel pump repairs;
- post-maintenance testing on emergency diesel generator following voltage spiking repairs;
- post-maintenance testing on component cooling water pump “B” wear-ring scoring;
- post-maintenance testing on RHR pump “B” following flange repairs;
- post-maintenance testing on auxiliary feedwater motor-driven pump lube oil cooler and recirculation line; and
- turbine-driven auxiliary feedwater pump post-maintenance test following modifications.

These activities were selected based upon the structure, system, or component's ability to impact risk. The inspectors evaluated these activities for the following (as applicable): the effect of testing on the plant had been adequately addressed; testing was adequate for the maintenance performed; acceptance criteria were clear and demonstrated operational readiness; test instrumentation was appropriate; tests were performed as written, in accordance with properly reviewed and approved procedures; equipment was returned to its operational status following testing (temporary modifications or jumpers required for test performance were properly removed after test completion), and test documentation was properly evaluated. The inspectors evaluated the activities against TSs, the USAR, 10 CFR Part 50 requirements, licensee procedures, and various NRC generic communications to ensure that the test results adequately ensured that the equipment met the licensing basis and design requirements. In addition, the inspectors reviewed corrective action documents associated with post-maintenance tests to determine whether the licensee was identifying problems and entering them in the corrective action program and that the problems were being corrected commensurate with their importance to safety. Documents reviewed are listed in the Attachment.

This inspection constitutes thirteen samples as defined in Inspection Procedure 71111.19-05.

b. Findings

No findings of significance were identified.

1R20 Outage Activities (71111.20)

.1 Refueling Outage Activities

a. Inspection Scope

The inspectors reviewed the shutdown risk management activities and contingency plans for the refueling outage, conducted March 29 through May 8, 2008, to confirm that the licensee had appropriately considered risk, industry experience, and previous site-specific problems in developing and implementing a plan that assured maintenance of defense-in-depth. During the refueling outage, the inspectors observed portions of the shutdown and cool-down processes and monitored licensee controls over the outage activities listed below. Documents reviewed during the inspection are listed in the Attachment.

- licensee configuration management;
- implementation of clearance and tagging activities;
- controls over the status and configuration of electrical systems;
- monitoring of decay heat removal processes, systems, and components;
- controls to ensure that outage work was not impacting the ability of the operators to operate the spent fuel pool cooling system;
- reactor water inventory controls;
- reactor vessel head-lift;
- repair of fuel transfer system in the spent fuel pool canal;
- pre-200°F containment walk-down to verify that debris had not been left which could block emergency core cooling system suction strainers;
- controls over activities that could affect reactivity;
- tracking of startup prerequisites;
- startup and ascension to full power operation;
- reactor physics testing; and
- licensee identification and resolution of problems related to refueling outage activities.

This inspection constitutes one refueling outage sample as defined in Inspection Procedure 71111.20-05.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22)

.1 Routine Surveillance Testing

a. Inspection Scope

The inspectors reviewed the test results for the following activities to determine whether risk-significant systems and equipment were capable of performing their intended safety function and to verify testing was conducted in accordance with applicable procedural and TS requirements:

- FCU “1B” coil inspection;
- emergency diesel generator “A” inspection and retest;
- containment pressure instrument channels test;
- SI-13B, safety injection to loop “B” check valve leakage measurement; and
- main steam isolation valve solenoid test.

The inspectors observed in-plant activities and reviewed procedures and associated records to determine whether: any preconditioning occurred; effects of the testing were adequately addressed by control room personnel or engineers prior to the commencement of the testing; acceptance criteria were clearly stated, demonstrated operational readiness, and were consistent with the system design basis; plant equipment calibration was correct, accurate, and properly documented; as left setpoints were within required ranges; the calibration frequency was in accordance with TSs, the 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 frequencies met TS requirements to demonstrate operability and reliability; 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 and results were accurate, complete, within limits, and valid; test equipment was removed after testing; where applicable, test results not meeting acceptance criteria were addressed with an adequate operability evaluation or the system or component was declared inoperable; where applicable for safety-related instrument control surveillance tests, reference setting data were accurately incorporated in the test procedure; where applicable, actual conditions encountering high resistance electrical contacts were such that the intended safety function could still be accomplished; prior procedure changes had not provided an opportunity to identify problems encountered during the performance of the surveillance or calibration test; equipment was returned to a position or status required to support the performance of the safety functions; and all problems identified during the testing were appropriately documented and dispositioned in the corrective action program. Documents reviewed are listed in the Attachment.

This inspection constitutes five routine surveillance testing samples as defined in Inspection Procedure 71111.22, sections -02 and -05.

b. Findings

No findings of significance were identified.

.2 Inservice Testing Surveillance

a. Inspection Scope

The inspectors reviewed the test results for the following activities to determine whether risk-significant systems and equipment were capable of performing their intended safety function and to verify testing was conducted in accordance with applicable procedural and TS requirements:

- residual heat removal pump “A” full flow test at refueling shutdown;
- residual heat removal pump “B” full flow test at refueling shutdown; and
- safety injection flow test.

The inspectors observed activities and reviewed procedures and associated records to determine whether: any preconditioning occurred; effects of the testing were adequately addressed by control room personnel or engineers prior to the commencement of the testing; acceptance criteria were clearly stated, demonstrated operational readiness, and were consistent with the system design basis; plant equipment calibration was correct, accurate, and properly documented; as left setpoints were within required ranges; the calibration frequency were in accordance with TSs, the 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 frequencies met TS requirements to demonstrate operability and reliability; 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 and results were accurate, complete, within limits, and valid; test equipment was removed after testing; where applicable for inservice testing activities, testing was performed in accordance with the applicable version of Section XI, 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 the system or component was declared inoperable; where applicable for safety-related instrument control surveillance tests, reference setting data were accurately incorporated in the test procedure; where applicable, actual conditions encountering high resistance electrical contacts were such that the intended safety function could still be accomplished; prior procedure changes had not provided an opportunity to identify problems encountered during the performance of the surveillance or calibration test; 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 and dispositioned in the corrective action program. Documents reviewed are listed in the Attachment.

This inspection constitutes three inservice testing samples as defined in Inspection Procedure 71111.22.

b. Findings

No findings of significance were identified.

.3 Reactor Coolant System Leak Detection Inspection Surveillance

The inspectors reviewed the test results for the following activities to determine whether the equipment was capable of performing its intended function of monitoring RCS leakage and to verify testing was conducted in accordance with applicable procedural and TS requirements:

- RCS leak rate check.

The inspectors observed in plant activities and reviewed procedures and associated records to determine whether: preconditioning occurred; effects of the testing were adequately addressed by control room personnel or engineers prior to the commencement of the testing; acceptance criteria were clearly stated, demonstrated operational readiness, and were consistent with the system design basis; plant equipment calibration was correct, accurate, and properly documented; as left setpoints were within required ranges; the calibration frequency were in accordance with TSs, the

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 frequencies met TS requirements to demonstrate operability and reliability; 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 and results were accurate, complete, within limits, and valid; test equipment was removed after testing; where applicable, test results not meeting acceptance criteria were addressed with an adequate operability evaluation or the system or component was declared inoperable; where applicable for safety-related instrument control surveillance tests, reference setting data were accurately incorporated in the test procedure; where applicable, actual conditions encountering high resistance electrical contacts were such that the intended safety function could still be accomplished; prior procedure changes had not provided an opportunity to identify problems encountered during the performance of the surveillance or calibration test; 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 and dispositioned in the corrective action program. Documents reviewed are listed in the Attachment.

This inspection constitutes one reactor coolant system leak detection inspection sample as defined in Inspection Procedure 71111.22.

b. Findings

No findings of significance were identified.

.4 Containment Isolation Valve Testing

The inspectors reviewed the test results for the following activities to determine whether risk-significant systems and equipment were capable of performing their intended safety function and to verify testing was conducted in accordance with applicable procedural and TS requirements:

- post-LOCA valves timing test SP-55-167-4A.

The inspectors observed in-plant activities and reviewed procedures and associated records to determine whether: any preconditioning occurred; effects of the testing were adequately addressed by control room personnel or engineers prior to the commencement of the testing; acceptance criteria were clearly stated, demonstrated operational readiness, and were consistent with the system design basis; plant equipment calibration was correct, accurate, and properly documented; as left setpoints were within required ranges; the calibration frequency were in accordance with TSs, the 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 frequencies met TS requirements to demonstrate operability and reliability; 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 and results were accurate, complete, within limits, and valid; test equipment was removed after testing; where applicable, test results not meeting acceptance criteria were addressed with an adequate operability evaluation or the system or component was declared

inoperable; where applicable, actual conditions encountering high resistance electrical contacts were such that the intended safety function could still be accomplished; prior procedure changes had not provided an opportunity to identify problems encountered during the performance of the surveillance or calibration test; 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 and dispositioned in the corrective action program. Documents reviewed are listed in the Attachment.

This inspection constitutes one containment isolation valve inspection sample as defined in Inspection Procedure 71111.22.

b. Findings

No findings of significance were identified.

Cornerstone: Emergency Preparedness

1EP2 Alert and Notification System Evaluation (71114.02)

.1 Alert and Notification System Evaluation

a. Inspection Scope

The inspectors reviewed documents and conducted discussions with emergency preparedness (EP) staff regarding the operation, maintenance, and periodic testing of the Alert and Notification System (ANS) in the Kewaunee Power Station's plume pathway Emergency Planning Zone. The inspectors reviewed monthly trend reports and siren test failure records from October 2006 through May 2008. Information gathered during document reviews and interviews was used to determine whether the ANS equipment was maintained and tested in accordance with Emergency Plan commitments and procedures. Additionally, the inspectors observed a siren test to evaluate procedure usage and interaction between licensee staff and county officials. Documents reviewed are listed in the Attachment.

This inspection constitutes one sample as defined in Inspection Procedure 71114.02-05.

b. Findings

No findings of significance were identified.

1EP3 Emergency Response Organization Augmentation Testing (71114.03)

.1 Emergency Response Organization Augmentation Testing

a. Inspection Scope

The inspectors reviewed and discussed with plant EP staff the emergency plan commitments and procedures that addressed the primary and alternate methods of initiating an Emergency Response Organization (ERO) activation to augment the on shift ERO as well as the provisions for maintaining the plant's ERO emergency telephone book. The inspectors also reviewed reports and a sample of corrective action program

records of unannounced off-hour augmentation tests, which were conducted from December 2006 through June 2008, to determine the adequacy of post-drill critiques and associated corrective actions. The inspectors also reviewed a sample of the EP training records, approximately 27 records for ERO personnel, who were assigned to key and support positions, to determine the status of their training as it related to their assigned ERO positions. Also, the inspectors conducted a walkdown of the technical support center to evaluate material condition and readiness of the facility. Documents reviewed are listed in the Attachment.

This inspection constitutes one sample as defined in Inspection Procedure 71114.03-05.

b. Findings

No findings of significance were identified.

1EP5 Correction of Emergency Preparedness Weaknesses and Deficiencies (71114.05)

.1 Correction of Emergency Preparedness Weaknesses and Deficiencies

a. Inspection Scope

The inspectors reviewed a sample of nuclear oversight staff's 2007 and 2008 annual audits of the Kewaunee Power Station EP program to determine that these independent assessments met the requirements of 10 CFR 50.54(t). The inspectors also reviewed critique reports and samples of corrective action program records associated with the 2007 biennial exercise, as well as various EP drills conducted in 2006, 2007, and 2008, to determine that the licensee fulfilled its drill commitments and to evaluate the licensee's efforts to identify, track, and resolve concerns identified during these activities. Additionally, the inspectors reviewed a sample of EP items and corrective actions related to the facility's EP program and activities to determine whether corrective actions were completed in accordance with the sites corrective action program. Documents reviewed are listed in the Attachment.

This inspection constitutes one sample as defined in Inspection Procedure 71114.05-05.

b. Findings

No findings of significance were identified.

1EP6 Drill Evaluation (71114.06)

.1 Emergency Preparedness Drill Observation

a. Inspection Scope

The inspectors evaluated the conduct of a routine licensee full activation emergency drill on June 2, 2008, to identify any weaknesses and deficiencies in classification, notification, and protective action recommendation development activities. The inspectors observed emergency response operations in the simulator and technical support center to determine whether the event classification, notifications, and protective action recommendations were performed in accordance with procedures. The

inspectors also attended the licensee drill critique to compare any inspector-observed weakness with those identified by the licensee staff in order to evaluate the critique and to verify whether the licensee staff was properly identifying weaknesses and entering them into the corrective action program. As part of the inspection, the inspectors reviewed the drill package and other documents listed in the Attachment.

This inspection constitutes one sample as defined in Inspection Procedure 71114.06-05.

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 Plant Walkdowns and Radiation Work Permit (RWP) Reviews

a. Inspection Scope

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

- containment building;
- refueling floor; and
- various portions of the auxiliary building.

The inspectors reviewed the RWPs and work packages used to access these 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.

The inspectors walked down and surveyed (using an NRC survey meter) these 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.

The inspectors reviewed RWPs for airborne radioactivity areas 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 : The 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.

Documents reviewed are listed in the Attachment.

This inspection constitutes four samples as defined in Inspection Procedure 71121.01-5.

b. Findings

No findings of significance were identified.

.2 Problem Identification and Resolution

a. Inspection Scope

The inspectors reviewed licensee documentation packages for all performance indicator (PI) events occurring since the last inspection to determine if any of these PI events involved dose rates >25 R/hour at 30 centimeters or >500 R/hour 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. Documents reviewed are listed in the Attachment.

This inspection constitutes one sample as defined in Inspection Procedure 71121.01-5.

b. Findings

No findings of significance were identified.

.3 Job-In-Progress Reviews

a. Inspection Scope

The inspectors observed 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 and reviewed radiological job requirements for the following activities including RWP requirements and work procedure requirements:

- reactor coolant pump "1B" removal;
- repair of RHR-2A valve; and
- cleaning of reactor head studs.

Job performance was observed with respect to these requirements to assess whether radiological conditions in the work area were adequately communicated to workers through pre-job briefings and postings. The inspectors also evaluated the adequacy of radiological controls, including required radiation, contamination, and airborne surveys for system breaches; radiation protection job coverage, including any applicable audio and visual surveillance for remote job coverage; and contamination controls.

Radiological work in high radiation work areas having significant dose rate gradients was reviewed to evaluate the application of dosimetry to effectively monitor exposure to personnel and to assess the adequacy of licensee controls. These work areas involved

areas where the dose rate gradients were severe, thereby increasing the necessity of providing multiple dosimeters or enhanced job controls.

Documents reviewed are listed in the Attachment.

This inspection constitutes five samples as defined in Inspection Procedure 71121.01-5.

b. Findings

No findings of significance were identified.

.4 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, of the RWP controls and limits in place, and of the level of radiological hazards present. The inspectors also evaluated that worker performance accounted for these radiological hazards. Documents reviewed are listed in the Attachment.

This inspection constitutes one sample as defined in Inspection Procedure 71121.01-5.

b. Findings

No findings of significance were identified.

.5 Radiation Protection Technician (RPT) 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, of 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. Documents reviewed are listed in the Attachment.

This inspection constitutes one sample as defined in Inspection Procedure 71121.01-5.

b. Findings

No findings of significance were identified.

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

.1 Inspection Planning

a. Inspection Scope

The inspectors reviewed plant collective exposure history, current exposure trends, and ongoing and planned activities to assess current performance and exposure challenges. This included determining the plant's current 3-year rolling average for collective exposure in order to help establish resource allocations and to provide a perspective of significance for any resulting inspection finding assessment.

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

The inspectors reviewed documents to determine if there were site-specific trends in collective exposures and source-term measurements.

The inspectors reviewed procedures associated with maintaining occupational exposures ALARA and processes used to estimate and track work activity specific exposures.

Documents reviewed are listed in the Attachment.

This inspection constitutes four required samples as defined in Inspection Procedure 71121.02-5.

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 work activities of highest exposure significance:

- reactor coolant pump "1B" removal;
- repair of RHR-2A valve; and
- cleaning of reactor head studs.

For these three activities, the inspectors reviewed the ALARA work activity evaluations, exposure estimates, and exposure mitigation requirements to verify that the licensee had established procedures and engineering and work controls that were based on sound radiation protection principles to achieve occupational exposures that were ALARA. This also involved determining that the licensee had reasonably grouped the radiological work into work activities, based on historical precedence, industry norms, and/or special circumstances.

The integration of ALARA requirements into work procedure and RWP documents was evaluated to verify that the licensee's radiological job planning would reduce dose.

Documents reviewed are listed in the Attachment.

This inspection constitutes two required samples and one optional sample as defined in Inspection Procedure 71121.02-5.

b. Findings

No findings of significance were identified.

.3 Job Site Inspections and ALARA Control

a. Inspection Scope

The inspectors observed the following three 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:

- reactor coolant pump "1B" removal;
- repair of RHR-2A valve; and
- cleaning of reactor head studs.

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. Documents reviewed are listed in the Attachment.

This inspection constitutes one required sample as defined in Inspection Procedure 71121.02-5

b. Findings

No findings of significance were identified.

.4 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 by complying with work activity controls. Also, radiation worker training and skill levels were reviewed to determine if they were sufficient relative to the radiological hazards and the work involved. Documents reviewed are listed in the Attachment.

This inspection constitutes one required sample as defined in Inspection Procedure 71121.02-5.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

40A1 Performance Indicator (PI) Verification (71151-05)

.1 Safety System Functional Failures

a. Inspection Scope

The inspectors sampled licensee submittals for the Safety System Functional Failures PI from the fourth quarter 2007 through the first quarter 2008. To determine the accuracy of the PI data, the inspector used definitions and guidance in Nuclear Energy Institute (NEI) document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 5, and NUREG-1022, "Event Reporting Guidelines 10 CFR 50.72 and 50.73". The inspectors reviewed the licensee's operator narrative logs, operability assessments, maintenance rule records, maintenance work orders, issue reports, event reports, and NRC Inspection reports to validate the accuracy of the submittals. The inspectors also reviewed the licensee's issue report database to determine if any problems had been identified with the PI data collected or transmitted for this indicator and none were identified. Documents reviewed are listed in the Attachment.

This inspection constitutes one safety system functional failures sample as defined in Inspection Procedure 71151-05.

b. Findings

No findings of significance were identified.

.2 Mitigating Systems Performance Index - Emergency AC Power Systems

a. Inspection Scope

The inspectors sampled licensee submittals for the Mitigating Systems Performance Index (MSPI) - Emergency AC Power Systems from the first quarter 2007 through the first quarter 2008. To determine the accuracy of the data, the inspectors used definitions and guidance contained in NEI 99-02. The inspectors reviewed the licensee's operator narrative logs, MSPI derivation reports, issue reports, event reports, and NRC inspection reports for the above period to validate the accuracy of the submittals. The inspectors reviewed the MSPI component risk coefficient to determine if it had changed by more than 25 percent in value since the previous inspection, and if so, that the change was in accordance with applicable NEI guidance. The inspectors also reviewed the licensee's issue report database to determine if any problems had been identified with the PI data collected or transmitted for this indicator and none were identified. Documents reviewed are listed in the Attachment.

This inspection constitutes one MSPI emergency AC power systems sample as defined in Inspection Procedure 71151-05.

b. Findings

No findings of significance were identified.

.3 Mitigating Systems Performance Index - High Pressure Injection Systems

a. Inspection Scope

The inspectors sampled licensee submittals for the Mitigating Systems Performance Index - High Pressure Injection Systems from the first quarter 2007 through the first quarter 2008. To determine the accuracy of the data, the inspectors used definitions and guidance contained in NEI 99-02. The inspectors reviewed the licensee's operator narrative logs, MSPI derivation reports, issue reports, event reports, and NRC inspection reports for the above period to validate the accuracy of the submittals. The inspectors reviewed the MSPI component risk coefficient to determine if it had changed by more than 25 percent in value since the previous inspection, and if so, that the change was in accordance with applicable NEI guidance. The inspectors also reviewed the licensee's issue report database to determine if any problems had been identified with the data collected or transmitted for this indicator and none were identified. Documents reviewed are listed in the Attachment.

This inspection constitutes one MSPI high pressure injection systems sample as defined in Inspection Procedure 71151-05.

b. Findings

No findings of significance were identified.

.4 Mitigating Systems Performance Index - Heat Removal Systems

a. Inspection Scope

The inspectors sampled licensee submittals for the MSPI - Heat Removal Systems from the first quarter 2007 through the first quarter 2008. To determine the accuracy of the data, the inspectors used definitions and guidance contained in NEI 99-02. The inspectors reviewed the licensee's operator narrative logs, MSPI derivation reports, issue reports, event reports, and NRC inspection reports for the above period to validate the accuracy of the submittals. The inspectors reviewed the MSPI component risk coefficient to determine if it had changed by more than 25 percent in value since the previous inspection, and if so, that the change was in accordance with applicable NEI guidance. The inspectors also reviewed the licensee's issue report database to determine if any problems had been identified with the data collected or transmitted for this indicator and none were identified. Documents reviewed are listed in the Attachment.

This inspection constitutes one MSPI heat removal systems sample as defined in Inspection Procedure 71151-05.

b. Findings

No findings of significance were identified.

.5 Mitigating Systems Performance Index - Residual Heat Removal Systems

a. Inspection Scope

The inspectors sampled licensee submittals for the MSPI - Residual Heat Removal Systems from the first quarter 2007 through the first quarter 2008. To determine the accuracy of the data, the inspectors used definitions and guidance contained in NEI 99-02. The inspectors reviewed the licensee's operator narrative logs, MSPI derivation reports, issue reports, event reports, and NRC inspection reports for the above period to validate the accuracy of the submittals. The inspectors reviewed the MSPI component risk coefficient to determine if it had changed by more than 25 percent in value since the previous inspection, and if so, that the change was in accordance with applicable NEI guidance. The inspectors also reviewed the licensee's issue report database to determine if any problems had been identified with the data collected or transmitted for this indicator and none were identified. Documents reviewed are listed in the Attachment.

This inspection constitutes one MSPI residual heat removal systems sample as defined in Inspection Procedure 71151-05.

b. Findings

No findings of significance were identified.

.6 Mitigating Systems Performance Index - Cooling Water Systems

a. Inspection Scope

The inspectors sampled licensee submittals for the MSPI - Cooling Water Systems from the first quarter 2007 through the first quarter 2008. To determine the accuracy of the data, the inspectors used definitions and guidance contained in NEI 99-02. The inspectors reviewed the licensee's operator narrative logs, MSPI derivation reports, issue reports, event reports, and NRC inspection reports for the above period to validate the accuracy of the submittals. The inspectors reviewed the MSPI component risk coefficient to determine if it had changed by more than 25 percent in value since the previous inspection, and if so, that the change was in accordance with applicable NEI guidance. The inspectors also reviewed the licensee's issue report database to determine if any problems had been identified with the data collected or transmitted for this indicator and none were identified. Documents reviewed are listed in the Attachment.

This inspection constitutes one MSPI cooling water systems sample as defined in Inspection Procedure 71151-05.

b. Findings

No findings of significance were identified.

.7 Drill/Exercise Performance

a. Inspection Scope

The inspectors sampled licensee submittals for the Drill/Exercise Performance PI from the 4th quarter 2007 through 1st quarter 2008. To determine the accuracy of the data, the inspectors used definitions and guidance contained in NEI 99-02. The inspectors reviewed the licensee's records associated with the PI to verify that the licensee accurately reported the indicator in accordance with relevant procedures and the NEI guidance. Specifically, the inspectors reviewed licensee records and processes, including procedural guidance on assessing opportunities for the PI, assessments of PI opportunities during predesignated control room simulator training sessions, performance during the 2007 biennial exercise, and performance during other drills. Documents reviewed are listed in the Attachment.

This inspection constitutes one drill/exercise performance sample as defined in Inspection Procedure 71151-05.

b. Findings

No findings of significance were identified.

.8 Emergency Response Organization Drill Participation

a. Inspection Scope

The inspectors sampled licensee submittals for the ERO Drill Participation PI from the 4th quarter 2007 through 1st quarter 2008. To determine the accuracy of the data, the inspectors used definitions and guidance contained in NEI 99-02. The inspectors reviewed the licensee's records associated with the PI to verify that the licensee accurately reported the indicator in accordance with relevant procedures and the NEI guidance. Specifically, the inspectors reviewed licensee records and processes, including procedural guidance on assessing opportunities for the PI, performance during the 2007 biennial exercise and other drills, and revisions of the roster of personnel assigned to key emergency response organization positions. Documents reviewed are listed in the Attachment.

This inspection constitutes one ERO drill participation sample as defined in Inspection Procedure 71151-05.

b. Findings

No findings of significance were identified.

.9 Alert and Notification System

a. Inspection Scope

The inspectors sampled licensee submittals for the Alert and Notification System PI from the 4th quarter 2007 through 1st quarter 2008. To determine the accuracy of the data, the inspectors used PI definitions and guidance contained in NEI Document 99-02. The

inspectors reviewed the licensee's records associated with the PI to verify that the licensee accurately reported the indicator in accordance with relevant procedures and the NEI guidance. Specifically, the inspectors reviewed licensee records and processes, including procedural guidance on assessing opportunities for the PI and results of periodic alert and notification system operability tests. Documents reviewed are listed in the Attachment.

This inspection constitutes one alert and notification system sample as defined in Inspection Procedure 71151-05.

b. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems (71152)

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity, Emergency Preparedness, Public Radiation Safety, Occupational Radiation Safety, and Physical Protection

.1 Routine Review of items Entered Into the Corrective Action Program

a. Scope

As part of the various baseline inspection procedures 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 (CAP) at an appropriate threshold, that adequate attention was being given to timely corrective actions, and that adverse trends were identified and addressed. Attributes reviewed included: the complete and accurate identification of the problem; that timeliness was commensurate with the safety significance; that evaluation and disposition of performance issues, generic implications, common causes, contributing factors, root causes, extent of condition reviews, and previous occurrences reviews were proper and adequate; and that the classification, prioritization, focus, and timeliness of corrective actions were commensurate with safety and sufficient to prevent recurrence of the issue. Minor issues entered into the licensee's CAP as a result of the inspectors' observations are included in the Attachment.

These routine reviews for the identification and resolution of problems did not constitute any additional inspection samples. Instead, by procedure they were considered an integral part of the inspections performed during the quarter and documented in Section 1 of this report.

b. Findings

No findings of significance were identified.

.2 Daily Corrective Action Program Reviews

a. Scope

In order to assist with the identification of repetitive equipment failures and specific human performance issues for follow-up, the inspectors performed a daily screening of items entered into the licensee's CAP. This review was accomplished through inspection of the station's daily condition report packages.

These daily reviews were performed by procedure as part of the inspectors' daily plant status monitoring activities and, as such, did not constitute any separate inspection samples.

b. Findings

No findings of significance were identified.

.3 Semi-Annual Trend Review

a. Scope

The inspectors performed a review of the licensee's CAP and associated documents to identify trends that could indicate the existence of a more significant safety issue. The inspectors' review was focused on trends related to switch or valve mispositioning errors, tagout errors and opposite train maintenance or operations errors. The inspectors review also considered the results of daily inspector CAP item screening discussed in Section 4OA2.2 above, licensee trending efforts, and licensee human performance results. The inspectors' review nominally considered the six-month period of November 2007 through April 2008, although some examples expanded beyond those dates where the scope of the trend warranted.

The review also included issues documented outside the normal CAP in major equipment problem lists, departmental problem/challenges lists, and self-assessment reports. The inspectors compared and contrasted their results with the results contained in the licensee's CAP trending reports. Corrective actions associated with a sample of the issues identified in the licensee's trending reports were reviewed for adequacy.

This review constituted one semi-annual trend inspection sample as defined in IP 71152-05.

b. Findings

No findings of significance were identified.

.4 Annual Sample: Review of Operator Workarounds (OWAs)

a. Scope

The inspectors evaluated the licensee's implementation of their process used to identify, document, track, and resolve operational challenges. Inspection activities included, but were not limited to, a review of the cumulative effects of the OWAs on system availability

and the potential for improper operation of the system, for potential impacts on multiple systems, and on the ability of operators to respond to plant transients or accidents.

The inspectors performed a review of the cumulative effects of OWAs. The documents listed in the Attachment were reviewed to accomplish the objectives of the inspection procedure. The inspectors reviewed both current and historical operational challenge records to determine whether the licensee was identifying operator challenges at an appropriate threshold, had entered them into its corrective action program, and proposed or implemented appropriate and timely corrective actions which addressed each issue. Reviews were conducted to determine if any operator challenge could increase the possibility of an initiating event, and if the challenge was contrary to training, required a change from long-standing operational practices, or created the potential for inappropriate compensatory actions. Additionally, all temporary modifications were reviewed to identify any potential effect on the functionality of Mitigating Systems, impaired access to equipment, or required equipment uses for which the equipment was not designed. Daily plant and equipment status logs, degraded instrument logs, and operator aids or tools being used to compensate for material deficiencies were also assessed to identify any potential sources of unidentified operator workarounds.

The above constitutes completion of one operator workarounds annual inspection sample as defined in IP 71152-05.

b. Findings

No findings of significance were identified.

.5 Selected Issue Follow-Up Inspection: Seismic Storage and Scaffold Construction

a. Scope

The inspectors reviewed the corrective actions of two recent repeat NRC violations related to improper seismic housekeeping control and improper seismic scaffolding construction in safety-related areas.

Included in the review of the seismic storage corrective actions were the revised Plant Cleanliness and Storage Procedure, GNP-01.31.01, and the Engineering Evaluation for Temporary Storage of Unrestrained Portable Equipment in Acceptable Storage Areas Shown in KPS GNP-01.31.01 by Stevenson and Associates. In addition to the documents reviewed, the inspectors toured the plant and identified two locations where the procedure allowed uncontrolled storage near safety-related equipment. One location had been documented by an engineering evaluation and appeared to be acceptable and the other location had been previously identified by the licensee and had compensatory measures in-place until completion of the next procedure revision.

Included in the review of the seismic scaffolding construction corrective actions were Root Cause Evaluation (RCE) 2008-0224, Scaffolding Affecting Safety-Related Equipment and the revised Requirements and Guidelines for Scaffold Construction and Inspection, GMP-127. The inspectors also toured the plant and reviewed a select number scaffolding inspection checklists to verify they had been filled out in accordance with procedure and had engineering evaluations when required. All of the scaffolding inspected appeared to be acceptable.

The above constitutes completion of one in-depth problem identification and resolution sample as defined in IP 71152-05.

b. Findings

No findings of significance were identified.

4OA3 Follow-Up of Events and Notices of Enforcement Discretion (71153)

.1 Response To Unplanned Or Non-Routine Events

a. Inspection Scope

The inspectors reviewed the plant's response to the following unplanned or non-routine events:

- radioactive water spill outside containment on April 17, 2008;
- seismic event response on April 18, 2008;
- emergency diesel generators declared inoperable due to fuel oil equalizing line problems; and
- leaking core-exit thermocouple assembly.

Documents reviewed in this inspection are listed in the Attachment.

This inspection constitutes four samples as defined in Inspection Procedure 71153-05.

b. Findings

Introduction: The inspectors identified an unresolved item (URI) associated with the emergency diesel generator fuel oil storage tank design and licensing basis.

Description: The licensee issued event notification EN#44182 for the siphon line that interconnected the two emergency diesel generator fuel oil storage tanks was not functioning as designed. The inspectors reviewed the licensing basis with the licensee for both the safety-related design requirements, including single failure, and the fuel oil storage volume requirements as described in the licensee's TSs and USAR. At the end of the inspection period, the inspectors had not received the licensee's final position and could not conclude that the licensee was in compliance with its license requirements; however, because there was always more than a 24-hour supply of fuel oil available to the diesel generators, a preliminary review of this issue by the Region III Senior Reactor Analysts indicated that the issue was likely of low safety significance. Because of the complexity of the issue, the inspectors determined that this issue would remain unresolved pending a review by the inspectors and the NRC's Office of Nuclear Reactor Regulation (NRR) of the licensee's final position on the licensing basis (URI 05000305/2008003-03).

.2 (Closed) Licensee Event Report (LER) 05000305/2005-004-02, Safe Shutdown Potentially Challenged by Unanalyzed Internal Flooding Events and Inadequate Design

This event, which occurred on March 15, 2005, involved the discovery that the Kewaunee Power Station plant design for protection against internal flooding would not

ensure that required equipment would be protected from the postulated failure of non-safety-related piping in the turbine building. The issue and associated enforcement was documented in Inspection Report 05000305/2005011. The issue was determined to have substantial safety significance (Yellow) and a cited violation was issued in Inspection Report 05000305/2005018. The corrective actions for this issue were assessed as part of the supplemental inspection documented in Inspection Report 05000305/2006007. Documents reviewed are listed in the Attachment. This LER is closed.

This inspection constitutes one sample as defined in Inspection Procedure 71153-05.

.3 (Closed) LER 05000305/2006-005-00, Seal Water Flow to the Service Water Pump Bearings Found Degraded

This event, which occurred on May 30, 2006, involved the loss of the safety-related back-up seal water flow to service water pumps. This issue was the subject of Unresolved Item 05000305/2006003-03. The URI was discussed and closed in Inspection Report 05000305/2007002, Section 1R15.b.3. A Non-Cited Violation was identified (NCV 05000305/2007002-06). Corrective actions taken and planned by the licensee were also discussed in Inspection Report 05000305/2007002. Documents reviewed are listed in the Attachment. This LER is closed.

This inspection constitutes one sample as defined in Inspection Procedure 71153-05.

.4 (Closed) LER 05000305/2006-005-01, Seal Water Flow to the Service Water Pump Bearings Found Degraded

This event, which occurred on May 30, 2006, involved the loss of the safety-related back-up seal water flow to service water pumps. This LER was reviewed as part of the review for LER 2006-005-00 discussed in Section 4OA3.3 above. Documents reviewed are listed in the Attachment. This LER is closed.

This inspection constitutes one sample as defined in Inspection Procedure 71153-05.

.5 (Closed) LER 05000305/2006-006-00, Safety Injection Accumulator Level to Volume Correlation and Alarm Setpoints Non-Conservative

This event, which occurred on July 13, 2006, involved the licensee identification that non-conservative values had been used for safety accumulator level correlations and associated level alarm setpoints. As a result, the licensee determined that there would have been numerous times in the past during which the safety accumulator levels would have been below the minimum required TS volume. As part of its review, the licensee determined that sufficient volume was available for the safety accumulators to perform their safety function. The licensee concluded that using setpoint methodology which considered instrument accuracies and a failure to update operator aides and alarm setpoints in response to a previously identified issue were the causes for this event. The licensee revised alarm setpoints for the safety accumulator levels to account for instrument uncertainty. At the time of this inspection, the licensee was in the process of reviewing other values used for adherence to TSs for potential issues associated with instrument uncertainties. The operator aide used for determining safety accumulator volumes was eliminated and the information was added to operating procedure N-SI-33,

“Filling, Draining, Pressurizing and Venting SI Accumulators,” using appropriate values. Enforcement aspects associated with this LER are discussed in Section 4OA7. Documents reviewed are listed in the Attachment. This LER is closed.

This inspection constitutes one sample as defined in Inspection Procedure 71153-05.

.6 (Closed) LER 05000305/2006-009-01, Emergency Diesel Generator Fuel Oil Leak

This event, which occurred on August 17, 2006, involved a fuel oil leak on the “A” emergency diesel generator engine during a surveillance testing on August 17, 2006, and required an engine shutdown. This issue was the subject of URI 05000305/2006004-02. The issue, with associated enforcement action, was further documented in Inspection Report 05000305/2007007. The issue was determined to have substantial safety significance (Yellow) and a cited violation was issued in Inspection Report 05000305/2007009. The corrective actions for this issue were assessed as part of the supplemental inspection documented in Inspection Report 05000305/20070011. Documents reviewed are listed in the Attachment. This LER is closed.

This inspection constitutes one sample as defined in Inspection Procedure 71153-05.

.7 (Discussed) LER 05000305/2007-002-00, Issues With AMAG/Westinghouse Calculations for Full Power Result in Reduced Power Operation

This event, which occurred on January 3, 2007, involved the determination that a potentially larger uncertainty existed with the feedwater ultrasonic flow measurement system than what was assumed for determining power levels. Since identification of this issue, the licensee has limited steady-state power levels to 99.69 percent (1766.5 MegaWatts thermal (MWt)) of their licensed power level (1772 MWt). The inspectors noted that the 1766.5 MWt level which the licensee was limiting power levels to was above the 1749 MWt limit for when the ultrasonic flow measurement system was out-of-service. Documents reviewed as part of this inspection are listed in the attachment. This LER is open pending review of analyses supporting operation at licensed power levels with uncertainties associated with the ultrasonic flow measurement system are considered.

This inspection constitutes one sample as defined in Inspection Procedure 71153-05.

.8 (Closed) LER 05000305/2007-008-00, Inadequate Emergency Diesel Generator Testing When Redundant Emergency Diesel Generator Was Inoperable

This event, which occurred on June 19, 2007, involved the determination that testing performed for a diesel generator to confirm operability when the other diesel generator was inoperable was inadequate because the testing did not include assuming a load on the diesel generator. Subsequent to this issue being identified, the NRC issued License Amendment No. 194 by letter dated February 7, 2008, with revised TSs (ADAMS Accession Nos. ML080160412 and ML080280252, respectively). The License Amendment and revised TSs clarified the diesel generator testing requirements to specify assumption of load when testing a diesel generator to confirm operability when the other diesel generator was inoperable. The revised TSs also permitted operability to be demonstrated by determining that the operable diesel generator was not inoperable

due to a common cause failure. Documents reviewed are listed in the Attachment. This LER is closed.

This inspection constitutes one sample as defined in Inspection Procedure 71153-05.

.9 (Closed) LER 05000305/2007-010-00, Allowed Outage Time of the Function for Automatic Initiation of the Control Room Post-Accident Recirculation System on a High Radiation Signal Not Met

This event, which occurred on September 21, 2007, involved the licensee determination that past surveillances of the control room radiation monitor, R-23, resulted in the monitor being inoperable for a period exceeding the time allowed by TSs. The allowed outage time had been exceeded on two occasions in November 2006. However, the safety function had been accomplished by placing the control room ventilation system into recirculation mode. The inspectors considered the deficiency associated with not meeting TS allowed outage times in this instance to be minor because the safety function had been met. The licensee attributed the cause to a lack of recognition that how operability was defined for the control room radiation monitor was changed by a prior TS amendment. In addition, the surveillance procedure in place during 2006 did not provide guidance to operators that equipment was being rendered inoperable by certain steps in the surveillance procedure. As a corrective action, the licensee submitted a licensee amendment request to revise TSs for the control room radiation monitor to be consistent with NRC guidance. In addition, the licensee had revised the surveillance procedure to limit performance of the surveillance to when the plant was in hot shutdown or below or when the control room radiation monitor was out of service and had been declared inoperable by Operations personnel. The surveillance procedure had also been revised to explicitly state which procedure steps would render the control room radiation monitor inoperable. Documents reviewed are listed in the Attachment. This LER is closed.

This inspection constitutes one sample as defined in Inspection Procedure 71153-05.

.10 (Closed) URI 05000305/2006-016-04, Internal Flooding Licensing Basis

The inspectors had identified issues with respect to the licensing basis for internal flooding. A modification for addressing potential flooding of RHR pump pits did not take into account the potential for multiple flooding sources due to a seismic event. In addition, the inspectors noted that safety-related equipment could be adversely affected by a failure of a safety-related service water pipe in the turbine building. Subsequent to this issue being identified, the NRC issued License Amendment No. 197 by letter dated March 28, 2008, (ADAMS Accession No. ML080770179). License Amendment No. 197 revised the licensing basis by modifying the design criteria for internal flooding. The modified design criteria specifically limited consideration of potential flooding sources to the worst case flooding scenario for each area evaluated to a single pipe or tank failure. In addition, the modified design criteria addressed the service water header in the turbine building. As such, the license amendment addressed the issues identified by the inspectors. Documents reviewed are listed in the Attachment. This URI is closed.

This inspection constitutes one sample as defined in Inspection Procedure 71153-05.

.11 (Closed) URI 05000305/2007-002-03, Inadequate Testing of Diesel Generator When the Redundant Diesel Generator Was Inoperable

Testing performed for a diesel generator to confirm operability when the other diesel generator was inoperable did not include assuming a load on the diesel generator. As discussed above in Section 4OA3.8 , this issue was addressed through issuance of License Amendment No. 194 and revised TSs. Documents reviewed are listed in the Attachment. This URI is closed.

This inspection constitutes one sample as defined in Inspection Procedure 71153-05.

.12 (Closed) URI 05000305/2007-008-02, Auxiliary Building Roof Degradation

There was a concern associated with roof leakage resulting in conditions which could affect operation of a SG power-operated relief valve located in the auxiliary building. The licensee completed its evaluation of this issue. The inspectors agreed with the licensee's conclusion that operation of the SG power-operated relief valve would not be affected. During this inspection, the inspectors performed an on-site inspection of the area of concern and verified that the drain trap associated with the "B" power-operated relief valve vent stack line had been cleaned of excessive corrosion. In addition, discussions with licensee engineering personnel indicated that some repairs to the auxiliary building roof had been performed and additional repairs are planned. Documents reviewed are listed in the Attachment. This URI is closed.

This inspection constitutes one sample as defined in Inspection Procedure 71153-05.

4OA5 Other Activities

.1 Reactor Coolant System Dissimilar Metal Butt Welds (TI 2515/172, Revision 0)

a. Inspection Scope

From April 7, 2008, through April 10, 2008, the inspectors conducted a review of the licensee's activities regarding licensee dissimilar metal butt weld (DMBW) mitigation and inspection implemented in accordance with the industry self-imposed mandatory requirements of Materials Reliability Program (MRP) -139, "Primary System Piping Butt Weld Inspection and Evaluation Guidelines." Temporary Instruction (TI) 2515/172, "Reactor Coolant System Dissimilar Metal Butt Welds," was issued February 21, 2008, to support the evaluation of the licensees' implementation of MRP-139. Documents reviewed are listed in the Attachment.

(1) Licensee's Implementation of the MRP-139 Baseline Inspections

The licensee identified six DMBWs. The inspectors performed a document review and concurred with the licensee that there were no other dissimilar metal (DM) welds, including those in the pressurizer, that fell within the MRP-139 scope. The six welds were grouped into two categories. Four welds were SG nozzle-to-safe end welds, which were installed in 2001 during SG replacement. These four welds were mitigated with Alloy 690 cladding (inlaid) on the interior diameter when installed. It was the licensee's position that since these welds were inlaid, they were not susceptible to primary water

stress-corrosion cracking (PWSCC) and, therefore, baseline inspections per MRP-139 were not applicable.

The other two welds were reactor vessel SI 4-inch nozzle-to-safe end welds consisting of Alloy 82/182 from original construction in 1974. The licensee believed that these welds were not susceptible because the operating temperatures were 40 degrees Fahrenheit cooler (495°F) than Kewaunee's cold leg temperature (535°F) and, therefore, were not classified in Section 6 of MRP-139. The licensee stated that the MRP-139 group has informally concurred with the licensee's position that due to the lower temperature the welds did not fall within the MRP-139 scope. The licensee also stated that the MRP group will address this issue in Revision 1 of MRP-139 to be issued this Fall.

The inspectors relayed this information to pertinent NRR staff for evaluation and possible use in discussions with NEI.

(2) Volumetric Examinations

There were no required MRP-139 volumetric examinations conducted during this outage or previous outages since the licensee does not consider any of its DMBWs falling within the scope of MRP-139.

The licensee did not plan on performing weld overlays or any mitigation strategies at this time.

The inspectors verified that the licensee did not perform any DMBW weld overlays during this or previous outages.

(3) Mechanical Stress Improvement

The inspectors verified that the licensee did not perform any DMBW stress improvement activities during this or previous outages.

(4) Inservice Inspection Program

Because the licensee did not consider any of its DMBW to be within the scope of MRP - 139, the requirement to categorize welds in accordance with MRP-139 was not applicable. The inspectors also determined that the licensee did not have any DMBW categorized as "H" or "I". Although the inspectors did not identify any deviations from the inspection guidelines of MRP-139, the licensee was seeking additional clarification on the appropriate classification for the reactor vessel SI nozzle-to-safe end DMBWs.

b. Observations

Summary: Kewaunee is a Westinghouse 2-loop design with six DMBWs containing 82/182 material, four in the SGs and two in SI piping. The four SG welds were mitigated/inlaid with Alloy 690 material with one receiving a manual UT examination in 2004. The SI welds operate at a temperature 40 degrees less than the cold leg temperature and the licensee believe them to be non-susceptible to PWSCC at that low a temperature. The two welds received an automated Performance Demonstration Initiative (PDI) UT exam in 2004. All six welds have been placed in the ASME Code

10-year risk informed (RI) ISI program for future examinations due to their non-susceptibility to PWSCC.

Depending on interpretation, the licensee's binning of the SI system welds due to the 40 degrees below cold leg temperature issue may or may not be a deviation from current MRP-139 requirements. However, the licensee indicated that the binning of these welds will be clarified in the next planned revision to MRP-139.

In accordance with requirements of TI 2515/172, Revision 0, the inspectors evaluated and answered the following questions:

(1) Licensee's Implementation of the MRP-139 Baseline Inspections

1. a. Have the baseline inspections been performed or are they scheduled to be performed in accordance with MRP-139 guidance?

Not applicable. The licensee determined that none of the six DMBWs fell within the scope of MRP-139.

- b. Were the baseline inspections of the pressurizer temperature DMBWs of the nine plants listed in 03.01.b completed during the spring outage.

Not applicable. Kewaunee was not one of the nine plants listed in 03.01.b

2. Is the licensee planning to take any deviations from the MRP-139 baseline inspection requirements of MRP-139? If so, what deviations are planned, what is the general basis for the deviation, and was the NEI 03-08 process for filing a deviation followed?

With regard to the two SI welds, the licensee is not planning to mitigate or to perform inspections other than Code required non-destructive exams (NDE) per its 10-year RI-ISI program. The licensee may change this plan depending on the feedback the licensee receives from the MRP group regarding the susceptibility of the material in that the licensee believes temperatures to be 40 degrees less than nominal cold leg temperatures.

As noted above, depending on interpretation, the licensee's treatment of the SI welds may or may not be a deviation and the licensee expects clarification in a future MRP-139 revision. Regardless, even if subjected to cold leg temperatures, examination or mitigation was not yet required to have occurred at the time of the NRC inspection.

(2) Volumetric Examinations

Since the licensee did not perform any examinations pursuant to MRP-139, the associated TI-172 questions were not applicable.

(3) Weld Overlays

1. Performed in accordance with ASME Code welding requirements and consistent with NRC staff relief request authorizations? Has the licensee submitted a relief request and obtained NRR staff authorization to install the weld overlays?

Not applicable.

2. Performed by qualified personnel? (Briefly describe the personnel training/qualification process used by the licensee for this activity.)

Not applicable.

3. Performed such that deficiencies were identified, dispositioned, and resolved?

Not applicable.

(4) Mechanical Stress Improvement

Not applicable. There were no stress improvement activities performed or planned by this licensee in response to MRP-139.

(5) Inservice Inspection Program

1. Has the licensee prepared an MRP-139 inservice inspection program? If not, briefly summarize the licensee's basis for not having a documented program and when the licensee plans to complete preparation of the program.

Not applicable. Because none of the six DMBWs fell within the scope of MRP-139, the licensee did not prepare a MRP-139 inservice inspection program. Of the six DMBWs identified, the licensee believed that none are susceptible to PWSCC as four SG welds are inlaid with Alloy 52 and two SI system welds experience operating temperatures which are 40 degrees below cold leg temperature. The licensee stated that the MRP group has agreed informally with the licensee in that the SI system welds do not fall within the scope of MRP-139. The licensee also stated that the MRP group planned to address the issue of the welds outside the cold leg temperatures in Revision 1 of MRP-139, due to be issued this Fall.

2. In the MRP-139 inservice inspection program, are the welds appropriately categorized in accordance with MRP-139? If any welds are not appropriately categorized, briefly explain the discrepancies.

Not applicable. No DMBWs were identified within the MRP-139 scope.

3. In the MRP-139 inservice inspection program, are the inservice inspection frequencies, which may differ between the first and second intervals after the MRP-139 baseline inspection, consistent with the inservice inspections frequencies called for by MRP-139?

Not applicable. No DMBWs were identified within the MRP-139 scope.

4. If any welds are categorized as H or I, briefly explain the licensee's basis of the categorization and the licensee's plans for addressing potential PWSCC.

Not applicable. No DMBWs were identified within the MRP-139 scope. Therefore, no welds are categorized as H or I.

5. If the licensee is planning to take deviations from the inservice inspection "requirements" of MRP-139, what are the deviations and what are the general bases for the deviations? Was the NEI 03-08 process for filing deviations followed?

See answer to Item (1), Question 2 above.

- b. Findings

No findings of significance were identified.

- .2 Quarterly Resident Inspector Observations of Security Personnel and Activities

- a. Inspection Scope

During the inspection period, the inspectors conducted observations of security force personnel and activities to ensure that the activities were consistent with licensee security procedures and regulatory requirements relating to nuclear plant security. These observations took place during both normal and off-normal plant working hours.

These quarterly resident inspector observations of security force personnel and activities did not constitute any additional inspection samples. Rather, they were considered an integral part of the inspectors' normal plant status review and inspection activities.

- b. Findings

No findings of significance were identified.

4OA6 Management Meetings

- .1 Exit Meeting Summary

On July 16, 2008, the inspectors presented the inspection results to Mr. S. Scace and other members of the licensee staff. The licensee acknowledged the issues presented. The inspectors confirmed that none of the potential report input discussed was considered proprietary.

- .2 Interim Exit Meetings

Interim exits were conducted for:

- inservice inspection and TI 2515/172 with Mr. S. Scace, on April 10;
- access control to significant radiological areas and ALARA planning and controls with Mr. S. Scace, on April 18 and on May 29; and
- emergency preparedness inspection with Mr. S. Scace, on June 20.

The inspectors confirmed that none of the potential report input discussed was considered proprietary.

4OA7 Licensee-Identified Violations

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

- Title 10, Part 50, Appendix B, Criterion III, "Design Control," required, in part, that measures be established to assure that applicable regulatory requirements and the design basis are correctly translated into specifications, drawings, procedures, and instructions. On July 13, 2006, the licensee identified that applicable regulatory requirements had not been correctly translated into procedures and instructions in that an operator aide used for determining safety accumulator volume and alarm setpoints for safety accumulator levels were non-conservative (see Section 4OA3.5). The licensee revised alarm setpoints for the safety accumulator levels to account for instrument uncertainty. The operator aide used for determining safety accumulator volumes was eliminated and the information was added to operating procedure N-SI-33, "Filling, Draining, Pressurizing and Venting SI Accumulators," using appropriate values. This issue is of very low safety significance based on a Phase I SDP screening because the licensee determined that safety accumulators had sufficient volume maintained to support their safety function.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee

S. Scace, Site Vice-President
M. Crist, Plant Manager
L. Armstrong, Site Engineering Director
P. Blasioli, Organizational Effectiveness Director
T. Breene, Nuclear Licensing Manager
J. Egdorf, Emergency Preparedness Supervisor
W. Henry, Maintenance Manager
M. Hovis, Radiation Protection Supervisor
B. Lembeck, Radiation Protection Supervisor
J. Madden, Nuclear Oversight Manager
C. Olson, Radiation Protection Supervisor
K. Peveler, Manager Engineering Programs
J. Ruttar, Operations Manager
P. Serra, Emergency Preparedness Fleet Manager
D. Shannon, Health Physics Operations Supervisor
B. Steckler, Radiation Protection Supervisor
S. Wood, Emergency Preparedness Manager

Nuclear Regulatory Commission

M. Kunowski, Chief, Division of Reactor Projects, Branch 5

LIST OF ITEMS OPENED, CLOSED AND DISCUSSED

Opened

05000305/2008003-01	NCV	Failure to Follow the Provisions of General Nuclear Procedure, GNP-12.06.01, "Hot and Cold Weather Operations" (Section 1R01.2)
05000305/2008003-02	URI	Lack of Calculation to Show that the Auxiliary Building Floor Fan Coil Units Can Perform Their Safety-Related Function at the Maximum Design Service Water Temperature (Section 1R07.1)
05000305/2008003-03	URI	Siphon Line Which Interconnected Two Diesel Generator Emergency Fuel Oil Storage Tanks Was Not Functioning as Designed (Section 4OA3.1)

Closed

05000305/2008003-01	NCV	Failure to Follow the Provisions of General Nuclear Procedure, GNP-12.06.01, "Hot and Cold Weather Operations" (Section 1R01.2)
05000305/2005004-02	LER	Safe Shutdown Potentially Challenged by Unanalyzed Internal Flooding Events and Inadequate Design (Section 4OA3.2)

05000305/2006005-00	LER	Seal Water Flow to the Service Water Pump Bearings Found Degraded (Section 4OA3.3)
05000305/2006003-00	LER	RHR Pumps Declared Inoperable Due to Flooding Vulnerability* *Item closed in IR 03000305/2008002, Section 4OA3.1, with incorrect number 05000305/2005003-00. This item is included to correct numbering error from the referenced report.
05000305/2006005-01	LER	Seal Water Flow to the Service Water Pump Bearings Found Degraded (Section 4OA3.4)
05000305/2006006-00	LER	Safety Injection Accumulator Level to Volume Correlation and Alarm Setpoints (Section 4OA3.5)
05000305/2006009-01	LER	Emergency Diesel Generator Fuel Oil Leak (Section 4OA3.6)
05000305/2007008-00	LER	Inadequate Emergency Diesel Generator Testing When Redundant Emergency Diesel Generator Was Inoperable (Section 4OA3.8)
05000305/2007010-00	LER	Allowed Outage Time of the Function for Automatic Initiation of the Control Room Post-Accident Recirculation System on a High Radiation Signal Not Met (Section 4OA3.9)
05000305/2006016-04	URI	Internal Flooding Licensing Basis (Section 4OA3.10)
05000305/2007002-03	URI	Inadequate Testing of Diesel Generator When the Redundant Diesel Generator Was Inoperable (Section 4OA3.11)
05000305/2007008-02	URI	Auxiliary Building Roof Degradation (Section 4OA3.12)

Discussed

05000305/2007002-00	LER	Issues With AMAG/ Westinghouse Calculations for Full Power Result in Reduced Power Operation (Section 4OA3.7)
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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 or 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.

CALCULATIONS

<u>Number</u>	<u>Description or Title</u>	<u>Date or Revision</u>
M-1052-1	Turbine Building Safeguard Area Steady State Heat Loads and Auxiliary Building Heat Load Inputs	2
C10545	Revised Calculation to Reflect Superheat temperatures and to Reflect Energization Times Identified Per KAP00-3309	
C11273	Pipe Stress Analysis Report for the 6" Service Water Discharge Line from the "B" Diesel Generator	0
C11470	Kewaunee Effective Degradation Years (EDY) Evaluation End of Cycle 28 In Accordance with NRC Order EA-03-009	October 3, 2007
C11669	Pipe Stress Analysis of Service Water Piping from Class Break Anchor SW-H210A to 24" Standpipe	0
SW-02-039	Analysis of Service Water Piping from the 1A Diesel Generator Heat Exchangers	4
SW-02-055	Analysis of Service Water Piping from the "B" Train Diesel Generator Heat Exchangers	1

CORRECTIVE ACTION PROGRAM DOCUMENTS REVIEWED

<u>Number</u>	<u>Description or Title</u>	<u>Date or Revision</u>
	Changes to Safety Monitor	Revision K107R-06
	Condition Report Search for Auxiliary Feedwater System	January – 2006 to May - 2008
	Condition Report Search for Internal Containment Spray System	January – 2006 to May - 2008
	Facilities Safety Review Committee Presented Revision 1 of Auxiliary Feedwater Flow Control Design Description	April 8, 2008
	Facilities Safety Review Committee Review of Auxiliary Feedwater Test Procedures	April 25, 2008

	Facilities Safety Review Committee Presented OBDs, ODs, and RASs for Review	April 25, 2008
	Licensee Performance Indicator Report Package and References, Work Orders, Corrective Actions, and Operator Logs	
ACE000752	Evaluate Emergency Plan Evacuation Procedures and Transportation Pre-Arrangements	
ACE000900	Containment Spray Pump "B" Breaker 16108 Over-Current Trip	
ACE013672	Tagout Issue with Tagout 27A-MUP-MECH-33	
ACE013696	Lack of Timely Compliance Restoration Regarding EOD Qualifications	
CA015932	Rad Monitor and EAL Classification	
CA024151	Service Water Lube Water Supply Issue CUNO Filters	
CA016300	Corrective Action to Document Siren P004 Return to Service	
CA017265	EP to Evaluate Missed DEP Opportunity during TSC Tabletop Drill	
CA019124	EP to Evaluate Removing IC Numbers from the EAL Charts in Response to a Missed DEP Opportunity during a TSC Tabletop Drill	
CA020091	Determine, Document, and Initiate Appropriate Action for Accountability Drill Issues	
CA022198	Review NOD Issue for EP Training Not Requiring All ERO to Periodically Demonstrate Proficiency in Assigned Position	
CA022621	Correct and Resubmit DEP PI Data to NRC for June 2007	
CA023010	Communicate to ERO Exercise Improvement Areas for CRS Habitability, KI Communications, and EMT Communications for Radiological Changes	
CA023418	Track Scheduling of EMT Training from Drill Critique Issue September 15, 2007	
CA029686	Diesel Generator "B" Exceeds 2800KW	
CA029687	Diesel Generator "B" Exceeds 2800KW	
CA031186	Diesel Generator "B" Exceeds 2800KW	
CA031974	Reactor Trip During Performance of SP-48-0041	

CA032196	Vendor Inspection of Injector Control Shaft Bearings from Emergency Diesel Generator 1B	
CA032197	Diesel Generator "B" Exceeds 2800KW	
CA032372	Calculations 100235 and 11688 do not Reflect the Installed Configuration of the Current License Basis	
CA069790	Operations to Generate and Perform an Operability Standdown	
CA072776	Perform OP-AA-100-1000 Attachment A, Regarding Electrical Shock	
CA073028	Station Clock Reset Regarding Electric Shock	
CA073077	Track Completion of WO KW07-008218 To Replace the Left Bank Injector Shaft	
CA073078	Evaluate Department Clock Reset	
CA073079	Determine, Document and Correct Issue of Cutting the Incorrect Injector Shaft	
CA076415	Evaluate Process Related to Hot Weather Preparation at Kewaunee Power Station	
CA076978	Evaluate Why the ANS Siren Condition Report Provided a False Positive Test Result	
CAP023346	RHR-2B Body to Bonnet Leak	
CAP024975	Turbine-Driven Auxiliary Feedwater Pump turbine Overspeed Trip Set is not Formally Documented	
CAP028202	Dry Boric Acid Deposit on SI-303B	
CAP029503	SP-35-083 Chemical and Volume Control System Pressure Test Results	
CAP033245	Service Water Leak on Line Branch to Diesel Generator "B"	
CAP033934	Step could not be Performed in N-TB-54-CL Because of Out-of-Service Equipment	
CAP036780	RHR-1B Boric Acid Leakage	
CAP036887	RC-402 Leakage	
CAP037580	Failed Test on Relief Valve ICS-20B	
CAP041567	Diesel Generator "B" Exceeds 2800KW	
CAP041862	Main Generator Reactive Power	
CAP041873	NR-45 Recorder 42585 Does not Meet RG 1.97 Requirements	
CAP043818	Zone SV Updated Safety Analysis Report Allowed Leakage Area May be Non-conservative	

CAP044011	Auxiliary Building Mezzanine Cooling May Not Be Adequate Post Loss-of-Coolant Accident	
CR012915	Auxiliary Building Mezzanine Fan Coil Unit B Air Flow Is Lower than Expected	
CR013095	Dry White Boric Acid at the Body/Bonnet for RHR-10B	
CR018539	Auxiliary Building Basement Fan Coil Unit Operating Procedures Are Non-Conservative	
CR018921	Unexpected Extremity ED Dose Alarm	
CR019147	Auxiliary Building Basement Heat Load Calculations Are Non-Conservative	
CR019674	C11147 Auxiliary Building Fan Floor Heat Gain Calculation Is Non-Conservative	
CR019676	C11147 Auxiliary Building Fan Floor Heat Gain Calculation Has Inadequate Technical Basis	
CR020154	Transmitter Found Out of Tolerance During the Performance of ICP-23-04	
CR020599	Potentially Exceeded Technical Specification LCO During R-23 Troubleshooting	
CR021126	The EP Evacuation Procedures Lack Detailed Directions and Pre-planning	
CR022737	LT-618 Found Out-of-Calibration Under ICP-31-01	
CR024314	SBV Fan "A" Failed to Start During Post-Maintenance Testing	
CR025091	Training Recommendation for EP Dose Assessment	
CR025711	NOD ID's Configuration Control Event	
CR027377	NRC Questions Related to Turbine-Driven Auxiliary Feedwater Steam Lines in Turbine Building	
CR027605	NRC Concerns With Continuing Issues of Improper Seismic Housekeeping Controls	
CR027708	Rubber Cable Protector in Control Room Is a Trip Hazard	
CR090503	Changes Made to Pager Activation Process Without 50.54(q) Evaluation	
CR090907	Documentation of Kewaunee Power Station Justification for Heat Exchange Inspection/Cleaning in Lieu of Testing	
CR091186	ICS Maintenance Rule Unavailability Approaching Performance Criteria	

CR091907	Emergency Diesel Generator Governor Oil Level "Informational CR"	
CR091924	Diesel Generator "A" Load Spiked Above Limit During Loading	
CR092231	NRC Raises Concerns About Operability Basis of CR091924	
CR092770	Tagout Issue With Tagout 27A-MUP-MECH-33	
CR093548	Inadvertent Turnoff of CVB18 in RPB 4 Breaker Panel	
CR093557	Procedural Enhancement of N-RM-45 Identified During R-14 Functional Test	
CR094055	Heavy Discolored Boric Acid on Wall in 1B RCP Vault	
CR094186	Tagout 84-EGM-TURB-00001; Inadequate to Perform Associated Work Orders	
CR094544	Danger Cards Found on Valves Removed from 1B Containment Fan Coil Unit	
CR094549	Quality Assurance Program not Met for Crane Functional Checks	
CR094552	NRC Concern with Inservice Inspection Procedure Compliance	
CR094556	Repeated Intermittent Problems with the Polar Crane Radio Controls	
CR094674	NRC Concern with Inservice Inspection Risk Informed Program	
CR094848	Cracked Solder Connections on Emergency Diesel Generator 1A Voltage Regulator Circuit Board	
CR095027	NRC Inspector Identifies Possible Violation of ASME Code Requirements	
CR095138	Shield Building Temperatures Calculated to be Above Original Design	
CR095221	Procedure Does not Fully Address Actions for Cooling Water High Temperature	
CR095368	Pressurizer Level Transmitter LT-426 Sensor Leak	
CR095398	Perform a Calibration Check and a Static Shift Verification of Pressurizer Pressure Transmitter 21081	
CR095407	Potential Overpressurization of 24032 Pressurizer Level and 21081 Pressurizer Press Transmitters	

CR095493	Received Annunciator 47104-A, Battery A Charger Trouble and SER Battery A DC Ground	
CR095595	Worker Received Shock While Working in Panel TB1365	
CR095633	Potential Adverse Trend Exists Associated with Tagging Related Events	
CR095866	Left Bank Instead of Right Bank Injector Shaft Removed by Supplemental Personnel	
CR095893	Worker in Posted LHRA Without ED	
CR095978	Walk Down of Reactor Cavity Wall Residue Found Wet Condition	
CR096306	Incorporate Lessons Learned from OE25693 and OE26110, "SW Pipe Leak"	
CR096636	Component Cooling Pump "B" has Scoring between the Impeller and Outboard Wear Ring	
CR096670	During OP-KW-OSP-DGE-004B, Diesel Generator "B" Unloaded During Adjustment	
CR097679	Tube Plugging in "A" Containment Fan Coil Unit	
CR098498	PI-11802 was Slow to Release Air Pressure during ORT-MS-001	
CR098809	Response to NRC Concern Addressed in CR095027-Operability Assessment	
CR099666	A Small Pool of Oil/EH Fluid was Found Under HRS-2A2 on the Turbine Pedestal	
CR100031	5.23 Hours of Maintenance Rule Out of Service Time Incorrectly Counted	
CR100329	Timeliness for Performance on Hot Weather Preparations Needs Improvement	
CR100590	ANS Siren Failed Visual Observation to Rotate	
CR100670	Enhance Main Steam Line Isolation Valve Testing	
CR101674	NRC Questions Seismic Storage Area	
CR101777	Adverse Weather Walkdown Checklists not Performed as Required	
CR102093	Deficiency Tags Without Condition Reports/Work Orders	
PCR009432	Improvements for SP-45-050 Series Procedures	

DRAWINGS

<u>Number</u>	<u>Description or Title</u>	<u>Date or Revision</u>
90 32100-910	Schematic Voltage Regulator	B
E-1098	Control Switch Development	Q
E-1588	Schematic Diagram – Diesel Generator “B” Shutdown, Governor Control and Auxiliary Relays	AQ
E-1627	Main Steam and Steam Dump System	AC
E-1901	Schematic Solenoid Valves SV-33181, 182, 185 and 186	M
E-1902	Schematic Solenoid Valves SV-33177, 178, 183 and 184	L
E-1908	Schematic Main Steam Isolation Valve Test Panel and CV-31016	Q
E-2708	Schematic Engineered Safeguards System	D
E-2711	Relay Engineered Safeguards System	V
M-932	SW-From Flex Connections on Diesel Generator 1A and 1B CW HXs to Anchor	C
OPERM 213-7	Station and Instrument Air System	H
OPERM-213-9	Flow Diagram Diesel Generator Startup Air Compressor A & B and Fish Screen Air	E
OPERM-218	Flow Diagram Spent Fuel Pool Cooling and Cleanup System	AC
OPERM-220	Flow Diagram Fuel Oil Systems	AN
OPERXK-100-18	Flow Diagram Residual Heat Removal System	AS
OPERXK-100-19	Flow Diagram Component Cooling System	AL
OPERXK-100-20	Flow Diagram Component Cooling System	AC
SK-M-3204-4	Service Water Discharge Line from the “A” Diesel Generator Heat Exchangers to Anchor	July 27, 2001
WM-939SH1	WM Isometric Safety Injection from Containment Pen 48 to Reactor	September 15, 1993
XK-143-18	Schematic and Interconnection Diagram for Series Boost Exciter Voltage Regulator	F1

10 CFR 50.59 SCREENINGS

<u>Number</u>	<u>Description or Title</u>	<u>Date or Revision</u>
DCR-3609-1, Revision 1	Auxiliary Feedwater Flow Control	April 4, 2008
MA-KW-STP-RCP-001	Special Test Procedure	March 13, 2008
SOF-AFW-05B-29 Revision 1	Auxiliary Feedwater Pump "B" Pump Curve Development	April 30, 2008
SOF-AFW-05B-31 Revision 1	Motor-Driven Auxiliary Feedwater Pump Oil Cooler Tests, DCR3673-1 and Minimum Flow Orifice Replacement	May 2, 2008
SOF-AFW-05B-31 Revision 2	Motor-Driven Auxiliary Feedwater Pump Oil Cooler Tests, DCR3673-1 and Minimum Flow Orifice Replacement	April 30, 2008
SOF-AFW-05B-31 Revision 3	Motor-Driven Auxiliary Feedwater Pump Oil Cooler Tests, DCR3673-1 and Minimum Flow Orifice Replacement	May 2, 2008
SOF-AFW-05B-33	Flush, Fill and Vent Auxiliary Feedwater Pumps and Discharge Piping	April 28, 2008
SP-10-211-3	Inspection of Diesel Generator "B" (Component Retest)	April 20 , 2008
UCR R21-052	Kewaunee Power Station Updated Safety Analysis Report; Appendix B; Special Design Procedure	April 18, 2008

MODIFICATIONS

<u>Number</u>	<u>Description or Title</u>	<u>Date or Revision</u>
DCR 3609-1	Auxiliary Feedwater Flow Control	1
DCR 3631-1	Generator Step-Up Transformer Replacement	0

OPERABILITY EVALUATIONS

<u>Number</u>	<u>Description or Title</u>	<u>Date or Revision</u>
OPR 158	Service Water Inlet Temperature Restrictions	
ACE 3374	Diesel Generator "B" Exceeds 2800 KW During SP-42-312B	
MRE 000710	ICS-45A Is Difficult to Operate and the Hand Wheel Broke	
MRE 000723	ICS Pump "B" C/R Flow Indicator is Cycling Between 26-125 Gallons Per Minute	
MRE 000944	160 Breaker Tripped Due to a Short Circuit Ground Fault	

MRE 001036	18-044B on PC-946A	
MRE 002880	Perform a Maintenance Rule Evaluation on Work Request 06-247 – Containment Pressure Out of Spec	
MRE 003047	Diesel Generator “B” Exceeds 2800 KW During SP-42-312B	
MRE 003063	“B” Auxiliary Feedwater Seven Valve Manifold Leak	
MRE 003074	“B” Auxiliary Feedwater Seven Valve Manifold Leak	
MRE 003083	Elevated Outdoor Air Temperatures	
MRE 006496	Emergency Diesel Generator “A” Control Board Voltage Meter 4461102 Providing Inconsistent Indication	
RAS 30	Auxiliary Building Mezzanine Fan Coil Units Are Functional With Service Water Temperatures Up to 68 Degrees Fahrenheit	0
RAS 30	Status Control Tagout 35-CVC-60	2
RAS 37	Auxiliary Basement Heat Load Evaluation	2
RAS 39	Auxiliary Building Fan Floor	2
RCE 659	Wrong Grease Applied to Inboard Bearing of Auxiliary Feedwater 1B; September 22, 2004 Low Range High Flux Reactor Trip	3
RCE 2008-0224	Scaffolding Affecting Safety-Related Equipment	
07C0720-RPT-001	Engineering Evaluation for Temporary Storage of Unrestrained Portable Equipment in Acceptable Storage Areas Shown in GNP-01.31.01	February 21, 2008

PROCEDURES

<u>Number</u>	<u>Description or Title</u>	<u>Date or Revision</u>
47024-B	Accumulator A Level High/Low	D
47024-D	Accumulator B Level High/Low	D
CMP-13-01	Turbine Room Traps and Drains Trap Maintenance	7
CW-04	Alarm Notification – TLA-27 Circulation Water Inlet Temperature High	
EPMP-09.03	Alert and Notification Siren System Testing and Maintenance	P
EPMPFG-02.06, Figure 01	Kewaunee Nuclear Power Plant Shift Staff and ERO Position Versus Table B-1 Functions	C

EPMPFG-02.06	Emergency Response Organization Augmentation Drills	F
ER-AA-NDE-PT-300	ASME Section XI Liquid Penetrant Examination Procedure	2
ER-AA-NDE-UT-802	Ultrasonic Examination of Austenitic Piping Welds in Accordance with ASME Section XI, Appendix VIII	0
ER-AA-NDE-VT-603	VT-3 Visual Examination Procedure	1
ER-AP-BAC-101	Boric Acid Corrosion Control Program (BACCP) Inspections	0
ER-AP-BAC-102	Boric Acid Corrosion Control Program (BACCP) Evaluations	0
ER-KW-BAC-101-1001	Kewaunee Power Station Site Specific Boric Acid Corrosion Control Program Inspection and Evaluation Requirements	0
GMP-127	Requirements and Guidelines for Scaffold Construction and Inspection	20
GMP-172	Tornado Missile Hazard Inspection	7
GMP-200	Emergency Generator – Main Generator Disconnect Link Removal and Station Back Feed Procedure	152
GMP-205	Inter and Intra Panel Wiring Procedure	21
GMP-236-03	Motor-Operated Valve Diagnostic Testing	7
GNP-01.31.01	Plant Cleanliness and Storage	18
GNP-08.12.02	Controls for Use of Cranes Within the Protected Area	15
GNP-12.06.01	Hot and Cold Weather Operations	7
HP-02.009	Total Effective Dose Equivalent As Low As Reasonably Achievable Evaluation for Use of Respiratory Protection Equipment	2
HP-04.006	Control and Use of HEPA Vacuums and Portable Air Filtration Units in Radiologically Controlled Areas	B
ICP-82B-164	ICE – Fluke 700 Pressure Modules Calibration	B
KPS-SA-07-36	Radiological Dose Assessment for EP Self-Assessment	November 14, 2007
MA-KW-STP-RCP-001	Special Test Procedure	0
N-CC-31-CL	Component Cooling System Pre-startup Checklist	29
N-RHR-34-CL	Residual Heat Removal Pre-startup Checklist	35
N-SFP-21-CL	Spent Fuel Pool Cooling And Cleanup System Pre-startup CL	T

N-SI-33	Filling, Draining, Pressurizing and Venting SI Accumulators	29
NEP-15.47	Kewaunee Power Station Site Specific Non-destructive Examination Requirements for Inservice Inspection	1
NP-KW-RET-001	Initial Criticality by Dilution	2
NEP-14.23	GL 96-01 Testing of Safety-Related Logic Circuits	A
NEP-15.05	Visual Examination for Inservice Inspection	B
NID-01.01	Generic Letter 89-13 Program Document	7
OP-AA-1300	Quarantine	0
OP-KW-AOP-EG-001	Abnormal Grid Conditions	0
OP-KW-AOP-GEN-004	Response to Natural Events	3
OP-KW-NCL-DGM-001A	Diesel Generator "A" Pre-startup Checklist	0
OP-KW-NCL-DGM-001B	Diesel Generator "B" Pre-startup Checklist	1
OP-KW-ORT-DGM-001A	Emergency Diesel Generator 1A Operation Log	2
OP-KW-ORT-DGM-001B	Emergency Diesel Generator 1B Operation Log	2
OP-KW-ORT-MS-001	Operations Routine Test	0
OP-KW-OSP-DGE-003A	Diesel Generator "A" Semi-Annual Fast Start Test	1
OP-KW-OSP-DGE-004A	Diesel Generator "A" Elevated Load and Load Reject Test	3
OP-KW-OSP-RCS-001	Reactor Coolant System Leak Rate Check	1
PMP-17-02	ACA – QA-1 and QA-2 Fan Coil Units Inspection and Cleaning	25
PMP-17-12	ACA – Auxiliary Building Fan Floor Fan Coil Units Performance Monitoring (QA-1)	D
PMP-17-13	ACA – Auxiliary Building Basement Fan Coil Unit Performance Monitoring (QA-1)	G
RF-02.06	Reactor Pressure Vessel Head Lift	11
RP-AA-261	Control of Radiological Diving Activities	0
RP-KW-02-010	Airborne Radioactivity Sample Analysis	0
RP-KW-003-011	Use of Special Dosimetry	0
RTO-OP-003-R11	Communication and Mitigation Protocols for Nuclear Plant/Electric System Interfaces – Annual Review	May 15, 2007
SOF-AFW-05B-29	Auxiliary Feedwater Pump "B" Pump Curve Development	1

SOF-AFW-05B-31	Motor-Driven Auxiliary Feedwater Pump Oil Cooler Tests, DCR3673-1 and Min Flow Orifice Replacement	1, 2, and 3
SOF-AFW-05B-33	Flush, Fill and Vent Auxiliary Feedwater Pumps and Discharge Piping	0
SP-05B-283A	Motor-Driven Auxiliary Feedwater Pump A Full Flow Test - IST	19
SP-05B-283B	Motor-Driven Auxiliary Feedwater Pump "B" Full Flow Test - IST	18
SP-10-211-3	Inspection of Diesel Generator "B" (Component Retest)	11
SP-10-111-3	Inspection of Diesel Generator "A" (Component Retest)	12
SP-18-043	Containment Pressure Instrument Channels Test	27
SP-31-335	Component Cooling Pump and Discharge Check Valve Full Flow Test - IST	11
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SP-34-053	Residual Heat Removal System Pressure Test	1
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SP-55-167-4A	Post Loss-of-Coolant-Accident Valves Timing Test (IST) from Local Panel – Train A	B
SP-55-167-8A	Hot/intermediate Shutdown Valve Tests Train A – IST	5
SP-56A-090	Containment Local Leak Rate Type B & C Test	15
TOP-20GN-000010B	Voltage/Reactive and AVR Control at Generation Interconnections	November 21, 2005

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	ASCO General Service Solenoid Valves Literature For 3/2 Series 8300 and 8315; 3/2 Series 8320; and 3/2 Series 8314	
	ASCO High Flow Direct Acting Valves Literature For 3/2 Series 8327	
	ASCO Direct Mount Pilot Valves Literature for 3/2 Series 8320 Direct Mount	
	ASCO Series 8016G Valve Installation and Maintenance Instructions	
	Containment Boric Acid Walk Down KR29	March 29, 2008
	Control Room Index of CAP/CRs/WOs	June 19, 2008
	Diesel Generator 1A KW Single Point Trend Analog Data	February 28, 2008
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	Kewaunee Power Station System Description; System No. 06; Main Steam and Steam Dump	5
	Kewaunee Nuclear Power Plant Emergency Plan, Section 5; Organizational Control of Emergencies	32
	Maintenance Rule (a)(1) Evaluation – System 23 Containment Spray	October 31, 2003
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	Maintenance Rule System Basis – Internal Containment Spray	9
	Maintenance Rule System Basis – Auxiliary Feedwater	11

	Motor-Operated Valve Static Diagnostic Test Motor; Motor Valve SI-351A	April 6, 2008
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	PJM Information to Support Utilities Response to Generic Letter 2006-02	January 12, 2007
	Performance Indicator Data Sets; Service Water	January through December, 2007
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	Performance Indicator Data Sets; Residual Heat Removal	January through December, 2007
	Retraction Notification of EN 44182	May 14, 2008
	Voltage Regulator Circuit Description Sensing Circuit Info	
ER-AA-MAT-11	Alloy 600 Management Plan	2
GMP 102-386-TGS-PQR	ASME Section IX Procedure Qualification Record (PQR)	June 24, 1987
GMP 102-388 TGS	Welding Procedure Specification GTAW and SMAW	August 31, 1987
ML050350225	Kewaunee Nuclear Power Plant – Fourth 10-Year Inservice Inspection Interval Program Requests for Relief	February 18, 2005
N-533-1	Alternative Requirements for VT-2 Visual Examination of Class 1, 2, and 3 Insulated Pressure-Retaining Bolted Connections Section XI, Division 1	February 26, 1999
N-566-2	Corrective Action for Leakage Identified at Bolted Connections Section XI, Division 1	March 28, 2001
RR-G-2	Relief Request for Alternate Method of Examining Class 1 and 2 Pressure Retaining Connections That Are Insulated	February 18, 2005
	Dominion Emergency Diesel Generator 1A Operation Log	2
	Dominion Emergency Diesel Generator 1B Operation Log	2

	Dominion Foreign Material Exclusion MA-AA-102 Evaluation/Check List	4
	Kewaunee Power Station Probabilistic Risk Assessment Summary	0
	System Health Report – Auxiliary Feedwater	Third Quarter of 2006 to First Quarter of 2008
	System Health Report – Containment Spray	Third Quarter of 2006 to First Quarter of 2008
	Updated Safety Analysis Report; Appendix B; Special Design Procedure	20
	Vendor Technical Manual; ASCO-0002 (XK-205-6); 3-Way Diaphragm Operated Solenoid Pilot Controlled Valves Normally Closed and Normally Open	0
NRC Letter	Safety Evaluation by the Office of Nuclear Reactor Regulation Relating to Amendment No. 197	
NRC Generic Letter 2006-02	Grid Reliability and the Impact on Plant Risk and the Operability of Offsite Power	February 1, 2006
.	Dominion Energy Kewaunee, Inc Response to Generic Letter 2006-02	April 3, 2006
NRC Inspection Manual	Operability Determinations and Functionality Assessments for Resolution of Degraded or Nonconforming Conditions Adverse to Quality or Safety	Part 9900 – Technical Guidance
NRC Regulatory Issue Summary 2003-13	NRC Review of Responses to Bulletin 2002-01, “Reactor Pressure Vessel Head Degradation and Reactor Coolant Pressure Boundary Integrity”	July 29, 2003
Table ISTB-3000-1	Inservice Test Parameters	ASME OM CODE - 1998
	Wisconsin Public Service Correspondence of June 3, 1988 to NRC Regarding Generic Letter 88-05	
	Wisconsin Public Service Letter NRC-90-10; Kewaunee Nuclear Power Plant Response to Generic Letter 89-13	January 29, 1990
	Wisconsin Public Service Letter NRC-91-149Kewaunee Nuclear Power Plant Implementation of Generic Letter 89-13 Recommended Actions	October 21, 1991
	Yarway Series 460D3 and 515D3 Integral Strainer High Pressure Disc Traps Data	

	Copies of Resets Specifically Related to Tagging or Mispositioning	
	Emergency Diesel Generators Report Data	April, 2006 – March, 2008
	Emergency Diesel Generators System Health Report	First Quarter 2008
	Index of Emergency Diesel Generator Condition Reports	January 1, 1006 to April 16, 2008
	Kewaunee Power Station Updated Safety Analysis Report; Section 8.2.3 Emergency Power	20
	Kewaunee Power Station Work Order Overview Report – System 10	May 1, 2008
	List of Clock Resets	November 2007 to April 2008
	Maintenance Rule Scoping Questions; System 10 – Emergency Diesel Generator	April 16, 2008
	Maintenance Rule System Basis; Emergency Diesel Generator System	12

VENDOR DOCUMENTS

<u>Number</u>	<u>Description or Title</u>	<u>Date or Revision</u>
	American Transmission Company – Initial Energization of Replacement Kewaunee GSU – Analysis of Expected System Impacts	March 11, 2008

WORK DOCUMENTS

<u>Number</u>	<u>Description or Title</u>	<u>Date or Revision</u>
	General Test Equipment Calibration Data Sheet	April 27, 29, 2008
	General Test Equipment Calibration Data Sheet	May 1, 2, 3, 2008
03-5302	Repair to Concrete Masonry Walls Separating the Transformer Bays and Turbine Building	February 7, 2008
03-11016	Repair Unqualified Appendix R Penetration Seal – PEN752	March 7, 2008
03-12895	Replace Diaphragm of Valve LD-19B	
03-12897	Replace Diaphragm for LD-151	March 7, 2008
04-010668	Speaker Channel Selector Switch CHAN-1, in CR-130, for the Pressurizer Acoustical Monitor System Is Working Erratically	June 19, 2008

05-003831-000	6-Inch Valve-Check - Reactor Vessel Injection Line	February 23, 2005
05-4941	Remove Installed Power Supply and Install Spare – RR-161, SPEC 200 Power Supply	April 14, 2008
05-6067	Repair Leak on FC-26615	April 24, 2008
05-6445, 07-6319	Replace Door 9	April 23, 2008
05-6202	Replace/Refurbish “A” Screenhouse Exhaust Fan Motor	October 25, 2007
05-6200,05-6203	Replace Diesel Generator “A”, “B” Ventilation Supply Fan	May 12, 2008
05-8482	Residual Heat Removal 4A – Replace Packing	April 22, 2008
05-12029, 05-14577, 06-3245	Replace the Existing Inadequate Core Cooling Monitor System	January 17, 2008
05-14044	FW-1A – Check Valve Actuator Arm (Not Retracting)	May 10, 2008
05-014596-000	1-Inch Valve-Solenoid - Rx Head/Przr Vent to Prt	December 21, 2005
06-3107	Residual Heat Removal 6B – Body to Bonnet Leak	April 22, 2008
06-3258	Repair Non-Active Boric Acid Leak on Letdown Heat Exchange Flange	
06-3261	Repair Non-Active Boric Acid Leak on “B” Residual Heat Removal Heat Exchange Flange	May 12, 2008
06-3262	Residual Heat Removal 4B – Small Non-Active B/B Leak	April 22, 2008
06-3265	Repair Valve Residual Heat Removal 100A – Dry Boric Acid at the Body to Bonnet Joint	April 22, 2008
06-5004	Replace DOOR-244 – Door Skin has Separated from Interior Door Structure	April 23, 2008
06-5520	Apply Service Level 1 Coatings to Removable Section of Handrail and Associated Mounting Components	April 11, 2008
06-8981	Repair Seat leakage, SD-11B3	March 4, 2008
06-10227	Re-label Motor Leads That Were Incorrect After Motor Charge Out	May 9, 2008
06-010121	Reactor Makeup Pump “A” Does not Provide Adequate Pressure/Flow While Performing Dilutions	June 19, 2008
06-010141	YM-113 Box Was Removed from RR-119 Under WO 06-5628	June 20, 2008
06-010310	Valve RC-402	September 9, 2006
06-010400-000	1-Inch Valve - Manual Pene 13N C/L EL 617	October 15, 2006

06-010473-000	8-Inch Valve - Mtr Oper; Residual Heat Removal 1B/MV32132 Reactor Coolant System Loop "B" Supply to Residual Heat Removal Pumps	September 6, 2006
06-11898	Replace Light Fixture Annulus	May 8, 2008
06-11909	Apply Carboline Carboguard 2011S and Carboline Carboguard 890 to the Grout Applied Areas	March 7, 2008
06-11910	Coatings, Column A-1, Remove Unqualified Coatings from 626' to 649' Elevation; Apply Cargoguard 890 Coating from 626' to 649' Elevation	April 29, 2008
06-12124	Remove Support Downstream of RC-601B and RC-602B at Intersection Near RC-422	December 12, 2007
06-12148	Replace Bus 5 Time Delay Relay TDR-S10/B5 Due to Historically Less Predictable than Bus 6	March 5, 2008
06-12971	Install Removable Grating to Provide Easier Access to RC-302B	February 7, 2008
06-12980	Manipulator Crane – Replacement of Straps	April 2, 2008
06-12994	Replace RC-103B Due to Seat Leakage	January 17, 2008
06-13011	Repair Leak by Seat CVC-205B	April 6, 2008
06-13015, 13016	Rebuild Snubbers RC-H37 and RC-H40	March 7, 2008
06-13037	MG-30 Replacement	April 11, 2008
06-14036, 07-8966	Goliath Flow Nozzle Calibration	December 12, 2007
07-180	Remove Reactor Vessel Sand Plugs for 4-Inch Safety Injection Nozzles	January 17, 2008
07-0071-5	Repair The Spent Fuel Pool Transfer System	4
07-001462	Diesel Generator "B" Load Swings During Run on 07	
07-001464	Troubleshoot the Issue with the "B" Emergency Diesel Generator Fuel Rack and Ejector Binding and Bearings	
07-001468	Repair the Fuel Injector Control Shaft and Support Bearings on the Right (Cylinders 1-10)	
07-002430	Manually Exercise the Fuel Control Linkage on Both sides of the Engine to Verify Freedom of Movement	
07-004027	Realign LP2 to the Main Generator during KR29	June 19, 2008
07-004040	Indication on Control Room Recorder 42522 Reads 37%-42% at 100% Power for Turbine Governor Valve Position	June 20, 2008

07-004041	Receiving Annunciator 47106-L, "BAHT Temp High/Low" for BAHT CKT 65	June 19, 2008
07-004170	6-Inch Pipe-to-Pipe Weld	April 2, 2008
07-007995	Reactor Makeup Water Totalizer Recorded One Spurious Click	June 19, 2008
07-008203	Turbine Rotor Speed Indication in the Control Room is Reading Erratically (CR014049)	June 20, 2008
07-009488	Main Generator Frequency Meter 4460101 Was Found Out of Calibration During Performance of ICP 43-16	June 19, 2008
07-009547	Security Reported Water Running Out of Deep Well Pump House "B" – PW-21B Intermittently Stuck Open	June 19, 2008
07-009783	Office Warehouse/Annex Lunchroom Zone 5 Fire Alarm Is Alarming – No Indication of Fire in the Area	June 19, 2008
07-012198	Receiving Cooling Water Pumps Seal Flow Low	June 20, 2008
07-2424	Refurbish Foxboro Controller FIC-111	March 30, 2008
07-3922	Replace Nordel Pallet Seal on VB-11B	March 5, 2008
07-4181	Diesel Generator - Replace Air Start Motors	April 10, 2008
07-4322, 07-4323	"A" BAST Immersion heater Replacement	March 24, 2008
07-4609	Clean "A" Reactor Coolant Pump Vault	February 7, 2008
07-4809	Clean the "A" Condensate Pump Suction Strainer	May 10, 2008
07-4864	Perform Inspection in 1R30	May 7, 2008
07-4869, 100316520	Clean and Lube Oil Sump; Repair Minor Oil Leak at Engine Sump Drain Plug	April 11, 2008
07-4870, 100316286	Emergency Diesel Generator 1B – Clean Lube Oil Sump, Repair Minor Oil Leak at Engine Sump Drain Plug	April 18, 2008
07-4897, 07-4540	Gland Steam Condenser – Open, Inspect, Clean and Perform Eddy Current Testing	April 4, 2008
07-4980	Open, Inspect, and Flush Service Water Side of CFCU-13	April 4, 2008
07-4989	Perform 15 Year Overhaul of "A" Safety Injection Pump	January 17, 2008
07-5000	Replace Diaphragm for CVC-711B	December 12, 2007
07-5001	Replace Diaphragm for CVC-701A	March 7, 2008
07-5002	Replace Diaphragm for CVC-640A	March 7, 2008
07-5003	Replace Diaphragm for CVC-406	April 22, 2008
07-6252, 07-6253, 07-6254, 07-6254	Remove the Power Supply Instillation Package from Refueling	April 2, 2008

07-6320, 07-9376	Replace "B" Incore Detector and Transfer Failed Detectors in Containment to Temporary Storage Location	May 12, 2008
07-8218	Diesel Generator "B" – Replace Fuel Injector Control Shaft and Bearings on Right Side with Two Piece Shaft	March 6, 2008
07-8221	Repair Leaking Valve, HRS-100A3	March 7, 2008
07-8225	Repair Body to Bonnet Leak on Residual Heat Removal 10B	April 22, 2008
07-8242	RC-421 - Replace Gland Follower Due to Potential for Failure from Stress Corrosion	April 23, 2008
07-8261	RC-23024-1 – Replace Gland Follower Due to Potential for Failure from Stress Corrosion	April 23, 2008
07-8273	CVC-21072-1 – Replace Gland Follower Due to Potential for Failure from Stress Corrosion	April 22, 2008
07-8305	Relocate Breaker 15206	May 12, 2008
07-8356	Replace LP-1 Expansion Boot	January 17, 2008
07-9576, 07-9580	Raise Tap Settings on BRA 106 and BRB-106	December 12, 2007
07-9824	Replace Pipe Nipples	April 12, 2008
07-10863	Revise the Wiring for the Redundant Power Supplies in the Rod Drive Cabinets to Eliminate the Daisy Chaining	March 7, 2008
07-11097	Repack Feedwater Pump Rotating Strainer 1B	May 5, 2008
07-11098	Repack Feedwater Pump Rotating Strainer 1A	May 5, 2008
07-12097	Replace the Eight Circuit Breakers on BRA 102 and BRB 102 Distribution Panels	January 17, 2008
07-13234, 13235, 13236, 13237, 13238, 13239, 13240	Replace Packed Cap with Gagging Capability	March 7, 2008
08-001	ALARA Plan – Refuel 08-0254-1Rx Head Assembly and Disassembly	March 26, 2008
08-005	ALARA Plan – RCP-1B 08-263-1 RCP "1B" – Swap Out Internals and Support Activities	March 25, 2008
08-019	ALARA Plan – MOV and AOV 08-239-9 Repack/Repair Residual Heat Removal 2A	March 26, 2008
96-209888	Replace Valve – SW-850; Seat Leakage	April 7, 2008
100274388	Inspect and Clean Motor Starter and Actuator – SW-502/MV-32031	April 8, 2008

100276662, 100325638, 07-0335	FWP "B" Ten Year Inspection – Inboard and Outboard Seal Repairs	April 19, 2008
100303288	Boric Acid Heat Tracing Circuit 84 Alarming	June 19, 2008
100307462	Open and Inspect Available Tubes with Boroscope and Backflush 1A Fan Floor Fan Coil	April 11, 2008
100307468	Open and Inspect Available Tubes with Boroscope and Backflush 1B Fan Floor Fan Coil	April 11, 2008
100307964	Perform Inspection in Support of CA017933	April 18, 2008
100308866	Repair LD-60 Seat Leakage	April 16, 2008
100309470	Correct Misalignment Issue with PR-2A Valve and Actuator 31110	May 1, 2008
100315604	R-42 (N-16 Monitor) Values Found Out of Tolerance During Performance of ICP 45-51	June 19, 2008
100315659	Diesel Generator "B" VARS Transducer Will Not Calibrate to Full Scale During ICP 42-23	June 19, 2008
100315671	Main Transformer "Y" Winding Watts Transducer 44014 Will not Calibrate	June 19, 2008
100318908	Received Annunciator 54-S – Turbine Supervisory Panel Trouble	June 19, 2008
100319272	BAHT Monitor Point BAHT042 (BA tank 1A Outlet to SI) Indicates OF - Control Room deficiency	June 19, 2008
100319926	Flux Map system Detector Position Indication Becoming Difficult to Read	June 19, 2008
100322808	N44B Auto Test Circuit Start/Continue Push Button Problem	June 19, 2008
100327411	Replace LD-4A Upstream Flow Orifice	June 19, 2008
100329335	Perform Inspection in Support of CA017933	April 4, 2008
100338382	Perform Cold or Refueling Shutdown	April 10, 2008
100339993	N-36 Drawer Front Panel Meter Sticks at 10%	June 19, 2008
100347118	Emergency Diesel Generator "A" Control Board Voltage Meter 4461102 Providing Inconsistent Indication	June 19, 2008
100348709	SI Ready Status Light for LOCA-10A Luminated Late	June 19, 2008
100353582	L1-190 BAT Level Indicator is Reading 10% Lower than the Other 3 Level Indicators on BAT A	June 19, 2008

100356672	Heat Tracing Circuit 40/Trendscan 36 Was Observed Alarming during Walkdown	June 19, 2008
100363106	LD-4A/CV-31231 – Adjust Packing/Clean, Check Stroke	April 22, 2008
100363202	Repair Pedestal Crane Oil Leak	May 5, 2008
100363315	BAHT Train “A”, Circuit 7 Controller Failure	June 19, 2008
100364206	Residual Heat Removal 8B - Repack Valve and Repair Blank Off Plate BA Leak	April 22, 2008
100364288	Abnormal Indication on Auxiliary Building Exhaust	June 19, 2008
100365200	Repack Valve Residual Heat Removal 11276	April 22, 2008
100365204	Residual Heat Removal 31B – Repack Valve	April 22, 2008
100365855	RC-450 – Replace Valve	May 2, 2008
100367607	SD-11B2 – Troubleshoot	May 7, 2008
100369617	Replace Local Processing and Display Unit	June 19, 2008
100370681	Received Annunciator 47-104-A, Battery “A” Charger Trouble and SER Battery “A” DC Ground	April 14, 2008
100372499, 100372500, 100372505, 100372506	Remove RHR-32B and RHR-34 from Outage Scope for KR-29, DCR 3718	April 19, 2008
100372504	DCR-3718, SI-44B – Replace 3/8” Swagelok Adapter with 3/4”	April 22, 2008
100376256	Upper Internals Lift Rig Torque Tubes – Replace Washers and Stainless Steel	April 5, 2008
100381269	Control Room Alarm BAHT CKT 112 Temperature Is Indicating Zero Degrees Fahrenheit and In Alarm	June 19, 2008
100381888	While Cycling CVC-203B, Valve would not go Full Open	June 19, 2008
100382745	Gauge will not Calibrate – Needs Replacement	May 7, 2008
100387468	Power Supply (-V) Light for Reactor Coolant Pump vibration Monitor Not Lit	June 19, 2008
100388175	BAHT Circuit 110 Train “A” Controller Failure	June 19, 2008
100388179	Turbine Gland Steam Pressure is Approximately 1.5 psig High	June 19, 2008
100388304	R-31, R-33, R-35, R-37 Yokagawa Recorder is Off	June 19, 2008

100389829	Control Room Deficiency - FW Heater 11A Indicated Low Level	June 19, 2008
100394510	Flexible Cable to Eccentricity Electronics Is in Need of Replacement	June 19, 2008
100396758	Unexpected Control Room Lit Annunciator - Operator Distraction	June 19, 2008
RCE000221	Evaluate Identified UE and Alert EAL Setpoint Issues with Plant Effluent Monitors	February 8, 2008
SOP-AFW-05B – 28 and 29	Approval to Perform Test or Evolution	April 30, 2008
TMod 2008-03	Small Leak Developed at the Body to Bonnet Joint of HD-102A	Original
	2008 Outage Work Order Deletion List	May 10, 2008
	2008 Outage Work Order Deletion List	May 12, 2008
	2008 Outage Work Order Additions List	May 12, 2008

LIST OF ACRONYMS USED

AC	Alternating Current
ALARA	As-Low-As-Is-Reasonably-Achievable
ASME	American Society of Mechanical Engineers
BACC	Boric Acid Corrosion Control
CAP	Corrective Action Program
CEDE	Committed Effective Dose Equivalent
CFR	Code of Federal Regulations
DMBW	Dissimilar Metal Butt Weld
DRP	Division of Reactor Projects
EP	Emergency Preparedness
ERO	Emergency Response Organization
FCU	Fan Coil Unit
IMC	Inspection Manual Chapter
IP	Inspection Procedure
IPE	Individual Plant Examination
IR	Inspection Report
ISI	Inservice Inspection
kV	Kilovolt
LCO	Limiting Condition for Operation
LER	Licensee Event Report
LOCA	Loss of Coolant Accident
LOOP	Loss of Offsite Power
MSPI	Mitigating Systems Performance Index
MWt	MegaWatts thermal
NCV	Non-Cited Violation
NEI	Nuclear Energy Institute
NRC	U.S. Nuclear Regulatory Commission
NRR	Office of Nuclear Reactor Regulation
OWA	Operator Workaround
PI	Performance Indicator
PI&R	Problem Identification and Resolution
PMT	Post-Maintenance Testing
psig	Pounds Per Square Inch Gauge
PT	Penetrant Examination
QA	Quality Assurance
RCA	Radiologically Controlled Area
RCS	Reactor Coolant System
RFO	Refueling Outage
RHR	Residual Heat Removal
RP	Radiation Protection
RPT	Radiation Protection Technician
RWP	Radiation Work Permit
RWST	Refueling Water Storage Tank
SDP	Significance Determination Process
SI	Safety Injection
SG	Steam Generator
TS	Technical Specification
TSO	Transmission System Operator
USAR	Updated Final Safety Analysis Report

URI
UT

Unresolved Item
Ultrasonic Examination