



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**

REGION III  
2443 WARRENVILLE ROAD, SUITE 210  
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August 5, 2009

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

**SUBJECT: KEWAUNEE POWER STATION INTEGRATED INSPECTION REPORT  
05000305/2009003**

Dear Mr. Heacock:

On June 30, 2009, 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 8, 2009, with Mr. Steve 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.

The report documents five NRC-identified findings and one self-revealed finding of very low safety significance (Green). Five of the findings were determined to involve violations of NRC requirements. However, because of the very low safety significance and because they are entered into your corrective action program, the NRC is treating these findings as Non-Cited Violations (NCVs) in accordance with Section VI.A.1 of the NRC Enforcement Policy.

If you contest any 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, Region III; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at Kewaunee. In addition, if you disagree with the characterization of any finding in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the Regional Administrator, Region III, and the NRC Resident Inspector at Kewaunee. The information you provide will be considered in accordance with Inspection Manual Chapter 0305.

D. Heacock

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Sincerely,

*/RA/*

Michael A. Kunowski, Chief  
Branch 5  
Division of Reactor Projects

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

Enclosure: Inspection Report 05000305/2009003  
w/Attachment: Supplemental Information

cc w/encl: S. Scace, Site Vice President  
M. Wilson, Director, Nuclear Safety and Licensing  
C. Funderburk, Director, Nuclear Licensing and  
Operations Support  
T. Breene, Manager, Nuclear Licensing  
L. Cuoco, Senior Counsel  
D. Zellner, Chairman, Town of Carlton  
J. Kitsembel, Public Service Commission of Wisconsin  
P. Schmidt, State Liaison Officer

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SUBJECT: KEWAUNEE POWER STATION NRC INTEGRATED INSPECTION REPORT  
05000305/2009003

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

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

Report No: 05000305/2009003

Licensee: Dominion Energy Kewaunee, Inc.

Facility: Kewaunee Power Station

Location: Kewaunee, WI

Dates: April 1, 2009, through June 30, 2009

Inspectors: S. Burton, Senior Resident Inspector  
K. Barclay, Resident Inspector  
J. Cassidy, Senior Health Physicist  
M. Munir, Reactor Engineer  
T. Bilik, Reactor Engineer

Approved by: Michael A. Kunowski, Chief  
Branch 5  
Division of Reactor Projects

Enclosure

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## SUMMARY OF FINDINGS

IR 05000305/2009003; 04/01/2009 – 06/30/2009; Kewaunee Power Station; Operability Evaluations; Component Design Bases Inspection; Surveillance Testing; and Follow-Up of Events and Notices of Enforcement Discretion.

This report covers a three-month period of inspection by resident inspectors and announced baseline inspections by regional inspectors. Six Green findings were either self-revealed or identified by the inspectors this quarter. Five of the findings were considered Non-Cited Violations (NCVs) 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: Mitigating Systems**

- Green. A finding of very low safety significance (Green) and an associated Non-Cited Violation of 10 CFR 50.59 were identified by the inspectors for the licensee's failure to obtain a license amendment when it failed to properly assess a quality assurance typing change to the emergency diesel generator starting air compressors. Violations of 10 CFR 50.59 are considered to be violations that potentially impede or impact the regulatory process, and are dispositioned using the traditional enforcement process. The licensee entered this issue into its corrective action program as CR 326432 for evaluation and development of corrective actions, as appropriate.

Supplement I of the Enforcement Policy was used to determine the severity of the underlying technical issue evaluated under the SDP. The issue was determined to be more than minor because it was associated with the Mitigating Systems Cornerstone attribute of design control and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). The inspectors evaluated the finding using the SDP and the inspectors screened the issue as very low safety significance (Green) because the quantity of air available to supply air for five start attempts of the diesels and to supply support systems for the emergency diesel generators always exceeded that needed for 24 hours of operation, thereby, resulting in the probabilistic risk assessment function for the diesels being met. The inspectors determined this issue had a cross-cutting aspect in the area of Problem Identification and Resolution, trending and assessment, because the licensee failed to perform aggregate assessments that could have identified and prevented this and related issues earlier. (P.1(b)) (Section 1R15)

- Green. A finding of very low safety significance (Green) and an associated Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," were identified by the inspectors for the failure to verify that motor control center (MCC) control circuits for some ventilation fans and safety injection system isolation valves would have adequate voltage to operate and, therefore, could result in a loss of function of the circuits during a design basis accident. To address this issue, the licensee modified

several MCC starter circuits, which entailed replacement of some inadequately-sized control power transformers, starters, and fuses, and implemented procedures changes to reduce MCC loads.

The finding was determined to be more than minor because the calculation errors resulted in four inoperable components and a condition where there was reasonable doubt on the operability of several other safety-related loads. The inspectors assessed the significance of this finding for each affected component and determined that the finding did not either relate to a containment structure, system, or component or containment status that had an impact on large early release frequency, or did not result in loss of operability or functionality of the safety injection system because the discharge isolation valves were aligned in their required accident positions and de-powered. In addition, the inspectors assessed the impact on the components powered from the MCCs and determined that the overall failure to ensure adequate voltage at the MCCs as having very low safety significance. Therefore, the finding screened as of very low safety significance (Green). The inspectors determined that there was no cross-cutting aspect to this finding because the cause of the problem occurred many years and was not indicative of current performance. (Section 1R21)

#### **Cornerstone: Barrier Integrity**

- Green. A finding of very low safety significance (Green) and an associated Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," were self-revealed for the licensee's failure to maintain adequate procedures for the inspection and verification-of-operation for the "A" containment fan coil unit backdraft dampers. The licensee entered this issue into the licensee's corrective action program as CR 328191; immediate corrective actions were accomplished to repair the affected components.

The finding was determined to be more than minor because the finding was associated with the Barrier Integrity Cornerstone attribute of design control and adversely affected the cornerstone objective to provide reasonable assurance that physical design barriers, specifically containment, protect the public from radionuclide releases caused by accidents or events. The inspectors determined the finding could be evaluated using the SDP and screened the finding as having very low safety significance (Green). This finding has a cross-cutting aspect in the area of problem identification and resolution, operating experience, because the licensee did not use operating experience to support plant safety. (P.2(b)) (Section 4OA3)

- Green. A finding of very low safety significance (Green) was identified by the inspectors for the licensee's failure to update procedures as required by NRC commitments. Specifically, a procedure for fuel oil sampling and a procedure for steam generator tube inspections were not maintained as required by the referenced commitments. The inspectors determined that the issues constituted a finding relating to management of commitments as required by Nuclear Energy Institute 99-04, "Guidelines for Managing NRC Commitment Changes." The licensee has entered this issue into its corrective action program as CR 340864 to assess the failure to the effects of revisions to reference and end-use documents on each other.

The inspectors concluded that the issue was more than minor because the integration of vendor/industry guidance was related to a commitment to the NRC for steam generator

tube inspections, and the failure to appropriately manage the commitments impacted the regulatory process. The issue was administrative in nature and did not impact any safety or risk significant systems, therefore, the issue was determined to be of very low safety significance (Green). The inspectors determined that the issue had a cross-cutting aspect related in the area of Human Performance, resources, because the licensee failed to maintain the related procedures complete, accurate, and up-to-date. (H.2(c)) (Section 4OA3.8)

### **Cornerstone: Emergency Preparedness**

- Green. A finding of very low safety significance (Green) and an associated Non-Cited Violation were identified by the inspectors for the licensee's failure to maintain radiation monitoring instrumentation operable that was required by its emergency plans to meet the standards set forth in 10 CFR 50.47(b). Specifically, seismic instrumentation needed for two Emergency Action Levels, HU1.1 and HA1.1, was not maintained operable such that a related Unusual Event notification and an Alert declaration could have been made under certain conditions. Corrective actions were taken for this issue and included revising Emergency Action Level (EAL) requirements to values within the range of the instrumentation.

The inspectors determined that the issue was more than minor because the finding, if left uncorrected, would become a more significant safety concern. Specifically, for a seismic event, the deficiency could lead to the failure to declare an Unusual Event for a "Natural and Destructive Phenomena Affecting the Plant Protected Area," HU1.1, and an Alert for a "Natural and Destructive Phenomena Affecting the Plant Vital Area," HA1.1. The inspectors determined the finding could be evaluated using the SDP and concluded that the risk significant planning standard problem was not a functional failure, nor did it represent a degraded function and, therefore, screened as an issue of very low safety significance (Green). The inspectors determined this was a Green risk significant planning standard problem, rather than degraded or failed risk significant planning standard function, because the process failure affected only one Unusual Event and one Alert emergency classification. The inspectors determined this issue had a cross-cutting aspect in the area of Problem Identification and Resolution, trending and assessment, because the licensee failed to perform aggregate assessments that could have identified and prevented this and related issues earlier. (P.1(b)) (Section 1R22)

### **Cornerstone: Public Radiation Safety**

- Green. A finding of very low safety significance (Green) and an associated violation of Technical Specification 4.1 were identified by the inspectors for the licensee's calibration practices for process radiation instrument R-19 that did not qualify as a "Channel Calibration" as required by technical specifications. Specifically, the sources for calibration of R-19 were not of sufficient strength to test the instrument in the range where alarms were required to be operable. Corrective actions were taken for this issue and included revising EAL requirements to values within the range of the instrumentation.

The inspectors determined that the issue was more than minor because it was associated with the Public Radiation Safety Cornerstone attribute of equipment and instrumentation and adversely affected the cornerstone objective to ensure protection of public health and safety from exposure to radioactive materials released into the public

domain. The inspectors used IMC 0609, "Significance Determination Process," Attachment D, "Public Radiation Safety Significance Determination Process," dated February 12, 2008, and determined that the finding was in the licensee's radiological effluent monitoring program and was contrary to a technical specification requirement. However, the finding was not related to a spill or release of radioactive material to the environment and, therefore, screened as an issue of very low safety significance (Green). The inspectors reviewed this issue for a cross-cutting aspect and determined that no cross-cutting aspect was applicable. (Section 4OA3.4)

**B. Licensee-Identified Violations**

No violations of significance were identified.

## REPORT DETAILS

### Summary of Plant Status

Kewaunee operated at full power for the entire inspection period except for brief downpowers to conduct planned maintenance and surveillance activities and for the following exception:

- On April 16, 2009, Kewaunee shutdown after it identified that the lag time constants for all of the low steam line pressure safety injection circuits did not meet the technical specification acceptance criteria. The licensee performed an extent of condition, corrected the identified deficiencies and subsequently performed a reactor start-up on April 20.

### 1. REACTOR SAFETY

#### **Cornerstones: 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 at 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 would not be 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.

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

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

b. Findings

No findings of significance were identified.

.2 Summer Seasonal Readiness Preparations

a. Inspection Scope

The inspectors reviewed the licensee's preparations for summer weather for selected systems, including conditions that could lead to an extended drought.

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 as specified by plant specific procedures were appropriate. Specific documents reviewed during this inspection are listed in the Attachment to this report. The inspectors also reviewed CAP items to verify that the licensee was identifying adverse weather issues at an appropriate threshold and entering them into the CAP in accordance with station corrective action procedures. The inspectors' reviews focused specifically on the following plant systems:

- emergency diesel generators (EDGs); and
- service water.

This inspection constituted one seasonal adverse weather sample as defined in IP 71111.01-05.

b. Findings

No findings of significance were identified.

.3 High Winds/Tornado Seasonal Readiness Preparations

a. Inspection Scope

The inspectors reviewed the licensee's preparations for high winds or tornados for selected systems.

During the inspection, the inspectors focused on plant specific design features and the licensee's procedures used to mitigate or respond to tornados and high winds. The inspectors also toured the plant grounds to look for any loose debris that could become missiles during a tornado. The inspectors evaluated operator staffing and accessibility of controls and indications for those systems required to control the plant. Additionally, the inspectors reviewed the USAR and performance requirements for systems selected for inspection, and verified that operator actions were appropriate as specified by plant specific procedures. Specific documents reviewed during this inspection are listed in the Attachment to this report. The inspectors also reviewed CAP items to verify that the licensee was identifying adverse weather issues at an appropriate threshold and entering them into the CAP in accordance with station corrective action procedures. The inspectors' reviews focused specifically on the following plant systems:

- EDGs; and
- service water.

This inspection constituted one seasonal adverse weather sample as defined in IP 71111.01-05.

b. Findings

EDG Fuel Oil Storage and Day Tank Vent Line Tornado Qualification

Introduction: The inspectors identified an unresolved item (URI) relating to the tornado missile qualification of the EDG fuel oil storage and day tank vent lines.

Description: During a high wind/tornado seasonal readiness preparations inspection, the inspectors found that the EDG fuel oil storage and day tanks were not missile protected as required by the licensee's USAR. The inspectors reviewed the licensee's operability evaluation for the vent lines and found that the licensee was using the TORMIS methodology to justify operability until it completed a modification to correct the deficiency. The TORMIS methodology was a probabilistic approach and the inspectors questioned why it was allowable to use this method without an amendment because Regulatory Issue Summary (RIS) 2005-20, "Revision to NRC Inspection Manual Part 9900 Technical Guidance, "Operability Determinations & Functionality Assessments for Resolution of Degraded or Nonconforming Conditions Adverse to Quality or Safety," specifically stated that probability could not be used to justify operability. The licensee believed that TORMIS could be used as an alternative analytical methodology because the NRC documented the acceptability of the method in the NRC Safety Evaluation of October 26, 1983. The inspectors reviewed the 1983 safety evaluation, and RIS 2008-14, "Use Of TORMIS Computer Code for Assessment of Tornado Missile Protection." Regulatory Issue Summary 2008-14 stated that the initial use of TORMIS methodology required a license amendment, but did not discuss the use of TORMIS in operability. This issue is considered unresolved pending an agency decision on whether

the use of the TORMIS methodology is appropriate in operability evaluations without having a specific amendment for the use of TORMIS (URI 05000305/2009003-01).

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:

- turbine-driven auxiliary feedwater system after return to service;
- “B” EDG after return to service;
- service water train “B” after pump replacement; and
- control room air conditioning.

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 (WOs), condition reports, and the impact of ongoing work activities on redundant trains of equipment 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 CAP with the appropriate significance characterization. Documents reviewed are listed in the Attachment to this report.

These activities constituted four partial system walkdown samples as defined in IP 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 internal containment spray system 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, and as appropriate, component labeling,

component lubrication, component and equipment cooling, hangers and supports, 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 WOs was performed to determine whether any deficiencies significantly affected the system function. In addition, the inspectors reviewed the CAP database to ensure that system equipment alignment problems were being identified and appropriately resolved. Documents reviewed are listed in the Attachment to this report.

These activities constituted one complete system walkdown sample as defined in IP 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:

- fire zone AX-35, control room air conditioning equipment room;
- fire zone AX-23A, auxiliary building fan rooms;
- fire zone AX-32, cable spreading room; and
- fire zone TU-92/TU-93, "1B" diesel generator and day tank rooms.

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 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, 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. Using the documents listed in the Attachment to this report, the inspectors verified that fire hoses and extinguishers were in their designated locations and available for immediate use, fire detectors and sprinklers were unobstructed, 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 CAP. Documents reviewed are listed in the Attachment to this report.

These activities constituted four quarterly fire protection inspection samples as defined in IP 71111.05-05.

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 1, 2009, 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 to this report.

This inspection constituted one quarterly licensed operator requalification program sample as defined in IP 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:

- 4160-volt (V) switchgear and equipment; and
- service and instrument air system.

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 (SSCs)/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 CAP with the appropriate significance characterization. Documents reviewed are listed in the Attachment to this report.

This inspection constituted two quarterly maintenance effectiveness samples as defined in IP 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:

- component cooling water level transmitter modification;
- substation modifications;
- offsite power line Y51 and "A" EDG out-of-service; and
- unplanned "A" EDG inoperability.

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.

These maintenance risk assessments and emergent work control activities constituted four samples as defined in IP 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:

- diesel generator air system not fully qualified;
- containment spray isolation valves susceptible to pressure locking; and
- low level in “A” EDG oil sight-glass.

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 TSs 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 to this report.

This operability inspection constituted three samples as defined in IP 71111.15-05.

b. Findings

(Closed) URI 05000305/2009002-05, “EDG Air System May Not Be Appropriately Qualified”

Introduction: The inspectors identified a finding of very low safety significance and an associated Non-Cited Violation (NCV) of 10 CFR 50.59 for the licensee’s failure to obtain Commission approval via a license amendment when it failed to assess the subject Quality Assurance (QA) typing change and did not recognize that it constituted an unreviewed safety question. Specifically, the EDG starting air compressors were previously qualified QA level 1 (QA-1) and were inappropriately downgraded to QA-2, constituting a reduction in system reliability that “could the change increase the

probability of occurrence of a malfunction of equipment important to safety previously evaluated in the USAR.”

Description: While reviewing procedure OP KW-OSP-DGE-006B, “Diesel Generator ‘B’ Startup Air Leakage Test,” the inspectors noted that the air receivers also supply controlling air to the ventilation dampers in the diesel rooms. The inspectors reviewed the calculations for the capacity of the air receivers and assessed the design basis of the associated air compressors because the dampers were supplied from the same system.

The design of the system consisted of a normal and a spare bank of air receivers and an associated air compressor for each diesel generator. The air receivers for each diesel had the capability of be interconnected both to the designated diesel and to the alternate diesel. Additionally, procedures and equipment existed to interface the diesel air system with the station instrument air system through the use of hoses stationed locally for this purpose.

The inspectors reviewed the calculation for the diesel air receivers and found that the capacity of the receivers supported five start sequences of the diesel and had enough additional capacity to run the ventilation dampers for approximately 24 hours. The inspectors noted that with this capacity the safety-related air receivers, even if interconnected, could not support the diesel generator for the seven days needed to meet the TS fuel oil mission time. The inspectors also reviewed station documentation to ascertain the diesel generator mission time, but were unable to find any information to support a specific interval. Because the air receivers were only designed to support 24 hours of operation without replenishment, the inspectors reviewed the qualifications of the supporting air compressors. The inspectors found that the air compressors, piping, and related power were, at one time, all classified as both seismic and QA-1; however, the compressors had been downgraded to QA-2 due to replacement part issues.

Subsequent reviews of the system design identified that the QA typing was changed from QA-1 to QA-2 in January 1990, as part of QA Typing Change 89-02. Further reviews found that the typing change did not contain an approved 10 CFR 50.59 evaluation. Because a downgrade in typing would allow the introduction of lesser grade parts, the inspectors concluded that QA typing downgrade reduced system/equipment reliability. This reduction could “increase the probability of occurrence of a malfunction of equipment important to safety previously evaluated in the USAR” and the licensee would have been directed by 10 CFR 50.59 to submit a license amendment request had it performed the appropriate 50.59 evaluation.

Analysis: The inspectors concluded that the failure to perform a 10 CFR 50.59 evaluation which would have required the submittal of an amendment request was a performance deficiency warranting further review. Because violations of 10 CFR 50.59 are considered to be violations that potentially impede or impact the regulatory process, they are dispositioned using the traditional enforcement process. As described in Supplement I of the Enforcement Policy, to determine the severity of a 10 CFR 50.59 violation, the underlying technical issue was evaluated under the SDP.

Using IMC 0612, “Power Reactor Inspection Reports,” Appendix B, “Issue Screening,” dated December 4, 2008, the inspection determined the issue was more than minor because it was associated with the Mitigating Systems Cornerstone attribute of design

control and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). The inspectors evaluated the finding 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 Mitigating Systems Cornerstone, dated January 10, 2008. The inspectors answered "yes" to Question 2 in the Mitigation System Cornerstone column, which required the issue to be evaluated in accordance with Appendix A, of IMC 0609. Using Appendix A, the inspectors screened the issue as very low safety significance (Green) because the quantity of air available to support five start attempts and to operate the ventilation dampers for the diesel generators always exceeded that needed for 24 hours of operation; thereby, resulting in the probabilistic risk assessment function for the diesels being met.

The inspectors determined this issue had a cross-cutting aspect in the area of Problem Identification and Resolution, trending and assessment, because the licensee failed to perform aggregate assessments that could have identified and prevented this and related issues earlier (P.1(b)). Specifically, numerous condition reports and prior findings indicated that the licensee was having difficulty assessing the current licensing basis. During reviews of this issue occurring between February 20, 2009, and mid-June 2009, the licensee was unsuccessful in recognizing the safety related aspects of the system design required to assure that replaced components were QA-1 equivalent without those components being appropriately dedicated for the application. In late June 2009, the licensee assigned an experienced supervisor to take over responsibility for the issue which immediately resulted in the recognition of the typing and qualification problems, the replaced components were properly dispositioned and the EDG air system restored to QA-1 status.

Enforcement: Regulation 10 CFR 50.59(a)(1) states, in part, that the licensee may make changes in the facility as described in the final safety analysis report without prior Commission approval unless the proposed change involves an unreviewed safety question. Regulation 10 CFR 50.59(a)(2) states, in part, that a proposed change shall be deemed to involve an unreviewed safety question if the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety previously evaluated in the safety analysis report may be increased. Contrary to this, the licensee failed to obtain Commission approval via a license amendment when it failed to assess the subject QA typing change and did not recognize that it constituted an unreviewed safety question. The licensee entered this issue into its CAP as CR 326432 for evaluation and development of corrective actions, as appropriate. Because this violation was of very low safety significance and it was entered into the licensee's corrective action program, this violation is being treated as a Severity Level IV NCV consistent with Section VI.A of the NRC Enforcement Policy (NCV 05000305/2009003-02).

Based on the above discussion, URI 05000305/2009002-05 is closed.

1R18 Plant Modifications (71111.18)

.1 Temporary Plant Modifications

a. Inspection Scope

The inspectors reviewed the following temporary modification:

- high steam flow bi-stable setpoint range change.

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 system. 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. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one temporary modification sample as defined in IP 71111.18-05.

b. Findings

No findings of significance were identified.

1R19 Post-Maintenance Testing (71111.19)

.1 Post-Maintenance (PM) Testing

a. Inspection Scope

The inspectors reviewed PM tests of the following components to verify that procedures and test activities were adequate to ensure system operability and functional capability:

- “A” containment fan coil unit;
- door 5;
- “B” auxiliary feedwater pump;
- “1C” turbine building fan coil unit;
- bus 6 safety injection time delay relay; and
- “1A1” service water pump lube water regulator.

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 PM tests to determine whether the licensee was identifying problems and entering them in the CAP and that the problems were being corrected commensurate with their importance to safety. Documents reviewed are listed in the Attachment to this report.

This inspection constituted six post-maintenance testing samples as defined in IP 71111.19-05.

b. Findings

No findings of significance were identified.

1R20 Outage Activities (71111.20)

.1 Other Outage Activities

a. Inspection Scope

The inspectors evaluated outage activities for an unscheduled outage that began on April 16, 2009, and continued through April 20. The inspectors reviewed activities to ensure that the licensee considered risk in developing, planning, and implementing the outage schedule.

The inspectors observed or reviewed the reactor shutdown and cooldown, outage equipment configuration and risk management, electrical lineups, control and monitoring of decay heat removal, control of containment activities, startup and heatup activities, and identification and resolution of problems associated with the outage.

Kewaunee shut down after it identified that the lag time constants for all of the low steam line pressure safety injection circuits did not meet the TS acceptance criteria. The licensee performed an extent of condition, corrected the identified deficiencies and subsequently performed a reactor start-up on April 20, 2009. Additional inspection samples that were conducted during the outage included a surveillance sample of the steam generator flow mismatch and steam line pressure channel 3 calibration to inspect the upgraded calibration procedure while it was being performed.

This inspection constituted one other outage sample as defined in IP 71111.20-05.

b. Findings

No findings of significance were identified.

1R21 Component Design Bases Inspection (CDBI) (71111.21)

a. Inspection Scope

Unresolved Item 05000305/2007006-06 was opened during the CDBI due to concerns identified with the motor control center (MCC) control circuit voltage calculations. During this inspection period, the inspectors reviewed related documents to determine the adequacy of the licensee's past operability evaluation (operability determination – OD). This review did not represent an inspection sample.

b. Findings

Failure to Ensure that MCC Control Circuits Have Adequate Voltage to Operate During Design Basis Accident Conditions

Introduction: The inspectors identified a finding of very low safety significance and an associated NCV of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the licensee's failure to assure that MCC control circuits would have adequate voltage to operate during a design basis accident.

Description: During the CDBI, the inspectors identified a URI concerning MCC control circuit voltage calculation C-039-001 resulting in voltage potentially below acceptable level for operability of several circuits. Specifically:

- The licensee used non-conservative data from control power transformer tests. MCC control circuits were powered from a separate 480-V-to-120-V single-phase control power transformer (CPT) in each starter bucket. The tests on CPTs were intended to determine the actual voltage ratios for use as inputs to the voltage drop calculations. The transformer secondary voltage values derived from these tests were non-conservatively high.
- The licensee used non-conservative data from contactor tests. The calculation acceptance criteria used data from tests in lieu of the manufacturer's guaranteed pick-up voltage of 85 percent of rated voltage of 120 Volts alternating current (Vac): 102 Vac. The test values were considerably lower than the manufacturer's guaranteed values, and no margin was included in the calculation to account for known differences between the service and the test conditions or for inherent uncertainties in test methods.
- The licensee used non-conservative calculation methodology. In addition to the concerns with the test data described above, calculation C-039-001 contained errors and omissions that contributed to the non-conservative results.

The licensee initiated corrective action program documents CAPs 041709, 041801, and 041840 to address operability concerns for specific circuits and for the general concern related to the non-conservative voltage drop calculation. The preliminary calculations used to support the operability evaluations in these CAPs were also non-conservative, and required several revisions over the course of the inspection to correct errors and omissions. The inspectors determined, based on licensee's preliminary calculations for the circuits, that approximately 41 circuits would have had less than 5-V margin for operability based on voltage settings of the undervoltage relays.

Shortly after the conclusion of the onsite inspection, the licensee provided a revised operability evaluation that reflected changes to procedures to reduce MCC load, and physical modifications to starter circuits. The preliminary calculations supporting the revised operability evaluation included a minimum margin of approximately 5 V to account for uncertainties in test data and aging and uncertainties in other calculation inputs. Key inputs to the preliminary calculation included an unverified preliminary load flow calculation performed with the electrical transient analyzer computer program. The preliminary calculations also took credit for the minimum expected grid voltage of 140 kilovolts (kV) which was controlled by nonsafety-related computer programs under the control of the transmission system operator. This voltage input was used in lieu of the design basis voltage which was monitored by the automatic safety-related undervoltage relays.

The inspectors' concerns with the lack of assurance that MCC control circuits had adequate voltage to operate when required was considered an Unresolved Item (URI 05000305/2007006-06 (DRS)) pending the licensee's completion of a past operability assessment of the several circuits and further inspector review.

Subsequent to this inspection, the licensee revised the MCC control circuit voltage drop calculation C11716, Revision 0. The results of this calculation indicated that a large number of starters did not qualify for 95/95 pick-up at the second level undervoltage relay settings. The 95/95 pick-up is the voltage at which there is 95 percent confidence that 95 percent of the starters in the population would pick-up at or below this voltage. The licensee determined that with a nominal voltage of 138 kV at the switchyard, the second level undervoltage relay settings (93.6 percent  $\pm$  0.9 percent with a time delay of  $\leq$  7.4 seconds) would render the MCC control circuits inoperable. The inoperability of the MCC control circuits occurred at the lower limit (92.7 percent) of the undervoltage relay settings. As a consequence of this, the licensee implemented an administrative limit to maintain the switchyard voltage at or above 140 Kv. The licensee intended to have this administrative control in place until a license amendment can be processed and/or modifications made to the electrical distribution system. As such, the licensee performed operability evaluation OD 000160, Revision 1, to justify an interim compensatory measure of maintaining the minimum switchyard voltage at or above 140 kV such that the voltage is assured to be greater than the level of the second level undervoltage relays settings.

The inspectors were concerned that in OD 000160, the licensee had replaced the automatic safety function of second level undervoltage relays with a manual action in that the licensee relied upon notification, concerning switchyard voltage being less than 140 kV, from the grid operators to take action for alternative means of energizing the safety-related buses. In response to this, the licensee performed another operability evaluation, OD 000254, Revision 0, based on re-evaluation of calculations C11450, Revision 1, and C11716, Revision 1. The licensee re-evaluated the calculations from the perspective of the conservatisms involved and correlation with actual circuit operation. In the re-evaluation, the licensee was able to demonstrate that reliance on maintaining the switchyard voltage at or above 140 kV to prove the operability of the MCC control circuits was not necessary. This review utilized the lower analytical value (92.7 percent) of the second level undervoltage relay settings. The inspectors reviewed OD 000254 and concluded that the removal of some of the conservatisms and licensee's methodology of justifying immediate operability appeared to be reasonable.

Additionally, the licensee is evaluating a potential major modification to the electrical distribution systems to increase the voltage level at the buses and make more realistic assessment of the required analytical limit settings, governed by the most limiting components, of the undervoltage relays. The licensee intends to submit a TS and/or License Amendment Request in conjunction with the modification.

Analysis: The inspectors determined that the failure to assure that MCC control circuits would have adequate voltage to operate when required was a performance deficiency that could have resulted in a loss of function of the circuits during a design basis accident. The inspectors further determined that the issue was within the licensee's ability to foresee and correct, and that it could have been prevented because the licensee had reanalyzed the circuits in 1994.

The finding was determined to be more than minor in accordance with IMC 0612, Appendix B, "Issue Disposition Screening," dated December 4, 2008, because it was associated with the Mitigating Systems Cornerstone attribute of design control and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, the calculation errors resulted in four inoperable components and a condition where there was reasonable doubt on the operability of several other safety-related loads. The calculation errors were significant enough that physical modification had to be made to several MCC starter circuits that involved replacing inadequately-sized control power transformers, starters, and fuses and procedure changes had to be implemented to reduce MCC loads. After the corrective actions discussed above were implemented, the licensee was able to demonstrate operability of the deficient circuits.

Because this finding specifically affected the operability of four components, the inspectors assessed the significance of this finding for each component, as well as the aggregate condition, as follows:

- Train "A" Containment Dome Ventilation Fan: The inspectors determined that this was a Type B finding—a finding related to structures, systems, and components that do not affect the likelihood of core damage but can impact containment integrity. The inspector used IMC 0609, Appendix H, "Containment Integrity SDP," Table 4.1, dated May 6, 2004, and determined that the finding did not relate to a containment structure, system, or component (SSC) or containment status that had an impact on large early release frequency (LERF). Because of this, the issue screened as Green using the flowchart in Figure 4.1.
- Train "A" and "B" Safety Injection Accumulator Discharge Isolation Valves: The inspectors that the finding affected the Mitigation Systems Cornerstone. Using IMC 0609, Attachment 0609.04, "Phase 1 Initial Screening and Characterization of Findings," dated January 10, 2008, the inspectors determined that the finding did not result in loss of operability or functionality of the safety injection system because the discharge isolation valves were aligned in their required accident positions and de-powered. Because of this, the finding screened as Green.
- Train "A" Zone Special Ventilation Exhaust Fan: The inspectors determined that this was a Type B finding since it was related to a degraded condition that had potential important implications for the integrity of the containment, without affecting the likelihood of core damage. The inspector used IMC 0609, Appendix H,

“Containment Integrity SDP,” Table 4.1, dated May 6, 2004, and determined that the finding did not relate to a containment SSC or containment status that had an impact on LERF. Because of this, the issue screened as Green using the flowchart in Figure 4.1.

- Train “A” Shield Building Ventilation Recirculation Fan: The inspectors determined that this was a Type B finding since it was related to a degraded condition that had potential important implications for the integrity of the containment, without affecting the likelihood of core damage. The inspector used IMC 0609, Appendix H, “Containment Integrity SDP,” Table 4.1, dated May 6, 2004, and determined that the finding did not relate to a containment SSC or containment status that had an impact on LERF. Because of this, the issue screened as Green using the flowchart in Figure 4.1.

In addition, the inspectors assessed the impact on the components powered from the MCCs and determined that the overall failure to ensure adequate voltage at the MCCs is of very low safety significance.

The inspectors determined that there was no cross-cutting aspect to this finding because the cause of the performance deficiency occurred many years ago and was not indicative of current licensee performance.

Enforcement: Title 10 CFR Part 50, Appendix B, Criterion III, “Design Control,” requires, in part, that design control measures provide for verifying or checking the adequacy of design, such as by the performance of design reviews, by the use of alternate or simplified calculation methods, or by the performance of a suitable testing program.

Contrary to the above, the inspectors determined that prior to February 4, 2009, the licensee’s design control measures failed to verify the adequacy of the design, in that the methodology and design inputs used in licensee calculations failed to include significant factors that adversely affected control circuit voltage. Specifically, the calculation deficiencies included using non-conservative test data for calculation inputs and acceptance criteria, failure to include all loads such as relays and lights in the circuit analysis, and failure to properly account for the resistance of all devices in the circuits. The cumulative effect of these factors resulted in a significant reduction in margin in voltage available for safety-related control equipment and inoperability of three components.

The licensee entered the finding into their corrective action program as CAPs 041709, 041801, and 041840. Following discovery at the time of CDBI, the licensee performed circuit modifications, such as replacing CPTs and MCC buckets, and implemented procedure changes to restore operability to certain circuits; and implemented administrative measures to maintain grid voltage at or above 140 kV until subsequent calculations demonstrated full operability. Because this violation was of very low safety significance and it was entered into the licensee’s corrective action program, this violation is being treated as an NCV, consistent with Section VI.A.1 of the NRC Enforcement Policy (NCV 05000305/2009003-03 (DRS)).

Based on the above discussion, URI 05000305/2007006-06 is closed.

## 1R22 Surveillance Testing (71111.22)

### .1 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:

- steam generator flow mismatch and steam line pressure channel 3 calibration;
- auxiliary feedwater pump “B” low suction and low discharge pressure trip test;
- train “B” special building ventilation test;
- containment pressure instrument channel test;
- reactor coolant system leak rate check; and
- train “A” safety injection pump and valve test (inservice testing-IST).

The inspectors observed in-plant activities and reviewed procedures and associated records to determine the following:

- did preconditioning occur;
- were the effects of the testing adequately addressed by control room personnel or engineers prior to the commencement of the testing;
- were acceptance criteria clearly stated, demonstrated operational readiness, and consistent with the system design basis;
- plant equipment calibration was correct, accurate, and properly documented;
- as-left setpoints were within required ranges; and 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, American Society of Mechanical Engineers 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 CAP.

Documents reviewed are listed in the Attachment to this report.

This inspection constituted four routine surveillance testing samples, one inservice testing sample, and one reactor coolant system leak detection inspection sample as defined in IP 71111.22, Sections -02 and -05.

b. Findings

No findings of significance were identified.

.2 (Closed) URI 05000305/2009002-06, "Seismic Monitoring System Repeatedly Fails Surveillance"

Introduction: The inspectors identified a finding of very low safety significance and an associated NCV of 10 CFR 50.54(q) and 50.47(b) for the licensee's failure to maintain radiation monitoring instrumentation operable that was required by the Kewaunee emergency plan Emergency Action Levels (EALs). Specifically, seismic instrumentation needed for two EALs, HU1.1 and HA1.1, was not maintained operable such that a related Unusual Event notification and an Alert declaration could have been made under certain conditions.

Discussion: While performing a plant status review of the relay room, the inspectors noticed that the seismic monitoring system was tagged as needing repair on multiple components, including the recording chart. Because this instrument was a TS-required instrument, it was used to determine reporting requirements for declaration of an Unusual Event and Alert emergencies, and its chart may be a necessary backup to assess reporting elements, the inspectors elected to review the next surveillance performed on the system.

The licensee performed SP-87-133, "Seismic Monitoring System Calibration and Functional Test," Revision I, for seismic monitoring on January 8 through February 3, 2009. During the performance of the related surveillance, the two channels for horizontal motion had alarm triggers, which were found to be non-conservatively out-of-specification. The inspectors reviewed the related data and determined that the instrument started performing erratically in 2005; all of the trigger cards were found out-of-specification during the 2005 and 2007 surveillance tests.

The fact that the alarm cards for both Operating Basis Earthquake and Design Basis Earthquake of the instrument were found out-of-specification in the non-conservative direction during the last three surveillance tests called into question the station meeting the requirement to ensure that Kewaunee could declare an emergency in an accurate and timely manner. It also suggested that the applicable plant equipment response procedures might not be entered in the event of an earthquake.

The inspectors assessed the licensee's instrumentation calibration practices and found that the licensee wrote CRs when instrumentation was found out of specification; did not re-zero instruments to a reference value unless the instrument was found out of specification; did not consider replacing an instrument until the instrument experienced three consecutive failures; and did not trend instrument setpoint data to assess the predictability of instrument failures.

The inspectors concluded that the seismic monitor failure was predictable and that the lack of a program to monitor instrument performance contributed to the failure. Because the instrument failure was predictable, the inspectors concluded that the ability of the licensee to use the seismic monitor as a reliable method to assess and enter the emergency plan was unavailable, and that for some period of time during the calibration interval, the related instruments were inoperable.

Analysis: The inspectors determined that the failure to maintain seismic monitoring instrumentation operable when failures of the instrumentation were predictable was a performance deficiency warranting further review. The inspectors determined that the issue was more than minor because the finding, if left uncorrected, would become a more significant safety concern. Specifically, in the event of a seismic event, the deficiency could lead to the failure to declare an Unusual Event for a "Natural and Destructive Phenomena Affecting the Plant Protected Area," HU1.1, and an Alert for a "Natural and Destructive Phenomena Affecting the Plant Vital Area," HA1.1.

The inspector determined the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," Appendix B, "Emergency Preparedness Significance Determination Process," dated March 6, 2003. Using the "Failure to Comply" flowchart, the inspectors concluded that the risk significant planning standard problem was not a functional failure, nor did it represent a degraded function, and therefore screened as an issue of very low safety significance, Green. The inspector determined this was a Green risk significant planning standard problem, rather than degraded or failed risk significant planning standard function because the process failure affected only one Unusual Event and one Alert emergency classification.

The inspectors determined this issue had a cross-cutting aspect in the area of Problem Identification and Resolution, trending and assessment, because the licensee failed to perform aggregate assessments that could have prior identified and prevented this and related issues (P.1(b)). Specifically, numerous condition reports discussed the repetitive problems with the seismic monitoring system; however, the negative trend was not identified nor the causal factors investigated as part of a collective/aggregate review. The licensee initiated condition report CR340002, "Trending to Identify Aggregate Impacts," to bolster the trending of issues, to consider issues resulting from higher level contributors, and to better provide leading indicators of problems.

Enforcement: Regulation 10 CFR 50.54(q) states, in part, that the licensee shall follow and maintain in effect emergency plans that meet the standards in 50.47(b) and requirements in Appendix E. Regulation 10 CFR 50.47(b)(4) states, in part, that the emergency plans must have a standard emergency classification and action level scheme, the bases which include facility system and effluent parameters, is in use by the licensee, and State and local response plans call for reliance on information provided by the licensee for determination of minimum initial offsite response measures.

Contrary to the above, the licensee failed maintain equipment operable required by the Kewaunee emergency plan and EAL scheme. Specifically, seismic instrumentation needed for two EAL, HU1.1 and HA1.1, was not maintained operable such that a related Unusual Event notification and an Alert declaration could have been made under certain conditions. As a result, action directed by the State and local emergency response plans, which rely on information provided by the licensee, could have potentially been delayed. Because this violation was of very low safety significance and it was entered into the licensee's CAP (as CR 324837), this violation is being treated as an NCV, consistent with Section VI.A.1 of the NRC Enforcement Policy (NCV 05000305/2009003-04).

#### 4. OTHER ACTIVITIES

##### 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 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; timeliness was commensurate with the safety significance; 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 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 listed in the Attachment to this report.

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

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 repetitive equipment issues, but 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 period of November 2008 through May 2009, although some examples expanded beyond those dates where the scope of the trend warranted.

The review also included issues documented outside the CAP in major equipment problem lists, departmental problem/challenges lists, system health reports, quality assurance audit/surveillance reports, self-assessment reports, and Maintenance Rule assessments. 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 a single semi-annual trend inspection sample as defined in IP 71152-05.

b. Findings

No findings of significance were identified.

.4 Selected Issue Follow-Up Inspection: Control of Design Basis and Licensing Basis

a. Scope

As a result of several recent regulatory actions, including a Notice of Enforcement Discretion (NOED) relating to the design requirements for the EDG fuel oil storage system and URI 05000305/2009002-05, "EDG Air System May Not Be Appropriately

Qualified,” (Section 1R15), the inspectors elected to review instances associated with issue resolution where the licensee appeared to have difficulty with, or was unsuccessful in, understanding the plant current licensing basis (CLB) and the CLB nexus to regulatory requirements. The inspectors reviewed the following issues:

- Inspection Report (IR) 05000305/2009002, Section 1R22, and IR 05000305/2009003, Section 1R15, identified an issue where the licensee could not provide the licensing basis for the QA-1 qualification of the EDG starting air compressors. After substantive review and questions by the resident inspectors, the licensee concluded that the diesel air system was required to be classified as QA-1 to support operation of the EDG.
- Inspection Report 05000305/2009002 and Licensee Event Report (LER) 2009-001-00, “EDG Inoperable Requiring Notice of Enforcement Discretion,” (Section 4OA3), identified an issue where the EDG fuel oil quantity was not being maintained as required. The inspectors disagreed with the licensee’s interpretation of the CLB and, after review, the NRC’s Office of Nuclear Reactor Regulation (NRR) agreed with the residents’ position.
- Inspection Report 05000305/2009002, Section 1R15, identified an issue where the licensee inappropriately applied high-energy line break (HELB) analysis methodologies approved in the current NRC Standard Review Plan (SRP) that were contrary to methodologies described in the USAR.
- Inspection Report 05000305/2009002, Section 1R06, identified an issue where the licensee performed an analysis to support operability with the loss of a drain credited in the site’s internal flooding design basis. However, the analysis failed to recognize a watertight door between the auxiliary building and safeguards alley could not be credited, based on the CLB. Specifically, the analysis assumed that the door between the auxiliary building and safeguards alley was closed and failed to account for the effects of water entering into safeguards alley; this door was not credited as closed in the CLB, except, when the door was closed, the risk mitigation effects were factored into the daily risk analysis.
- Inspection Report 05000305/2007003, Section 4OA3.9, identified a cited violation involving elements of incorrect interpretation of the licensing basis where the licensee’s 10 CFR 50.59 screening for a procedure change that established compensatory measures for a degraded service water supply to the control room air conditioning system was inadequate. The licensee performed significant plant modifications to correct this deficiency to restore compliance with the CLB.
- Inspection Report 05000305/2007002 identified inadequate TS testing of an EDG when the redundant EDG was out-of-service. The licensee stated that it believed that the testing was adequate. Subsequent reviews identified that the licensee was misinterpreting the requirement.
- Inspection Report 05000305/2006004 identified an issue where the TS limiting condition for operation was not entered for EDGs being inoperable while the reactor was in the refueling mode. The licensee had misinterpreted the TSs and believed that certain TS requirements were not applicable during all modes of operation.

Subsequently, the licensee reviewed the licensing basis and identified that its initial interpretation was incorrect.

- Inspection Report 05000305/2005011 identified an internal flooding issue that was ultimately determined to be of substantial safety significance (Yellow). The report states “Numerous discussions were held between NRC inspectors/management and licensee representatives during inspections in January, February, and March to discuss the licensee’s position that internal flooding was not considered a part of the KPS licensing basis.” The licensee performed significant plant modifications to correct this deficiency and restore compliance with the CLB.
- Inspection Report 05000305/2005008 and LER 05000305/2006-003-00 identified an issue where RHR/low pressure injection was susceptible to internal flooding. Because the licensee disagreed with the inspectors’ interpretation of the licensing basis, NRR reviewed the issue; NRR confirmed the inspectors’ position. The licensee performed significant plant modifications to correct this deficiency and restore compliance with the CLB.

The inspectors noted that in response to a root cause evaluation in 2005, K-2005-0677, “AFW Pumps Susceptible to Damage from Air Entrainment,” the licensee initiated improvement initiatives, in part, to “improve engineering knowledge and understanding of design and licensing basis”; and “provide initial and continuing training for DBD [design basis document] access and use.” The inspectors concluded that the above examples demonstrate that the related 2005 corrective actions may not have been fully effective.

Because two EDG issues were identified in the first quarter of 2009, the inspectors reviewed the DBD for the EDGs. The inspectors found that the document did not contain sufficient detail to support proper understanding of the related issues. More significantly, the DBD reflected the licensee’s incorrect understanding of the CLB.

The inspectors noted that in a letter sent to Mr. Dan Bollom of Wisconsin Public Service (the original owner/operator of Kewaunee) on October 9, 1996, subject, “Request for Information Pursuant to 10 CFR 50.54(f) Regarding Adequacy and Availability of Design Basis Information,” the NRC stated that one weakness of utility programs related to maintenance of the current licensing basis was that “Reestablishment of design basis without reconstitution of the supporting design documents, as necessary, may not provide a sufficient level of information for future modifications or current plant operation, or to quickly to respond to operating events.”

The inspectors concluded that for the related issues, the information did not contain enough detail, nor was it easily retrievable; therefore, a proper understanding of the CLB was not assured. Additionally, the new DBDs may have not considered this fact because the licensee believed that the CLB had been maintained up-to-date, prior to the development of the DBDs. As such, the recently developed DBD for the diesel generators contained some of the historical inaccuracies.

The inspectors also found that the licensee had encouraged its staff to question the validity of old engineering and CLB documents; however, this barrier was not sufficient to preclude the two most recent EDG observations. The inspectors also noted that several of the observations appeared to have a contributing cause that indicated

difficulties in integrating the CLB with related regulatory requirements; however, the inspectors were not able to determine whether the contributing cause was related to the lack of CLB information, the lack of understanding of the regulatory nexus/position, or both. The licensee has entered this issue into the CAP as CR 341690 for analysis and review.

This review constituted 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:

- Increasing seal water leakage on from the reactor coolant pump "A" seal #1.

This event follow-up review constituted one sample as defined in IP 71153-05.

a. Findings

No findings of significance were identified.

.2 (Discussed) LER 05000305/2006-004-00, "Incorrect Assumption Regarding De-Rating of EDGs During Loaded Operation"

In May 2006, the licensee discovered that it was incorrectly interpreting de-rating curves for diesel generator operation. The licensee subsequently retracted this report in LER 2006-004-01. Based on the EDG owner's group interpretation of the de-rating curves, the licensee retracted a portion of the subject LER indicating that it had incorrectly applied the curves. The basis and applicability of these curves is under review by NRR to ascertain if the new interpretation established by the owners group was appropriate. Licensee Event Report 05000305/2006-004-00 remains open pending completion of the review.

.3 (Closed) LER 05000305/2006-004-01, "Incorrect Assumption Regarding De-Rating of EDGs During Loaded Operation"

In December 2006, the licensee revised LER 05000305/2006-004-00. Revision 05000305/2006-004-01 retracted information relative to EDG post-accident loading requirements, indicating that the related de-rating curves had been misinterpreted. The basis and applicability of these curves is under review by NRR to ascertain if the new interpretation established by the diesel generator owners group is

appropriate. Licensee Event Report 05000305/2006-004-00, remains open pending the outcome of the NRR review.

Additionally, LER 05000305/2006-004-01 identified a new issue indicating that the EDGs would not have been able to meet the 18-month load test required by TS surveillance requirement 4.6.a.5 due to elevated ambient air temperatures. Related evaluations determined that both EDGs would have been capable of performing the related safety functions during all periods. Subsequently, the licensee obtained an amendment to the TSs that changed the requirement to perform testing at levels that could render the diesel inoperable when elevated air temperatures existed. Because the diesel generators were always capable of performing their intended functions and TSs were amended to preclude testing in the unacceptable range, the inspectors consider the noncompliance with TS 4.6.a.5 minor. This LER is closed.

This event follow-up review constituted one sample as defined in IP 71153-05.

.4 (Closed) LER 05000305/2006-010-00, "Inadequate Calibration of Radiation Monitor R-19"

Introduction: A violation of TS 4.1 was identified by the inspectors for calibration practices for radiation instrument R-19 that did not qualify as a "Channel Calibration" as required by TSs.

Discussion: On April 28, 2006, the inspectors questioned the adequacy of the licensee's actions for TS-required "Channel Calibration" of radiation instruments R-18 (the liquid radioactive waste radiation monitor) and R-19 (the steam generator blowdown liquid radiation monitor). Specifically, the inspectors identified that the sources for calibration of R-19 were not of sufficient strength to test the instrument in the range where alarms were required to be operable. Subsequent testing with sources of sufficient strength determined that the instrument did not perform as predicted in the range where the alarm was required thus rendering the instrument inoperable. As a result, the licensee issued LER 05000305/2006-010-00, "Inadequate Calibration of Radiation Monitor R-19."

Analysis: The inspectors determined that calibration of radiation instruments R-18 and R-19 with a source of insufficient strength that did not meet the Channel Calibration requirements of TSs was a performance deficiency warranting further review. Using IMC 0612, Appendix B, "Issue Screening," dated December 4, 2008, the inspectors determined that the issue was more than minor because it was associated with the Public Radiation Safety Cornerstone attribute of equipment and instrumentation and adversely affected the cornerstone objective to ensure protection of public health and safety from exposure to radioactive materials released into the public domain.

The inspectors used IMC 0609, "Significance Determination Process," Attachment D, "Public Radiation Safety Significance Determination Process," dated February 12, 2008, and determined that the finding was in the licensee's radiological effluent monitoring program and was contrary to a TS requirement. However, the finding was not related to a spill or release of radioactive material to the environment and, therefore, screened as an issue of very low safety significance, Green.

The inspectors reviewed this issue for a cross-cutting aspect and determined that no cross-cutting aspect was applicable. This conclusion was made because the issue was

a precursor to a White finding and associated violation 05000305/2008503-001, and a cross-cutting aspect was assigned for the White finding.

Enforcement: Kewaunee TS 4.1, "Operational Safety Review," requires that "Calibration, testing, and checking of instrumentation channels and testing of logic channels shall be performed as specified in table TS 4.1-1." Table 4.1-1, Item 19, requires R-19 to be calibrated each refueling cycle. Contrary to this requirement, the calibration of instrument channel for R-19 was not performed adequately to ensure instrument operability and when the calibration was performed adequately, channel R-19 was found to be inoperable.

Upon discovery, the licensee immediately declared the affected instrument inoperable and commenced sampling in accordance with the offsite dose calculation manual requirements. The inspectors noted that the licensee did not enter any limiting condition for operation because R-19 did not have a direct link to TSs. However, the inspectors inquired about the applicability of R-19 to TS 3.6 for containment isolation valves, which appeared to be related to R-19. The licensee initiated CR 337734, "Evaluation of TS 3.6 Applicability when R-19 Inoperable," to determine if any related TS requirements had not been met. Because this violation was of very low safety significance and it was entered into the licensee's corrective action program, this violation is being treated as an NCV, consistent with Section VI.A.1 of the NRC Enforcement Policy (NCV 05000305/2009003-05). This LER is closed.

This event follow-up review constituted one sample as defined in IP 71153-05.

.5 (Closed) LER 05000305/2008-001-00; "Pressurizer PORV and Reactor Coolant System Vent Valves Appendix R Spurious Operation Concern"

On September 11, 2008, while responding to an NRC question during the Triennial Fire Protection Inspection, the licensee identified that the control cabling for pressurizer power-operated relief valve (PORV) PR-2B was vulnerable to spurious operation as a result of a relay room fire and a hot short. The licensee immediately established a fire watch for the relay room providing adequate Appendix R compensatory measures. The licensee intends to finalize its review of the condition during the implementation and transition to National Fire Protection Association (NFPA) 805.

This LER was the result of a prior evaluated finding (FIN 05000305/2008008-03) that was closed in IR 05000305/2008008; discretion was provided because the licensee is transitioning to NFPA 805; therefore, LER 05000305/2008-001-00 is closed.

This event follow-up review constituted one sample as defined in IP 71153-05.

.6 (Closed) LER 2009-001-00, "EDG Inoperable Requiring Notice of Enforcement Discretion"

On January 23, 2009, during a teleconference with the NRC, the licensee declared the siphon line that connects the two underground fuel oil storage tanks for the diesel generators inoperable. With the siphon line inoperable and neither storage tank capable of providing at least 35,000 gallons of fuel, Kewaunee could not meet the requirement to supply at least 35,000 gallons of fuel to an EDG, rendering both EDGs inoperable. An NOED was granted for this issue and was used until 3:15 p.m. on February 6, 2009, at

which time License Amendment No. 203 was approved by the NRC. The amendment changed the fuel oil storage requirements to an amount that would provide for a 7-day supply of fuel to either EDG without credit for the siphon line.

This LER describes the noncompliance with TS 3.7.a.7, which required the availability of 35,000 gallons of fuel for each diesel generator. This issue was resolved with the license amendment. This issue was the result of a performance deficiency identified and discussed as part of NCV 05000305/2009002-07. No new issues were identified in the LER. This LER is closed.

This event follow-up review constituted one sample as defined in IP 71153-05.

.7 (Closed) LER 05000305/2009-004-00, "Failed Backdraft Damper Renders Containment Fan Coil Unit Inoperable"

Introduction: A finding of very low safety significance and an associated NCV of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," were self-revealed for the licensee's failure to maintain adequate procedures for the inspection and verification of operation for the "A" containment fan coil unit (FCU) backdraft dampers.

Description: On March 23, 2009, the licensee was in containment preparing to remove the "A" containment FCU motor for replacement, when it discovered that the fan, which was secured at the time, was spinning backwards and excessive air was blowing through the gaps in the ventilation ductwork. The licensee discovered that the "A" containment FCU backdraft dampers were not fully closed and that the fan could potentially trip on over-current when called upon to start. The licensee was already in the associated limiting condition for operation (LCO) at the time of discovery but conducted an operability review for the time period from when the "A" containment FCU had been placed in off/auto on November 14, 2008. The licensee found that the TS had been violated multiple times since November 2008 with different combinations of internal containment spray pumps and containment fan coil units taken out-of-service for maintenance and testing. The licensee also identified that this condition could have prevented fulfillment of the safety function of containment cooling system to control the release of radioactive material and mitigate the consequences of an accident.

The licensee determined that the cause of the stuck open backdraft damper was the operator assist actuator linkage being out of adjustment. The licensee modified the original backdraft damper design in 1989 from a gravity damper design to one with an operator assist actuator feature in the open direction. The modification was not supposed to change the original passive function of the dampers. The inspectors reviewed procedure PMP-18-05, "RBV – Damper Maintenance (QA-1)," and found it contained generic requirements to clean and inspect 22 different dampers. The procedure did not mention or contain details on how to inspect or verify proper operation of the operator assist actuator or its associated linkages.

The licensee readjusted the operator assist actuator linkage and exited the LCO on March 26, 2009. The licensee also verified the condition did not exist on the B containment FCU, which received the same modification. The licensee submitted a procedure change request for PMP-18-05 to include detailed instructions for inspecting

the operator assist mechanism and to perform a post-maintenance test to verify the damper strokes in both the open and closed direction.

Analysis: The inspectors concluded that the failure to maintain a procedure that provided details on how to inspect or verify proper operation of the related damper was a performance deficiency warranting further review. The finding was determined to be more than minor in accordance with IMC 0612, Appendix B, "Issue Screening," dated December 4, 2008, because the finding was associated with the Barrier Integrity Cornerstone attribute of design control and adversely affected the cornerstone objective to provide reasonable assurance that physical design barriers, specifically containment, protect the public from radionuclide releases caused by accidents or events. Specifically, the failure of the backdraft dampers was a safety system functional failure and affected the operational capability of the system, which is categorized under the design control attribute.

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, dated January 10, 2008, for the Barrier Integrity Cornerstone. The inspectors answered no to the Barrier Integrity questions and screened the finding as having very low safety significance (Green).

The inspectors determined that this issue had a cross-cutting aspect in the area of Problem Identification and Resolution, operating experience, because the licensee did not use operating experience to support plant safety. Specifically, the licensee failed to incorporate operating experience into their procedures for inspecting and verifying proper operation of the containment fan coil unit backdraft dampers. Operating experience existed that specifically warned of the potential for the containment fan coil unit backdraft dampers to fail and emphasized the necessity for having detailed procedures to inspect and verify the proper operation of the backdraft dampers (P.2(b)).

Enforcement: Title 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, the licensee failed to maintain procedures appropriate to the circumstances for the inspection and verification of the operation for the containment fan coil unit backdraft dampers. Specifically, procedure PMP-18-05, "RBV – Damper Maintenance (QA-1)," did not contain enough detail to verify that the linkages for the operator assist mechanism were properly set and aligned and that the actuator did not interfere with the dampers safety-related ability to close. The licensee repaired the "A" backdraft damper and submitted a procedure change request for PMP-18-05 to include detailed instructions for inspecting the operator assist mechanism and to perform a post-maintenance test to verify the damper strokes in both the open and closed direction. Because this violation was of very low safety significance and it was entered into the licensee's corrective action program (as CR 328191), this violation is being treated as an NCV, consistent with Section VI.A.1 of the NRC Enforcement Policy (NCV 05000305/2009003-06). This LER is closed.

This event follow-up review constituted one sample as defined in IP 71153-05.

.8 Failure to Update Procedures as Required by Commitments

Introduction: The inspectors identified a finding of very low safety significance (Green) for the licensee's failure to update procedures as required by NRC commitments. Specifically, a procedure for fuel oil sampling and a procedure for steam generator tube inspections were not maintained as required by the referenced commitments. The inspectors determined that the issues constituted a finding relating to management of commitments as specified in Nuclear Energy Institute (NEI) 99-04, "Guidelines for Managing NRC Commitment Changes."

Discussion: During a review of documentation for license renewal activities the inspectors identified that procedure SP-36-084, "Steam Generator Tube Inspection," Revision 0, contained outdated information. Specifically, procedure ER-AP-SGP-101, "Steam Generator Program," Section 3.1.6, required compliance with the latest revision of the Electric Power Research Institute (EPRI) Guidelines within the timeframe stated in the industry's transmittal letter for the new guidelines. Contrary to this commitment, procedure SP-36-084 was not updated to reflect all changes from Revision 7 of the EPRI, "Steam Generator Examination Guidelines." To assess the issue, the licensee issued CR 333633.

Additionally, the inspectors identified a second example where procedure change and the associated references were not well integrated. Specifically, the procedure for EDG fuel oil sampling, SP-10-225, historically specified sampling practices that did not conform to the current methodology. The inspectors noted that the original methodology for sampling of the day tanks came from a letter between the NRC and the licensee and that a change in sampling practices did not appear to be adequately justified; the change referenced documents, which were not part of the CLB when the procedure was issued. The inspectors noted that current sampling practices appear to conform to suggested regulatory guides; however, the licensee is reviewing issues to assure that practices are adequate.

The inspectors were also aware of prior initiatives related to cross-referencing vendor technical manuals and related procedures or maintenance documents; however they were not able to confirm that the resolution for the vendor technical manual program was expanded into other related documents.

Analysis: The inspectors concluded that the failure to integrate references and applicable documents to ensure changes/revision were properly cross-checked was a performance deficiency warranting further review. The inspectors concluded that the issue was more than minor in accordance with IMC 0612, Appendix B, "Issue Disposition Screening," dated December 4, 2008, because the integration of vendor/industry guidance was related to a commitment to the NRC for steam generator tube inspections and the failure to appropriately manage the commitments impacted the regulatory process. Because the issue was administrative in nature and because the procedure had not been used, it did not impact any safety or risk significant systems and the issue was determined to be of very low safety significance (Green).

The inspectors determined that the issue had a cross-cutting aspect related in the area of Human Performance, resources, because the licensee failed to maintain the related procedures complete, accurate, and up-to-date (H.2(c)). Specifically, the inspectors determined that the issue was related to current performance because the industry

guidance changed in 2007 and the referenced procedures were not updated. Additionally, an outside audit identified during a steam generator review visit as documented in a January 2006 letter that the licensee needed, "to improve some fundamental steam generator program elements that have declined since steam generator replacement including incorporation of industry guidance."

Enforcement: The inspectors determined that the issue was not a violation of NRC requirements, but a failure to manage commitments in accordance with industry guidance. Specifically, the licensee failed to implement guidance contained within NEI 99-04, "Guidelines for Managing NRC Commitment Changes." The licensee entered this issue into the corrective action program as CR 340864 to assess needed corrective actions to address the issue (FIN 05000305/2009003-07).

This event follow-up review constituted one sample as defined in IP 71153-05.

.9 (Closed) VIO 05000305/2007003-01, "Failure to Perform a 10 CFR 50.59 Evaluation for Compensatory Measures"

Discussion: Inspection Report 05000305/2007003 identified a violation for the licensee's failure to perform a 10 CFR 50.59 screening that assessed all aspects of a tornado strike, including potential fire, toxic gas, or radiological hazards; nor did the screening assess the impact of these hazards on control room habitability when compensatory measures were adopted that disabled the system. The results of this violation were determined to be of very low safety significance (Green). Because the licensee had not proposed corrective actions to address the issue, the violation was treated as a Severity Level IV cited violation.

Subsequently, the licensee responded to the associated Notice of Violation and indicated that it did not contest the issues identified by the inspectors. The licensee indicated that corrective actions would include a review of the 10 CFR 50.59 program and related training to ascertain if procedural or training enhancements were warranted. The licensee's review of the 10 CFR 50.59 program did not reveal any weakness. However, the licensee implemented several training enhancements, including advanced training on 50.59 elements. The inspectors reviewed the handout created by the licensee to enhance a reviewers' knowledge and concluded that it covered the performance deficiencies described in the related inspection report and violation. Additionally, the inspectors reviewed inspection reports and condition reports subsequent to the implementation of enhanced 50.59 training and found no significant deficiencies or negative trends; as such, VIO 05000305/2007003-01 is considered closed.

This event follow-up review constituted one sample as defined in IP 71153-05.

40A5 Other Activities

.1 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.

- .2 (Closed) URI 05000305/2007006-06, "Non Conservative Voltage Calculation for MCC Control Circuits" This issue is described in Section 1R21 and was resolved as an NCV of 10 CFR Part 50, Criterion III, "Design Control."
- .3 (Closed) LER 05000305/2007005-00: This issue is described in Section 1R21 and was resolved to a NCV of 10 CFR 50, Criterion III, "Design Control."
- .4 (Closed) URI 05000305/2007002-08, "Possible Error in Mitigating Systems Performance Index (MSPI) Data Reported for Diesel Generator Availability"

Discussion: Inspection Report 05000305/2007007 identified an apparent violation of regulatory requirements for a period of diesel generator unavailability from June through August 2006. Based on this period of unavailability, the inspectors also concluded that the unavailability was required to be reported under the MSPI. The licensee interpreted the requirement differently and, as a result, submitted a frequently asked question (FAQ) to resolve the issue. This issue, evaluated as FAQ 431, was resolved through the appeal process, which determined that the unavailable hours for June through August 2006, did not have to be included in the MSPI reporting data; therefore, this issue is considered closed.

- .5 (Closed) NRC Temporary Instruction 2515/173 Review of the Implementation of the Industry Ground Water Protection Voluntary Initiative

a. Inspection Scope

An NRC assessment was performed of the licensee's implementation at Kewaunee of the Nuclear Energy Institute – Ground Water Protection Initiative (dated August 2007 (ADAMS Accession Number ML072610036)). The inspectors assessed whether the licensee evaluated work practices that could lead to leaks and spills and performed an evaluation of structures, systems, and components that contain licensed radioactive material to determine potential leak or spill mechanisms.

The inspectors verified that the licensee completed a site characterization of geology and hydrology to determine the predominant ground water gradients and potential pathways for ground water migration from onsite locations to offsite locations. The inspectors also verified that an onsite ground water monitoring program had been implemented to monitor for potential licensed radioactive leakage into groundwater and that the licensee had provisions for the reporting of its ground water monitoring results. (See <http://www.nrc.gov/reactors/operating/ops-experience/tritium/plant-info.html>.)

The inspectors reviewed the licensee's procedures for the decision making process for potential remediation of leaks and spills, including consideration of the long-term decommissioning impacts. The inspectors also verified that records of leaks and spills were being recorded in the licensee's decommissioning files in accordance with 10 CFR 50.75(g).

The inspectors reviewed the licensee's notification protocols to determine whether they were consistent with the Groundwater Protection Initiative. The inspectors assessed whether the licensee identified the appropriate local and state officials and conducted briefings on the licensee's ground water protection initiative. The inspectors also verified that protocols were established for notification of the applicable local and state officials regarding detection of leaks and spills.

b. Findings

No findings of significance were identified; however, as specified in Section 2515/173-05, the inspectors identified the following deviations from Nuclear Energy Institute – Ground Water Protection Initiative (NEI-GPI) protocols or areas within the NEI-GPI that were not fully addressed within the licensee's program

(1) GPI Objective 1.2 - Site Risk Assessment

- a. *Establish long term programs to perform preventative maintenance or surveillance activities to minimize the potential for inadvertent releases of licensed materials due to equipment failure.*

The licensee developed a long-term program to perform preventative maintenance or surveillance activities to minimize the potential for inadvertent releases of licensed materials due to equipment failure. Specifically, the licensee had fleet-wide procedures to inspect and monitor the condition of buried piping around the site. However, the licensee did not plan to implement the procedures until the third quarter of 2009. Until the procedures were fully implemented, the licensee expected to provide additional management attention to the area.

(2) GPI Objective 1.4 - Remediation Process

- a. *Evaluate the potential for detectable levels of licensed material resulting from planned releases of liquids and/or airborne materials.*

The licensee had not performed/completed an evaluation of the potential for detectable levels of licensed material from planned releases of liquids and/or airborne materials (e.g., rain-out and condensation). The licensee determined that this evaluation is not necessary based upon the results from analyzing water from the storm drain out fall.

(3) GPI Objective 1.5 - Record Keeping

- a. *Establish a record keeping program to meet the requirements of 10 CFR 50.75(g). Note that these records are used to determine an area's classification for purposes of performing surveys (see NRC Regulatory Issue Summary 2002-02, Lessons Learned Related to Recently Submitted Decommissioning Plans and License Termination Plans).*

The licensee had a record keeping program to meet the requirements of 10 CFR 50.75(g). However, the contaminated equipment storage area, near the meteorological tower, was not documented as described in 10 CFR 50.75(g)(2). The inspectors determined this to be a violation of minor significance that is not subject to enforcement action.

(4) GPI Objective 2.1 - Stakeholder Briefing

- a. *Licensees should consider including additional information or updates on ground water protection in periodic discussions with State/Local officials.*

The licensee had not included additional information or updates on ground water protection in periodic discussions with State/Local officials.

- b. *For licensees that are in States where multiple nuclear power plants are located and multiple owner companies, it is highly recommended that the licensees coordinate their efforts and communicate with each other. The initial briefing for the State/local officials and the contents of a voluntary communication should be consistent.*

The licensee had not coordinated efforts for stakeholder briefings with the near-by nuclear power plant.

40A6 Management Meetings

.1 Exit Meeting Summary

On July 8, 2009, 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:

- Implementation of the NEI Groundwater Protection Initiative with Mr. S. Scace on May 1, 2009, and
- The inspectors presented the results of the inspection review of licensee corrective actions pertaining to URI 05000305/2007006-06 to Site Licensing Manager, Mr. Tom Breene, and other members of the licensee's staff via telephone on May 5, 2009. Licensee personnel acknowledged the inspection results presented.

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

4OA7 Licensee-Identified Violations

None

ATTACHMENT: SUPPLEMENTAL INFORMATION

## SUPPLEMENTAL INFORMATION

### KEY POINTS OF CONTACT

#### Licensee

S. Scace, Site Vice-President  
M. Crist, Plant Manager  
J. Hale, Radiation Protection Manager  
C. Olson, Radiation Protection General Supervisor  
M. Peroutka, Radiation Protection Supervisor  
D. Shannon, Radiation Protection General Supervisor  
J. Dillich, Site Engineering Director  
J. Gadzala, Licensing Engineer  
R. Repshas, Licensing Engineer  
W. Henry, Maintenance Manager  
T. Breene, Manager of Licensing  
J. Madden, System and Component Engineering  
D. Lawrence, Operations Manager  
S. Yuen, Programs Engineering Manager  
J. Stafford, Organizational Effectiveness Manager  
C. Chovan, Outage and Planning Manager  
J. McNamara, Design Engineering Supervisor  
A. Maly, Health Physicist  
M. Rosseau, Electrical Design Engineering Supervisor  
B. Lord, Electrical Design Engineer

#### Nuclear Regulatory Commission

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

### LIST OF ITEMS OPENED, CLOSED AND DISCUSSED

#### Opened

05000305/2009003-01	URI	Emergency Diesel Generator Fuel Oil Storage and Day Tank Vent Line Tornado Qualification (1R01.3)
05000305/2009003-02	NCV	Emergency Diesel Generator Air System May Not Be Appropriately Qualified (1R15)
05000305/2009003-03	NCV	Failure To Ensure That Motor Control Center Control Circuits Have Adequate Voltage To Operate During Design Basis Accident Conditions (1R21)
05000305/2009003-04	NCV	Seismic Monitoring System Repeatedly Fails Surveillance (1R22.2)
05000305/2009003-05	NCV	Inadequate Calibration of Radiation Monitor R-19 (4OA3.4)
05000305/2009003-06	NCV	Failed Backdraft Damper Renders Containment Fan Coil Unit Inoperable (4OA3.7)
05000305/2009003-07	FIN	Failure To Update Procedures As Required by Commitments (4OA3.8)

Discussed

05000305/2006-004-00	LER	Incorrect Assumptions Regarding De-Rating Of Emergency Diesel Generators During Loaded Operation (4OA3.2)
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Closed

05000305/2006-004-01	LER	Incorrect Assumption Regarding De-Rating Of Emergency Diesel Generators During Loaded Operation (4OA3.3)
05000305/2006-010-00	LER	Inadequate Calibration Of Radiation Monitor R-19 (4OA3.4)
05000305/2007002-08	URI	Possible Error In Mitigating Systems Performance Index Data Reported for Diesel Generator Availability (4OA5.2)
05000305/2007003-01	VIO	Failure to Perform a 10 CFR 50.59 Evaluation for Compensatory Measures (4OA3.9)
05000305/2007-005-00	LER	Incorrect Control Power Transformers Result in Inoperable Safety-Related Loads (1R21/4OA5)
05000305/2007006-06	URI	Non-Conservative Voltage Calculations for Motor Control Circuit Control Circuits (1R21/4OA5)
05000305/2008-001-00	LER	Pressurizer PORV and Reactor Coolant System Vent Valves Appendix R Spurious Operation Concern (4OA3.5)
05000305/2009-001-00	LER	Emergency Diesel Generator Inoperable Requiring Notice of Enforcement Discretion (4OA3.6)
05000305/2009002-05	URI	Emergency Diesel Generator Air System May Not Be Appropriately Qualified (1R15)
05000305/2009002-06	URI	Seismic Monitoring System Repeatedly Fails Surveillance (1R22.2)
05000305/2009003-02	NCV	Emergency Diesel Generator Air System May Not Be Appropriately Qualified (1R15)
05000305/2009003-03	NCV	Failure to Ensure that Motor Control Center Control Circuits Have Adequate Voltage to Operate During Design Basis Accident Conditions (1R21)
05000305/2009003-04	NCV	Seismic Monitoring System Repeatedly Fails Surveillance (1R22.2)
05000305/2009003-05	NCV	Inadequate Calibration of Radiation Monitor R-19 (4OA3.4)
05000305/2009003-06	NCV	Failed Backdraft Damper Renders Containment Fan Coil Unit Inoperable (4OA3.7)
05000305/2009003-07	FIN	Failure to Update Procedures as Required by Commitments (4OA3.8)
05000305/2009-004-00	LER	Failed Backdraft Damper Renders Containment Fan Coil Unit Inoperable (4OA3.7)

## LIST OF DOCUMENTS REVIEWED

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

### 1R01 Adverse Weather Protection

- CAP 013288; Diesel Generator Room "B" Ventilation Structure Design Documentation
- CR 097434; Place-Keeper for the Remaining Assignments from CAP002975
- CR 317309; Midwest Independent Transmission Operator Alerts Do Not Result into Abnormal Grid Condition
- CR 321653; NRC Questions Compensatory Actions Associated with OD 160
- CR 322056; Starting Issues with Screenhouse 1A Exhaust Fan
- CR 322192; Potential Pick Up Issues with Relay 16416X
- CR 325190; Test Equipment to Support Past Operability Evaluation
- CR 325659; OD-254 Actions Not Needed to Restore Full Qualification
- CR 336854; Potential Missile Hazards South of Transformer Bays
- CR 337109; NRC Question Regarding Diesel Generator Exhaust Damper Classification
- CR 337807; Response Scope for RIS 2006-23
- Annunciator 47072-J Response; Generator Under Frequency; Revision 2
- Annunciator 47073-H Response; Generator Excitation Abnormal; Revision 2
- Annunciator 47074-A Response; Substation Major; Revision 10
- ES-0.1; Reactor Trip Response; Revision 28
- GNP 12.06.01; Hot and Cold Weather Operations; Revision 7
- KW07-009858; Replace the Heat Exchangers in the "1C" Turbine Building Fan Coil Unit
- KW07-011096; Replace Fan and Hub Assembly in the Heating Boiler Area Roof Ventilator
- KW100304673; Turbine Building Roof Exhauster Motor Inconsistent Ohm Reading
- KW100320574; Turbine Building Wall Exhauster 1C Is Running Rough
- KW100468046; "E" Turbine Building Supply Fan Has Squealing Noise
- KW100496771; High Vibes on Auxiliary Building Exhaust Fan "1A"
- KW100496943; Perform Testing on Motor 1-451 Control Circuit
- OP-KW-AOP-EG-001; Abnormal Grid Conditions; Revision 3
- OP-KW-AOP-GEN-004; Response to Natural Events; Revision 6
- OP-KW-ARP-47034-11; TLA-21 Safeguards Bus Voltage Abnormal; Revision 1
- OP-KW-ORT-MISC-006; Operations Routine Test; Revision 0
- OTH010118; Diesel Generator Room "B" Ventilation Structure Design Documentation
- RTO-OP-003-R11; Communication and Mitigation Protocols for Nuclear Plant/Electric System Interfaces
- TOP-20GN-000010B; Voltage/Reactive and Automatic Voltage Regulation Control at Generation Interconnections
- Apparent Cause Evaluation 013826; The Hot Weather Walk Down Checklist Was Not Performed to Meet the Time Limit Requirements as Required Per GNP 12.06.01, Step 6.4.1.1

- Dominion Correspondence to NRC; Withdrawal of License Amendment Request 214; March 19, 2007
- NRC Correspondence to Dominion; Kewaunee Power Station – Withdrawal Of An Amendment; March 26, 2007
- NRC Generic Letter 96-06; Assurance of Equipment Operability and Containment Integrity During Design Basis Accident Conditions
- NRC Information Notice 96-06; Design and Testing Deficiencies of Tornado Dampers at Nuclear Power Plants; January 25, 1996
- NRC Regulatory Issue Summary 2008-14; Use of TORMIS Computer Code for Assessment of Tornado Missile Protection; June 16, 2008
- Kewaunee Power Station Updated Safety Analysis Report; Table 14.3.5-4, Containment Response Analysis Parameters; Revision 21
- OD 135; Operability Determinations for the Emergency Diesel Generator Exhaust Ducts and the Emergency Diesel Generator Fuel Oil Tank Vent Lines
- OD 169; EDG Exhaust Duct Operability

#### 1R04 Equipment Alignment

- CR 098817; ICS Pump “A” Mechanical Seal Leak
- CR 100162; ICS-2A Has Dry Boric Acid Build Up Around the Packing Area
- CR 101573; Placeholder for CR 093548 for Tracking Purposes
- CR 101882; FO-16757-4 Found Open and Capped Instead of Closed and Capped
- CR 102164; Valve AR-475 Was Found Open
- CR 112628; Mispositioning of Toggle Switch in STP for 1A Ejector Pump
- CR 319770; PMP-17-05 Requires Revision Prior to Use
- CR 325533; FO-1118 Discovered in Mid Position
- CR 328185; Service Water Pump A1 Motor Vibrations Obtained Were in the Alert Range
- CR 331794; Service Water Pump 1A1 BRG Lube WTR Filter DPI 11359 Not Operating Properly
- N-FW-05B-CL; Auxiliary Feedwater System Prestartup Checklist; Revision 42
- 50.59 Applicability Review of N-FW-05B-CL; Auxiliary Feedwater System Prestartup Checklist; Revision 42
- N-ACC-25-CL; Control Room Air conditioning System Prestartup Checklist; Revision 35
- N-ICS-23-CL; Containment Spray System Prestartup Checklist; Revision 30
- N-SW-02-CL; Service Water System Prestartup Checklist; Revision 53
- OP-KW-NCL-DGM-001B; Diesel Generator “B” Prestartup Checklist
- SP-05B-284; Turbine Driven AFW Pump Full Flow test – IST; Revision 31
- Drawing APM-202-1; Analytical Part Flow – Service Water System; Revision R
- Drawing APM-202-2; Analytical Part Flow – Service Water System; Revision Y
- Drawing APM-202-3; Analytical Part Flow – Service Water System; Revision W
- Drawing APM-213-9; Flow Diagram Diesel Generator Startup Air Compressor “A” and “B” and Fish Screen Air; Revision E
- Drawing OPERM-205; Flow Diagram Feedwater System; Revision BD
- Drawing OPERM-217; Flow Diagram Internal Containment Spray System; Revision AP
- Drawing OPERM-601; Flow Diagram Turbine and Auxiliary Building Ventilation; Revision CW
- Drawing OPERM-603; Flow Diagram – Air Conditioning Administration Building and Control Room; Revision BD
- Drawing OPERM-606; Flow Diagram Air Conditioning Cooling Water Piping; Revision BU
- Kewaunee Power Station Corrective Action Program Search Data Associated with Boric Acid; Misposition; May 11, 2009

- Kewaunee Power Station Corrective Action Program Search Data Associated with Boric Acid; ICS; May 11, 2009
- Kewaunee Power Station MR Function System Search Data; MR Safety-Related; May 11, 2009

#### 1R05 Fire Protection

- DCR 3382; Control Room Ventilation Damper Replacement
- Fire Plan Drawing PFP-28; Control Room HVAC Equipment and Records Storage Room; December 19, 2007
- Fire Plan Drawing PFP-29; Auxiliary Building and Turbine Building Fan Rooms; November 17, 2004
- Fire Plan Drawing PFP-5; 1B Diesel Generator and Diesel Generator Day Tank Rooms; April 25, 2007
- Fire Plan Drawing PFP-24; Main Steam Line "B" Relief Header and Cable Spreading Area

#### 1R11 Licensed Operator Regualification Program

- CR 337238; Grade 1.0 During 4.0 Crew for Crew B Licensed Operator Regualification Cycle 09-03 Dynamic

#### 1R12 Maintenance Effectiveness

- CA 125724; Air Compressor "F" Fitting Broke
- CA 128099; Air Compressor "G" Trip – Annunciator 47052-1
- CA 132998; Track Margin Management Issue 20811
- CR 025261; Air Compressor "G" Tripped on HP Outlet Temperature High
- CR 094067; Air Compressor "G" Found Idling with Air Compressor "F" Cycling On and Off
- CR 117904; Service Water Pump 1A2 Breaker - Found Foreign Material in MOC Switch Cover
- CR 119799; Service Water Pump A2 Breaker Did Not Close
- CR 316227; Air Compressor "G" Trip – Annunciator 47052-1
- CR 318324; Service Water Pump A1 Red Run Indication Not Lit in Control Room
- CR 318475; Found Bent Front Lower Truck Cross Support Plate on Breaker 1-607
- CR 318504; Breaker 1-507 Truck Support Plate Found Bowed
- CR 318686; Service Water Pump A1 Green Light Did Not Illuminate
- CR 323555; Temp Change to SP-02-138A Due to Equipment Issue
- CR 325172; Service Water Pump B2 Breaker 1-609 Open Alarmed Then Cleared and Alarmed Again Within One Second
- CR 330028; Perform a Maintenance Rule Evaluation on CR 317575
- MRE 000703; Maintenance Rule Evaluation for Air Compressor "G" HP Air Outlet Temp Hi Trip
- MRE 000807; Maintenance Rule Evaluation for Air Compressor "G" HP Air Outlet Temp Hi Trip
- MRE 001029; Maintenance Rule Evaluation for Air Compressor "G" Trip
- MRE 006559; Maintenance Rule Evaluation for "G" Air Compressor Found Idling with "F" Air Compressor Cycling On and Off (Inactive)

- MRE 006956; Maintenance Rule Evaluation for Air Compressor “G” Found Loading/Cycling When “F” Compressor Is Selected Preferred (Inactive)
- MRE 006990; Maintenance Rule Evaluation for Air Compressor “F” Not Operating Properly
- MRE 007348; Maintenance Rule Evaluation for High Alarm Received on TLA-15
- MRE 010137; Maintenance Rule Evaluation for Air Compressor “G” Trip; Annunciator 47052-1
- MRE 010204; Maintenance Rule Evaluation for Air Compressor “F” Broken Fitting
- Kewaunee Power Station Central Report System Condition Report Request Report for NRC Inspection
- Kewaunee Power Station Maintenance Rule (a)(1) Evaluation – “G” Air Compressor Action Plan Data
- Kewaunee Power Station Maintenance Rule Category (a)(1); Station and Instrument Air – Category A Data; First Quarter 2009
- Kewaunee Power Station Maintenance Rule Station and Instrument Air Data for 2007, 2008, and 2009
- Kewaunee Power Station Maintenance Rule System Basis; 01 Station and Instrument Air; Revision 13
- Kewaunee Power Station Instrument Air Compressors Monthly Activity Data; F113-02; August 2006 Through March 2009
- Kewaunee Power Station Instrument Air Compressors Monthly Activity Data; G113-093; August 2006 Through March 2009
- Kewaunee Power Station Instrument Air Compressors 18-Month Rolling Percentage Monthly Activity Data; September 2007 Through March 2009
- Kewaunee Power Station Vendor Technical Manual ATLAS-0001; Stationary Compressors ZT237, 245, 255, 275 PACK, ZR 237, 245, 255, 275, 290 PACK; Revision 12
- Kewaunee Power Station Work Order Overview Report; May 14, 2009

#### 1R13 Maintenance Risk

- CR 338306; Diesel Generator “A” Lower Sight Glass Not Full
- OP-KW-AOP-CC-001; Abnormal Component Cooling Operation; Revision 1
- OP-KW-ARP-47021-H; CC Pumps Discharge Pressure Low; Revision 0
- PRA Revisions Data for 0914 March 30, 2009 Week
- Drawing MI 9644; Figure 6; Front View - “S” Unit Piping Application
- Drawing MI 9644; Figure 10; System Schematic Diagram – “999” and MP45 Units
- Drawing MI 9644; Figure 9; Gallery Fill/Sight Glass Application, Right Hand Rotation Engine
- Kewaunee Plant Configuration Changes and Relative Core Damage Frequency Data; March 30, 2009 – April 6, 2009
- Planned Risk-Significant Work Activities Data for April 1 and April 2, 2009
- Work Week Major Activities Data for March 29 – April 4, 2009
- Work Week Major Activities Data for June 14 – June 20, 2009

#### 1R15 Operability Evaluations

- CA 132044; Missing Design and Licensing Bases for EDG Startup Air System
- CA 132045; Missing Design and Licensing Bases for EDG Startup Air System
- CA 132046; Missing Design and Licensing Bases for EDG Startup Air System
- CA 132589; CA to Electrical Systems to Initiate 50.59 Screening Process for QA Typing 89-02
- CA 136298; CA to Perform EOC on QA Typing Changes 1986-1992
- CAP 024845; EDGs Dependent on QA-2 Components for Sustained Operation

- CR 324230; Air Dryer for "A" Diesel Generator Start Air Has An Air Leak Within the Casing
- CR 326432; Missing Design and Licensing Bases for EDG Startup Air System
- CR 331888; Doors 3 and 5 May Impact the Reliability of the "B" EDG Starting Air Compressor
- CR 336968; SI-350 A and B and SI-351 A and B Operation with High Differential Pressure
- CR 336324; Modify SI-351 A(B) in KR-31 for JOG Recommendations and SBLOCA Concerns
- DCR 3741; Modify SI-350A(B), Add a Relief Valve Between SI-350A(B) and SI-351A(B), and Change Gear Ratio to Increase MOV Valve Disk DP Limit; Revision 1
- 50.59 Applicability Review of DCR 3741; Modify SI-350A(B), Add a Relief Valve Between SI-350A(B) and SI-351A(B), and Change Gear Ratio to Increase MOV Valve Disk DP Limit; Revision 1
- OD 298; SI-350 A/B and SI-351 A/B Could Be Required to Open with High Differential Pressure than Was Assumed in the Original Design
- 50.59 Applicability Review OD 298; SI-350 A/B and SI-351 A/B Could Be Required to Open with High Differential Pressure than Was Assumed in the Original Design
- Calculation C10021; Method for Determining Diesel Generator Damper Operating Times After Loss of Air-Start Compressors; Original and Revision 1
- Drawing M-213-9; Flow Diagram Diesel Generator Startup Air Compressor "A" and "B" and
- Drawing OPERM-213-9; Flow Diagram Diesel Generator Startup Air Compressor "A" and "B" and Fish Screen Air; Revision D
- Ingersoll-Rand Correspondence to Kewaunee Nuclear Power Plant; Aftercooler and Dryer for Diesel Starting System; March 14, 1989
- Kewaunee Power Station Non-Safety Related EDG Startup Air Compressor Parts Data; July, 1981 – February, 2007

#### 1R18 Temporary Modifications

- CAP 035562; Maintenance Rule Function 55-01 Exceeded Its Performance Criteria of No Repetitive Maintenance Preventable Functional Failures
- CR 331347; Main Steam Line Bistables Tripped Without Main Steam Isolation Valve Being Deactivated
- OP-KW-NOP-MS-001; Main Steam and Steam Dump System; Revision 6
- RCE 000729; Relay Problem Has Been Limited to the Main Steam High Steam Flow Relays
- TMOD 2006-08; Change the High Steam Flow Bistable Setpoint Range to 0-5 VDC; Revision 0
- 10 CFR 50.59 Applicability Review Screening for TMOD 2006-08; Change the High Steam Flow Bistable Setpoint Range to 0-5 VDC; Revision 0
- Instrument Operating Conditions for Isolation Functions Data; Table TS 3.5-4

#### 1R19 Post-Maintenance Testing

- CA 088962; Track Completion of Containment Fan Coil Unit "A" Motor and Restore to Full Qualification
- CR 116623; Containment Fan Coil Unit "A" Motor High Vibrations
- CA 134233; Door 5 Evaluation Discrepancy
- CR 318324; Service Water Pump A1 Red Run Indication Light Not Lit in Control Room

- CR 318446; Steam Exclusion Door 141 Discrepancy that Resulted in TRM 3.0.9 Nonconformance
- CR 331153; Door 5 Evaluation Discrepancy
- CR 329293; Review the Conclusions in MRE 007341
- CR 333131; NRC Resident Observes Personnel Not Verifying Doors Closed Behind Them
- KW07-009858; Replace the Heat Exchangers in the 1C Turbine Building FCU
- KW100271246; PM05B005: Inspect/Clean/Lube Motor
- KW100442574; Replace 1A Containment Fan Coil Unit Motor
- KW100458167; PM02-066: Rebuild or Replace SW43A1
- KW100499803; Contingency Single Point Vulnerability Door Repair for Door 005
- KW 100522401; Time Delay Relay TDR-S5/B6 - Calibrate Relay
- MA-KW-EPM-DGE-008; Electrical Preventive Maintenance; Revision 0
- 10 CFR 50.59 Applicability Review for MA-KW-EPM-DGE-008; Electrical Preventive Maintenance; Revision 0
- MA-KW-ICP-SW-071A1; Instrument Calibration; Revision 3
- OD 000215; Increased Vibrations on 1A Containment Fan Coil Unit Motor
- OP-KW-ORT-SW-002A; Operations Routine Test; Revision 2
- 50.59 Applicability Review of OP-KW-ORT-SW-002A; Operations Routine Test; Revision 2
- SC-FM-75; National Fire Protection Association Standard for Fire Doors and Windows
- Containment Fan Coil 1A Overall Trend Values Data; March, 2001 – May, 2009
- Kewaunee Power Station Fire Protection Program Analysis; Section 4.7 Fire Protection Engineering Evaluations; Revision 8
- Kewaunee Power Station Fire Protection Program Plan; Section 3.1 Fire Protection Program; Revision 9
- NRC Generic Letter 86-10; Implementation of Fire Protection Requirements
- National Fire Protection Association 80-1975; Fire doors and Windows Code Deviations; Section 1-6.1; Revision 9

#### 1R20 Refueling and Other Outage Activities

- CR 331174; Tech Spec Requirements for Steam Line Low Pressure Settings May Not Be Met
- CR 331245; Heavy White Boric Acid From Packing Leak on CVC-21072-2
- CR 331248; Moderate to Heavy Yellow Boric Acid from Packing on CVC-243A
- CR 331251; Hanger RAC-H59 Is in a “Cocked” Position
- CR 331258; Active Packing Leak of 10 to 12 DPM from SW-901B-1
- GNP-08.06.02; Containment Hot Shutdown Walkdown; Revision 4
- N-TB-54; Turbine and Generator Operation; Revision 88
- NF-KW-REP-021; Manual Estimated Critical Position Calculation; Revision 3
- OD 000285; Provide Supporting Documentation for CC System Operability for Reactor Coolant Pump “B” Lines
- OP-KW-GOP-104; Startup From Hot Shutdown to Hot Standby (Reactor Startup)
- OP-KW-GOP-105; Startup From Hot Standby to 35% Power
- OP-KW-GOP-205; Shutdown From 35% Power to Hot Standby
- Kewaunee Power Station Forced Outage Work List Data; April 16, 2009
- Kewaunee Power Station Forced Outage Update; April 17, 2009
- Kewaunee Power Station Production Project Data; KW-LT-12 CP/NC Activities in Next 48; April 19, 2009
- Kewaunee Power Station Production Project Data; LT-02 Three Day Look Ahead By Start; April 19, 2009

## 1R21 Component Design Bases Inspection

- CR 321653; Operability Determination 000254; Revision 0
- MPR-3185; Pertinent Excerpts of Kewaunee AC Control Circuit Pickup Voltage Testing; Revision 0
- DRN 0064-0039-155, Pertinent Excerpts of MPR Report; Revision 1
- KPS Calculation C11450 Attachment 7; Auxiliary Power System Modeling and Analysis; Revision 0
- KPS Calculation C11450 Attachment 68; Auxiliary Power System Modeling and Analysis; Revision 1
- KPS Calculation C11716 Attachments 42a, 42b, 42c; MCC Control Circuit Voltage Drop; Revision 1
- Calculation C11715; Voltage Drop Excel Spreadsheet; dated January 2009
- 95-95 Voltage Issues Excel Spreadsheet; dated February 4, 2009

## 1R22 Surveillance Testing

- ANSI/IEEE C37.2 Device Numbers; My Electrical Wiki; Electrical Engineering
- CAP 020611; Need Administrative Controls When the Seismic Monitor Is Removed from Service
- CR 319321; Analog Trigger Switch Card S5 Output Point Out of Acceptance Range
- CR 319418; Analog Trigger Switch Card Output S8 Out of Acceptance Range
- CR 319434; Analog Trigger Switch Card Output S11 Out of Acceptance Range
- CR 319442; Seismic Monitoring Analog Trigger Point S-6 Found Out of Spec High
- CR 319448; Seismic Monitoring Analog Trigger Point S-9 OBE Found Out of Spec High
- CR 319451; Seismic Monitoring Analog Trigger Point S-12 DBE Found Out of Spec High
- CR 324837; Potential NRC Violation Associated with Seismic Monitor Inoperability
- CR 340002; Trending to Identify Aggregate Impacts
- CR 339787; NRC Resident Inspector Questions Related to Procedure Use and Adherence
- DNAP-0509; Dominion Nuclear Procedure Adherence and Usage; Revision 11
- ESOMS Narrative Logs of April 30, 2009
- ESOMS Narrative Logs of June 23, 2009
- ESOMS Narrative Logs of June 25, 2009
- ESOMS Narrative Logs of June 26, 2009
- KW100272544; PM87-001: 18-Month Calibration Check
- KW100516518; Verify Calibration of Blue Channel Foxboro boxes
- OP-KW-OSP-RCS-001; Reactor Coolant System Leak Rate Check; Revision 2
- SP-05B-345; Auxiliary Feedwater Pump "B" Low Suction and Low Discharge Pressure Trip Test; Revision 8
- SP-18-043; Containment Pressure Instrument Channels Test; Revision 27
- SP-24-121B; Shield Building Vent System Test – Train B; Revision 5

- SP-87-133; Seismic Monitoring System Calibration and Functional Test; Revisions F, G, H, I, and J
- 50.59 Applicability Review of SP-87-133; Seismic Monitoring System Calibration and Functional Test; Revision I
- 10 CFR 50.59 Applicability for SP-05B-345; Auxiliary Feedwater Pump "B" Low Suction and Low Discharge Pressure Trip Test
- SP-06-34B -3; Steam Generator Flow Mismatch and Steam Pressure Instrument Channel 3 (Blue) Calibration; Revision 12
- 10 CFR 50.59 Applicability for SP-06-34B -3; Steam Generator Flow Mismatch and Steam Pressure Instrument Channel 3 (Blue) Calibration; Revision 12
- SP-33-098A; Train "A" Safety Injection Pump and Valve Test – IST; Revision 10
- Calculation C10977; Acceptability of Safety Injection Pump Surveillance Procedure Upper Acceptance Criteria
- Drawing 12-361226; Block Diagram of Seismic Recording System; Revision A
- Drawing E-1053; Control Schematic; 4160 V Breaker 1-604; Revision AH
- Drawing E-2032; Integrated Logic Diagram; Safety Injection System; Revision X
- Kewaunee Power Station Inservice Testing Basis - Pump Data; Safety Injection Pump SIP-1A
- Kewaunee Power Station Inservice Testing Program Basis Document; Fourth Interval; Revision 6
- Kewaunee Power Station Inservice Testing Program Plan for Pumps and Valves; Fourth Testing Interval; February 16, 2005 – February 15, 2015; Revision 23
- Kewaunee Power Station Nuclear Status Report for June 26, 2009
- Kewaunee Power Station Nuclear Status Report for June 29, 2009
- Pre-Job Brief Checklist for Steam Generator Flow Mismatch and Steam Pressure Channel 3 Partial Calibration, dated April 17, 2009

#### 40A2 Identification and Resolution of Problems

- CR 120970; Increasing Temperature Trend; Relay Rack 183 Cold Junction Reference Temperature
- CR 120979; Containment Fan Coil Unit 1B Increasing Vibration Trend
- CR 316791; Dominion Chief Nuclear Officer Has Identified Significant Fleet Rework Issues
- CR 321260; Evaluation of Trend Needed for INPO PO&C Code OP.1; Operations; Fourth Quarter of 2008
- CR 321270; Evaluation of Trend Needed for System 15-ACC-Auxiliary Building Air Conditioning
- CR 321271; Evaluation of Trend Needed for System 16-TAV-TB and Screenhouse Vent; Fourth Quarter of 2008
- CR 321290; Evaluation of Trend Needed for System 89A-BLG Building Structures; Fourth Quarter of 2008
- CR 321291; Evaluation of Trend Needed for Equipment Failure Mode; MCR; Fourth Quarter of 2008
- CR 322671; Slightly Degrading Vibration Trend on "B" Emergency Diesel Generator
- CR 324853; Cognitive Trend of Use of Immediate Actions to Reduce Event Recurrence
- CR 328292; NRC Performance Indicator for SSFFs Potentially Nearing Green/White Threshold

- CR 333733; Documentation of Potential Trend for Process Code; Operating Experience; First Quarter of 2009
- CR 333949; Evaluation for Trend Needed for Equipment Failure Mode; First Quarter of 2009
- CR 333958; Evaluation of Trend for Equipment Failure Mode EFS; First Quarter of 2009
- CR 330754; Door 263 Latch Not Engaged
- CR 336091; Door 263 Latch Not Engaged
- CR 332124; Oil Sheen on Water in Safeguards Trench After TDAFW Pump Run
- SAR 000382; Service Water/Microbiologically Influenced Corrosion Program Self Assessment; February, 2008
- SAR 000443; Comprehensive Self-Assessment of the Kewaunee Operations Training Programs; March, 2009
- SAR 000459; Alternate Plant configurations; March, 2008
- SAR 000497; Clearance and Tagging Activities; September, 2008
- SAR 000521; Technical Specification Tracking Log Standard; July, 2008
- SAR 000716; Operational and Configuration Control–Fundamentals of Engineering (EN.1) Assessment; May, 2009
- SAR 000745; Security Use of Operating Experience, Self-Assessment, and Benchmarking; February, 2009
- Kewaunee Power Station Auxiliary Feedwater – Category A Assessment Data; First Quarter of 2009
- Kewaunee Power Station Corrective Action Program Table Data; Operating Experience; First Quarter of 2009
- Kewaunee Power Station Dominion Nuclear Trend Report; Fourth Quarter 2008
- Kewaunee Power Station Dominion Nuclear Trend Report; First Quarter 2009
- Kewaunee Power Station Equipment Failure Mode Details Data; First Quarter of 2009
- Kewaunee Power Station Equipment Reliability Health Report; Fourth Quarter of 2008
- Kewaunee Power Station Nuclear Oversight Audits Data; 2006, 2007, and 2008
- Kewaunee Power Station Service Water – Category A Assessment Data; First Quarter of 2009
- Kewaunee Power Station Top Ten Plant Health Issues List; Outage and Non-Outage Data
- Kewaunee Power Station Turbine Building and Screen House Ventilation – Category A Assessment Data; First Quarter of 2009
- Kewaunee Power Station Site/Department Clock Reset Data; 2007 - 2009

#### 4OA3 Event Follow-Up

- ACE 014011; NRC Identified Cross-Cutting Aspect of Failure to Follow Procedures
- CA 012519; CA to Licensing to Review the NRC Resident Concern
- CA 017360; Rapid Response Engineering to Ensure Specific Commitments
- CA 019328; Revise Lesson Plan ESI-06-LP028
- 10 CFR 50.59 for Lesson Plan ESI-06-LP028; Revision E
- CA 028911; Submit FAQ ON MSPI Unavailability
- CA 030014; Diesel Generator Performance Indicator May Be White – FAQ Tracking
- CA 084185; Identify All Training Tasks Associated with the Immediate Operability Determinate

- CA 084186; Identify Any New or Modified Tasks Associated with Immediate Operability Determinate
- CA 084188; Update All Training Materials as Appropriate for New and Modified Tasks Per TRB
- CA 084189; Deliver Training and/or Briefings as Approved by TRB to Incumbents on the Operability
- CA 089117; Develop and Implement Expectations for Prompt OD for Complex Issues
- CA 130004; Complete Submitted Procedure Change for MA-KW-MPM-FP-030C
- CA 132044; Missing Design and Licensing Bases for EDG Startup Air System
- CA 132045; Missing Design and Licensing Bases for EDG Startup Air System
- CA 132046; Missing Design and Licensing Bases for EDG Startup Air System
- CA 132589; CA to Electrical Systems to Initiate 50.59 Screening Process for QA Typing 89-02
- CA 135060; Track Completion of the LAR for QATC 89-02
- CA 135643; Perform Casual Determination for CR 328191
- CA 136298; CA to Perform EOC on QA Typing Changes 1986-1992
- CA 137469; Submit Procedure Feedback for PMP-18-05
- CA 138275; Initiate Appropriate CAs from Revised OD-273
- CA 138451; Evaluate TS 3.6 Applicability when R-19 Inoperable
- CAP 024845; EDGs Dependent on QA-2 Components for Sustained Operation
- CAP 027495; Service Water Supplies to Control Room Air Conditioning Units Potentially Impacted by Tornado Missiles
- CAP 033340; NRC Questions About R-18 & R-19 Calibration
- CAP 034030; Incorrect Assumption Regarding De-Rating of EDGs During Elevated Load Operation
- CAP 035605; More NRC Questions for R-18 and R-19 Calibration
- CAP 037265; Non-linear Response for R-18 and R-19 Detectors
- CAP 038847; NRC Concern With EDG Surveillance Testing at Elevated Temperature
- CAP 0400057; NRC Question Regarding 50.59 Compliance During Revision T of E-0-05
- CAP 040321; Submit FAQ on MSPI Unavailability
- CAP 042054; Diesel Generator Performance Indicator May Be White
- CR 012223; Kewaunee Power Station Diesel Maintenance Procedures Not Current with Recommended Maintenance
- CR 013741; Kewaunee Diesel Generator FAQ Denied
- CR 015279; NRC Resident Concern Regarding Control Room Habitability
- CR 018458; NRC Violation 2007-003-01 Failure to Perform a 10 CFR 50.59 Evaluation
- CR 019854; Perform Actions Described in Kewaunee Power Station Response to Violation 2007003-01
- 10 CFR50.59 Screening Help Sheet; Form HELPSHEET; Revision B
- CR 095094; Implementation of EPRI Steam Generator Program Documents
- CR 098169; CAP 024845 Place Keeper
- CR 106232; Documentation of Events Related to the Containment Fan Coil Unit "B" Tube Leak
- CR 109107; Pressurizer PORV-2B, Control Cable Spurious Operation Concern
- CR 113037; NRC Identified Cross-Cutting Aspect of Failure to Follow Procedures
- CR 117558; NOD Audit 08-09; Some Station Procedures Not Revised in 17 Years
- CR 321523; Door 5 (SE) Found Non-functional

- CR 323550; NRC Resident Question Regarding Routing of Component Cooling Water Lines
- CR 324016; NRC Questions Kewaunee Power Station Compliance with HELB Requirement
- CR 324230; Air Dryer for "A" Diesel Generator Start Air Has An Air Leak Within the Casing
- CR 326432; Missing Design and Licensing Bases for EDG Startup Air System
- CR 326625; NRC Senior Resident Questioned the Use of Dedicated Operator in SP-31-168A
- CR 328830; Increased Reactor Coolant Pump "A" Number 1 Seal Leak-off Flow Increasing
- CR 331888; Doors 3 and 5 May Impact the Reliability of the "B" EDG Starting Air Compressor
- CR 337348; Entry Into 24-Hour Action Statement of TS 3.6.b.3.A Not Logged During SP-55-167-1
- CR 337540; Document Weaknesses Identified in OD-273
- CR 337633; Revision Needed to SP-36-084
- CR 337734; Evaluation of TS 3.6 Applicability when R-19 Inoperable
- CR 337970; Current Practice for Fuel Oil Sampling Does Not Match Original Practice
- CR 338088; Issues Identified with SP-36-084
- CR 340864; Failure to Integrate Reference Documents Per Commitment
- DCR 2233; Modify Backdraft Dampers for the Containment Fan Coil Units
- DCR 2335; Replace Aftercooler/Filter on DG Air Start Compressors 1A/1B
- ESI-06-LP028; 10 CFR 50.59 Screenings; Revisions D and E
- LER 1989-005-01; Inspection of Diesel Generator Startup Air System Finds Deficiencies That Could Render Both Diesel Generators Inoperable
- LER 2009-001-00; Emergency Diesel Generators Inoperable Requiring Notice of Enforcement Discretion; March 24, 2009
- LER 2009-004-00; Failed Backdraft Damper Renders Containment Fan Coil Unit Inoperable; May 21, 2009
- LER 2009-005-00; Nonfunctional Steam Exclusion Door Results in Postulated Inoperability of Safety Systems; May 21, 2009
- KW 100346418; PM-08-075: Inspect/Dry Test Detector 1
- KW 100391464; PM-08-045: CO2 Hose Reel Dry Test
- KW 100397541; Concrete Support Pad Under Discharge Pressure Gage
- MA-KW-MPM-FP-009C; CO2 System (Cardox) Dry Test for Telephone Equipment Room; Revision 0
- 50.59 Applicability Review of MA-KW-MPM-FP-009C; CO2 System (Cardox) Dry Test for Telephone Equipment Room; Revision 0
- MA-KW-MPM-FP-030C; Dry Test of CO2 System for Hose Reel Stations; Revision 0
- OD 000194; Pressurizer PORV-2B, Control Cable Spurious Operation Concern
- OD 000273; Missing Design and Licensing Bases for EDG Startup Air System
- OP-KW-AOP-GEN-005; Barrier Control; Revision 1
- OP-KW-OSP-DGE-006A; Diesel Generator "A" Start-up Air Leakage Test; Revision 3
- OP-KW-OSP-DGE-006B; Diesel Generator "B" Start-up Air Leakage Test; Revision 4
- PMP-18-05; RBV – Damper Maintenance; Revision J
- RCE 000736; Corrective Action Matrix; August 21, 2007
- U.S. NRC Letter to Kewaunee Power Station; Request for Information Pursuant to 10 CFR 50.54(f) Regarding Adequacy and Availability of Design Bases Information; October 9, 1996
- U.S. NRC Notice of Enforcement Discretion 09-3-01 Letter; January 29, 2009

- U.S. NRC Standard Review Plan 9.4.1; Control Room Area Ventilation System Revision 2
- U.S. NRC Standard Review Plan 3.5.1.4; Missiles Generated by Natural Phenomena; Revision 2
- U.S. NRC Standard Review Plan 3.3.2; Tornado Loadings
- U.S. NRC 10 CFR 50.36 Technical Specification Data
- 10 CFR 50.59 Screening Help Sheet
- Calculation C10021; Method for Determining Diesel Generator Damper Operating Times After Loss of Air-Start Compressors; Original and Revision 1
- Calculation 2335012; Diesel Generator Air Start System Supply Time Capability in Support of Maintaining the Air Start Compressors Typed As QA-2
- Comparison of 10 CFR 50.59 Requirements to Kewaunee 50.59 Procedures Data
- Drawing M-213-9; Flow Diagram Diesel Generator Startup Air Compressor "A" and "B" and
- Drawing OPERM-213-9; Flow Diagram Diesel Generator Startup Air Compressor "A" and "B" and Fish Screen Air; Revision D
- Federal Register; Volume 57; No. 154; Availability and Adequacy of Design Bases Information at Nuclear Power Plants; Policy Statement; August 10, 1992
- Ingersoll-Rand Correspondence to Kewaunee Nuclear Power Plant; Aftercooler and Dryer for Diesel Starting System; March 14, 1989
- Kewaunee Nuclear Power Plant Appendix R Design Description; Section 3.1.3.2 Reactor Coolant Pump Seal Integrity; Revision 7
- Kewaunee Power Station Commitment Number 90-083; DG Air Receiver Capacity Evaluation
- Kewaunee Power Station Commitment Number 91-167; Report LER 89005-01 Leak Rate Test
- Kewaunee Power Station Operating Experience Assessment Screening Number 98-1146; Spurious Shutdown of Emergency Diesel Generators From Design Oversight River Bend
- Kewaunee Power Station FAQs By Posting Date Data; January 22, 2009
- Kewaunee Power Station Key System Parameters, Safety-Related Functions Data; Table 5.1-1
- Kewaunee Power Station Letter to U.S. NRC; Response to Request for Information Pursuant to 10 CFR 50.54(f); Regarding Adequacy and Availability of Design Bases Information; February 6, 1997
- Kewaunee Power Station Letter to U.S. NRC; Reply to Notice of Violation 2007003-01; September 13, 2007
- Kewaunee Power Station License Amendment Request 247: Emergency Diesel Generator Fuel Oil Technical Specification Changes; Supplement 2; January 30, 2009
- Kewaunee Power Station Quality Assurance Typing Committee Meeting 47 Data; December 13, 1989
- Kewaunee Power Station Quality Assurance Typing Committee Meeting 48 Data; January 5, 1990
- Kewaunee Power Station Reactor Coolant Pump "A and B" Seal Leakoff Cycle Trend Data; March 15, 2009 – April 5, 2009
- Kewaunee Power Station Request for Enforcement Discretion from Technical Specification 3.7.a.7, Emergency Diesel Generators; January 27, 2009
- Kewaunee Power Station Non-Safety Related EDG Startup Air Compressor Parts Data; July, 1981 – February, 2007
- Kewaunee Power Station Updated Control Room Habitability Evaluation Report to the NRC; February 28, 1989, March 7, 1990, April 19, 1990, and May 17, 1990

#### 4OA5 Other Activities

- Nuclear Oversight Assessment; 09-12C; Fleet Implementation of NEI Groundwater Protection Initiative; dated March 25, 2009
- RP-AA-502; Groundwater Protection Program; Revision 1
- RP-AA-503; Radiological Decommissioning Records – 10 CFR 50.75(g) Program; Revision 0
- RP-KW-001-028; Groundwater Protection Program; Revision 0
- CY-KW-009-004; Groundwater Monitoring Well Sampling; Revision 2
- RP-AA-504; Remediation Process for the Ground Water Protection Program; Revision 0
- SA000586; Groundwater Protection Initiative; December 22, 2008
- Report of Well Installation Services; STS Project No. 200700302; August 28, 2008

## LIST OF ACRONYMS USED

AC	Alternating Current
ADAMS	Agencywide Document Access Management System
CAP	Corrective Action Program (Document)
CDBI	Component Design Bases Inspection
CFR	Code of Federal Regulations
CLB	Current Licensing Basis
CPT	Control Power Transformer
CR	Condition Report
DBD	Design Basis Document
DC	Direct Current
DRP	Division of Reactor Projects
EAL	Emergency Action Level
EDG	Emergency Diesel Generator
EPRI	Electric Power Research Institute
FAQ	Frequently Asked Question
FCU	Fan Coil Unit
HELB	High-Energy Line Break
IMC	Inspection Manual Chapter
IP	Inspection Procedure
IR	Inspection Report
kV	Kilovolt(s)
LCO	Limiting Condition for Operation
LER	Licensee Event Report
LERF	Large Early Release Frequency
MCC	Motor Control Center
NCV	Non-Cited Violation
NEI	Nuclear Energy Institute
NFPA	National Fire Protection Association
NOED	Notice of Enforcement Discretion
NRC	U.S. Nuclear Regulatory Commission
NRR	Office of Nuclear Reactor Regulation
OD	Operability Evaluation (Determination)
PARS	Publicly Available Records
PM	Post-Maintenance
PORV	Power Operated Relief Valve
QA	Quality Assurance
RIS	Regulatory Issue Summary
SDP	Significance Determination Process
SRP	Standard Review Plan
SSC	Structure, System, and (or) Component
SW	Service Water
TS	Technical Specification
TSO	Transmission System Operator
USAR	Updated Safety Analysis Report
URI	Unresolved Item
V	Volt(s)
Vac	Volts Alternating Current
Vdc	Volts Direct Current
WO	Work Order