



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

REGION III
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LISLE, IL 60532-4352

November 3, 2010

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
05000305/2010004**

Dear Mr. Heacock:

On September 30, 2010, 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 October 5, 2010, with Mr. Stephen Scace and other members of your staff.

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

Based on the results of this inspection, three NRC-identified findings of very low safety significance and one NRC-identified Severity Level IV finding were identified. However, because of the very low safety significance, and because the issues were entered into your corrective action program, the NRC is treating the issues as non-cited violations (NCVs) in accordance with Section 2.3.2 of the NRC Enforcement Policy, dated September 30, 2010.

If you contest the subject or severity of these NCVs, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001, with a copy to the Regional Administrator, U.S. Nuclear Regulatory Commission - Region III, 2443 Warrenville Road, Suite 210, Lisle, IL 60532-4352; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; and the Resident Inspector Office at the Kewaunee Power Station. In addition, if you disagree with the cross-cutting aspect assigned to 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 the Kewaunee Power Station.

D. Heacock

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In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records System (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC website at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

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

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

Enclosure: Inspection Report 05000305/2010004
w/Attachment: Supplemental Information

cc w/encl: Distribution via ListServe

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

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

Report No: 05000305/2010004

Licensee: Dominion Energy Kewaunee, Inc.

Facility: Kewaunee Power Station

Location: Kewaunee, WI

Dates: July 1, 2010, through September 30, 2010

Inspectors: R. Krsek, Senior Resident Inspector
K. Barclay, Resident Inspector
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Branch 5
Division of Reactor Projects

Enclosure

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SUMMARY OF FINDINGS

IR 05000305/2010004; 07/01/2010 – 09/30/2010; Kewaunee Power Station; Equipment Alignment, Maintenance Effectiveness, Modifications, Surveillance and Testing, and Radiological Hazard Assessment and Exposure Controls.

This report covers a three-month period of inspection by resident inspectors and announced baseline inspections by regional inspectors. The inspectors identified three Green findings and one Severity Level (SL) IV finding. The findings were violations 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 and associated non-cited violation (NCV) of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified by the inspectors for the licensee's failure to have an adequate emergency operating procedure for an activity affecting quality. Specifically, emergency operating procedure E-2, "Faulted Steam Generator Isolation," did not prescribe actions to manually close the steam supplies to the turbine-driven auxiliary feedwater pump in the event the control room switches failed to operate. The licensee initiated condition report (CR) CR391458 and took immediate corrective actions to correct the deficient procedure and informed the licensed operators.

The finding was determined to be more than minor because it was associated with the Mitigating Systems Cornerstone attribute of procedure quality and adversely affected the cornerstone objective of ensuring the reliability and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the licensee failed to ensure that Emergency Operating Procedure E-2 contained all the required actions to ensure successful isolation of a faulted steam generator. 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," Tables 3b and 4a, for the Mitigating Systems Cornerstone. The inspectors answered "no" to the Mitigating Systems questions and screened the finding as having very low significance (Green). The inspectors determined that this finding did not reflect present performance since the procedure error was introduced greater than three years ago; therefore, there was no cross-cutting aspect associated with this finding. (Section 1R04.1)

- Green. A finding of very low safety significance and associated NCV of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified by the inspectors for the failure to have adequate procedures to address the removal of the greenhouse traveling water screen covers, an activity affecting quality. Consequently, the covers were removed and safety-related equipment was exposed to the environment without adequate planning of mitigation actions in the event of inclement weather.

The licensee initiated condition reports CR394670, CR395541, and CR395717 to document the issue. At the end of the inspection period, the licensee was performing a causal evaluation and developing corrective actions to address the issue.

The finding was determined to be more than minor because it was associated with the Mitigating Systems Cornerstone attribute of protection against external factors 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 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," Tables 3b, 4a, and 4b for the Mitigating Systems Cornerstone. The inspectors determined that the greenhouse covers were designed to prevent tornado missiles from damaging the safety-related equipment housed inside the greenhouse and that two trains of the service water system would be degraded; therefore, the inspectors answered "yes" to the Table 4b seismic, flooding, and severe weather screening criteria questions 1 and 2. The inspectors contacted the RIII senior reactor analyst who determined, using NUREG/CR-4461, "Tornado Climatology of the Contiguous United States," and the number of days the covers were removed that the performance deficiency risk was of very low safety significance (Green). The finding has a cross-cutting aspect in the area of human performance, Decision Making, because the licensee failed to make safety-significant or risk-significant decisions using a systematic process to ensure safety is maintained. Specifically, the licensee applied an incorrect evaluation to a situation that resulted in the multiple trains of service water pumps being unprotected from tornado missiles (H.1(a)). (Section 1R12.1)

- Green SLIV. A Severity Level IV NCV of 10 CFR 50.59(d)(1), "Changes, Tests, and Experiments," was identified by the inspectors for the failure to document an evaluation that provided a basis for the determination that the changes implemented in DCR 3163 and Emergency Operating Procedure ES-1.3, "Transfer to Sump Recirculation," in 2001 did not require a license amendment. Specifically, the licensee failed to provide an evaluation that adequately documented why replacing the automatic opening of the service water (SW) valves SW-1300A and SW-1300B upon a safety injection signal (to support the service water safety function of loss of coolant accident (LOCA) recirculation operation) with a manual action to open the valves in Emergency Operating Procedure ES 1.3, did not present more than a minimal increase in the likelihood of occurrence of a malfunction of a structure, system, or component (SSC) important to safety previously evaluated in the updated safety analysis report. The licensee initiated CR389330 and, at the end of the inspection period, planned to submit a license amendment request to the NRC for this design change.

The violation was determined to be more than minor because the inspectors could not reasonably determine that the changes would not have ultimately required prior NRC approval. Violations of 10 CFR 50.59 are dispositioned using the traditional enforcement process instead of the SDP because they are considered to be violations that potentially impede or impact the regulatory process. However, if possible, the underlying technical issue is evaluated under the SDP to determine the severity of the violation. In this case, 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," Tables 3b and 4a, for the Mitigating Systems Cornerstone. The inspectors answered "yes" to question 1 of the Mitigating

Systems Cornerstone column of the Phase 1 worksheet because the inspectors concluded that this was a design basis deficiency confirmed not to result in the loss of operability. Based upon this Phase 1 screening, the inspectors concluded that the issue was of very low safety significance (Green). In accordance with Section 6.1.d.2 of the NRC Enforcement Policy this violation is categorized as Severity Level IV because the resulting changes were evaluated by the SDP as having very low safety significance. The inspectors determined that this finding did not reflect present performance since the error was introduced in a design change that was greater than three years old; therefore, there was no cross-cutting aspect associated with this finding. (Section 1R18.1)

Cornerstone: Occupational Radiation Safety

- Green. A finding of very low safety significance and an associated NCV of Technical Specification 6.13 was identified by the inspectors after a worker entered a high radiation area on October 15, 2009. Radiation protection did not authorize the worker to enter the area nor was the worker made knowledgeable of the dose rate level in the area. The work was temporarily assigned from the turbine building to the containment building to assist with the cleaning of containment in preparation for containment close out. The worker received a briefing from radiation protection regarding the radiological condition of containment, but was instructed not to enter any high radiation areas. The worker entered the radiological controlled area on radiation work permit 09-0202-1, which allowed access to containment but did not allow access to high radiation areas and the electronic dosimeter worn by the worker was set to alarm at 50 mrem/hour. During the course of the work activity, the worker was instructed to retrieve a piece of equipment from the basement elevation of containment. An unknown individual held the swing gate open, which also blocked the HRA posting, and the worker entered the basement elevation of containment. The worker, alerted to the higher dose rate conditions through an electronic dosimeter alarm, then exited the work area. The worker immediately reported the event to the radiation protection staff who confirmed the basement elevation of containment was a posted HRA and the dose rates were greater than 100 mrem/hour. The maximum dose rate measured by the ED was 106 mrem/hour. The corrective actions taken by the licensee included temporarily restricting the individual's further access to the radiologically controlled area and counseling of the individual by the licensee's Radiation Protection Manager.

The inspectors identified Example 6(h) of IMC 0612, Appendix E, as similar to the performance issue, in that, the worker was neither authorized by radiation protection to work in specific locations within containment, nor was the worker made knowledgeable of the dose rate level in the area. Therefore, in accordance with IMC 0612 and Example 6(h) of Appendix E, the inspectors determined that the performance deficiency was more than minor. Additionally, the performance deficiency impacted the program and process attribute of the Occupational Radiation Safety Cornerstone and adversely affected the cornerstone objective of ensuring adequate protection of worker health and safety from exposure to radiation, in that, unauthorized entry into areas without knowledge of the radiological conditions placed the worker at increased risk for unnecessary radiation exposure. The finding was assessed using the Occupational Radiation Safety SDP and was determined to be of very low safety significance because the problem was not an as-low-as-is-reasonably-achievable planning issue, there were no overexposures nor substantial potential for overexposures given the worker's reaction to the electronic dosimeter alarm and the dose rate ranges, and the licensee's ability to assess dose was not compromised. The inspectors determined that

the cause of this incident involved a cross-cutting component in the human performance area for inadequate work control. Specifically, the licensee did not appropriately coordinate work activities by incorporating necessary to assure human performance (H.3(b)). (Section 2RS1.1)

B. Licensee-Identified Violations

No violations of significance were identified.

REPORT DETAILS

Summary of Plant Status

Kewaunee operated at full power for the inspection period except for brief downpowers to conduct planned maintenance and surveillance activities, with one exception. On July 24, 2010, Kewaunee performed an unplanned power change to complete repairs on a feedwater heater drain pump. The licensee reduced power to 89 percent, repaired the pump, and returned to full power on July 26, 2010.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity, and Emergency Preparedness

1R01 Adverse Weather Protection (71111.01)

.1 Summer Seasonal Readiness Preparations

a. Inspection Scope

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

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

- auxiliary feedwater;
- 480-volt alternating current; and
- 125-volt direct current batteries.

Documents reviewed are listed in the Attachment to this report.

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

b. Findings

No findings of significance were identified.

1R04 Equipment Alignment (71111.04)

.1 Quarterly Partial System Walkdown of the Turbine-Driven Auxiliary Feedwater Pump

a. Inspection Scope

The inspectors performed a partial system walkdown of the turbine-driven auxiliary feedwater pump (TDAFWP), a risk-significant system.

The inspectors selected this system based on the risk-significance relative to the Reactor Safety Cornerstones at the time it was 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, abnormal, and emergency operating procedures, system diagrams; the USAR; Technical Specification (TS) requirements; outstanding work orders; condition reports (CRs); and the impact of ongoing work activities on redundant trains of equipment to identify conditions that render the systems incapable of performing the intended functions. The inspectors also walked down accessible portions of the systems to verify that 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. Lastly, the inspectors verified that the licensee entered the issues into the CAP with the appropriate significance characterization. Documents reviewed are listed in the Attachment to this report.

These activities constituted one partial system walkdown sample as defined in IP 71111.04-05.

b. Findings

Error in Emergency Operating Procedure for a Faulted Steam Generator

Introduction: A finding of very low safety-significance and associated non-cited violation (NCV) of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified by the inspectors for the licensee's failure to have an adequate emergency operating procedure (EOP) for activities affecting quality. Specifically, EOP E-2, "Faulted Steam Generator Isolation," did not prescribe actions to manually close the steam supplies to the TDAFWP in the event the control room switches failed to operate.

Description: During an equipment alignment walkdown of the TDAFWP, the inspectors reviewed and walked down portions of EOPs E-2, "Faulted Steam Generator Isolation," and E-3, "Steam Generator Tube Rupture," to verify the prescribed actions were in concert with the Westinghouse Owners Group Emergency Response Guidelines (WERGs) and to verify the procedure steps could be accomplished. The inspectors noted that in step 5.d of EOP-2, which isolates steam from the faulted steam generator, the step correctly stated to close the two steam supplies to the TDAFWP, MS-100A and MS-100B. However, the response-not-obtained column for this procedure step did not prescribe any actions for the operators to take in the event the control room switch failed to operate.

The inspectors reviewed the WERG E-2 background document and verified that isolation of steam paths from the faulted steam generator minimized the reactor coolant system cooldown and mass and energy release to the containment. The prescribed actions in the WERG highlighted the need to dispatch an operator to locally close the appropriate valves, in the event the steam-supply-to-the-TDAFWP control switches failed to operate from the control room. A review of the licensee's EOP background document BKG E-2, for step 5, revealed that the licensee had not documented any step deviations from the WERG guidelines.

The inspectors raised the procedural inadequacy concern to the licensee, who verified that the step to manually close valves MS-100A and MS-100B was required. The licensee initiated CR391458 and determined that this latent procedure error was introduced in 2006 when the licensee rewrote all the EOPs to match the most recent revision of the WERGs. The licensee initiated immediate corrective actions to correct the deficient procedure and informed the licensed operators of the change. In addition, the licensee performed an extent-of-condition review of the issue.

Analysis: The inspectors determined that the licensee's failure to ensure that EOP E-2 contained all the necessary prescribed actions was contrary to the requirements of 10 CFR Part 50, Appendix B, Criterion V, and was a performance deficiency.

The finding was determined to be more than minor in accordance with IMC 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening," dated December 24, 2009, because it was associated with the Mitigating Systems Cornerstone attribute of procedure quality and adversely affected the cornerstone objective of ensuring the reliability and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the licensee failed to ensure that EOP E-2 contained all the required actions to ensure successful isolation of a faulted steam generator.

The inspectors determined the finding could be evaluated using the Significance Determination Process (SDP) in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," Tables 3b and 4a, for the Mitigating Systems Cornerstone, dated January 10, 2008. The inspectors answered "no" to the Mitigating Systems questions and screened the finding as having very low significance (Green).

The inspectors determined that this finding did not reflect present performance since the latent procedure error was introduced in a procedure change that was greater than three years old; therefore, there was no cross-cutting aspect associated with this finding.

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 procedures of a type appropriate to the circumstances.

Contrary to this, in October 2006, the licensee inappropriately revised EOP E-2, an activity affecting quality, and failed to prescribe all the necessary actions to address a faulted steam generator isolation. Specifically, the licensee failed to incorporate a response-not-obtained action for Step 5.d, which required an operator action to manually close valves MS-100A and MS-100B. These steps were necessary in order to isolate the faulted steam generator, in the event the control room valve switches failed to operate. Because this violation was of a very low safety-significance and because it was

entered into the licensee's CAP as CR391458, this violation is being treated as an NCV, consistent with Section 2.3.2 of the NRC Enforcement Policy, dated September 30, 2010. (NCV 05000305/2010004-01; Inadequate Emergency Operating Procedure)

The licensee performed a remedial corrective action to correct the procedure and inform the licensed operators. In addition, the licensee conducted an extent-of-condition review.

.2 Quarterly Partial System Walkdowns

a. Inspection Scope

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

- safety injection train "A"; and
- containment spray train "A".

The inspectors selected these systems based on the 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, TS requirements, outstanding work orders, 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 the 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. Lastly, the inspectors verified that the licensee entered the issues into the CAP with the appropriate significance characterization. Documents reviewed are listed in the Attachment to this report.

These activities constituted two partial system walkdown samples 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 that were focused on availability, accessibility, and the condition of firefighting equipment in the following risk-significant plant areas:

- fire zone AX-23B, reactor auxiliaries north center;
- fire zone AX-30, relay room;
- fire zone TU-22, turbine room;
- fire zone TU-90 and TU-91, diesel generator “A” and day tank room;
- fire zone TU-95C, auxiliary feedwater pump “A”;
- fire zone TU-97, battery room “A”; and
- fire zone TU-98, battery room “B.”

The inspectors reviewed areas to assess if the licensee had implemented a fire protection program that: adequately controlled combustibles and ignition sources within the plant; effectively maintained fire detection and suppression capability; maintained passive fire protection features in good material condition; and 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 the overall contribution to internal fire risk as documented in the plant’s Individual Plant Examination of External Events with later additional risk insights, or the potential to impact equipment which could initiate or mitigate a plant transient. The inspectors verified that: fire hoses and extinguishers were in the 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 seven quarterly fire protection inspection samples as defined in IP 71111.05-05.

b. Findings

No findings of significance were identified.

1R06 Flooding (71111.06)

.1 Underground Vaults

a. Inspection Scope

The inspectors selected underground bunkers and manholes subject to flooding that contained cables whose failure could disable risk-significant equipment. The inspectors determined that the cables were not submerged, that splices were intact, and that appropriate cable support structures were in place. In those areas where dewatering devices were used, such as a sump pump, the device was operable and level alarm circuits were set appropriately to ensure that the cables would not be submerged. In those areas without dewatering devices, the inspectors verified that drainage of the area was available, or that the cables were qualified for submergence conditions. The inspectors also reviewed the licensee’s corrective action documents with respect to past submerged cable issues identified in the CAP to verify the adequacy of the corrective actions. The inspectors performed a walkdown of the following underground bunkers and manholes subject to flooding:

- tertiary auxiliary transformer (TAT) supply cable splice pit;
- cable pull pit for the TAT; and
- switchyard control cable vault.

This inspection constituted one underground vaults sample as defined in IP 71111.06-05.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Regualification Program (71111.11)

.1 Resident Inspector Quarterly Review (71111.11Q)

a. Inspection Scope

On September 20, 2010, the inspectors observed a crew of licensed operators in the plant's simulator during licensed operator regualification examinations to verify that operator performance was adequate, evaluators were identifying and documenting crew performance problems, and training was 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 the licensee's conduct of operations procedure and successful critical task completion requirements. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one quarterly licensed operator regualification program sample as defined in IP 71111.11.

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness (71111.12)

.1 Routine Quarterly Evaluation of the "1A1" Traveling Water Screen (71111.12Q)

a. Inspection Scope

The inspectors evaluated degraded performance issues for the service water 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 one quarterly maintenance effectiveness sample as defined in IP 71111.12-05.

b. Findings

(1) Inadequate Barrier Control Procedures Result in Exposed Service Water Pumps

Introduction: A finding of very low safety significance and associated NCV of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified by the inspectors for the failure to have adequate procedures to address the removal of the screenhouse traveling water screen (TWS) cover, a hazard barrier. Consequently, the covers were removed and safety-related equipment (SRE) was exposed to the environment without adequate planning of mitigating actions in the event of inclement weather.

Description: On Monday, September 13, 2010, the inspectors observed portions of an ongoing TWS replacement project. The licensee removed the concrete TWS cover from the top of the screenhouse to place a rebuilt TWS into the service water bay. At the end of the day, the inspectors observed the licensee did not restore the screenhouse cover to its permanent location and became concerned that SRE in the screenhouse would be exposed to the environment overnight because no temporary barrier was in place. The inspectors discussed the issue with licensee management, who promptly initiated corrective actions to place a temporary rain barrier to protect the SRE. Operations staff also informed the inspectors that a previously completed tornado missile evaluation documented that tornado missiles were not a concern for the SRE.

The inspectors reviewed the tornado missile evaluation, which concluded that adequate SRE separation existed between the "A" and "B" service water (SW) trains; therefore, tornado missile protection was not required. The inspectors verified that the licensing basis for the plant only required tornado missile protection of SRE if both trains of a

system could be affected by a tornado missile. However, the inspectors noted that the licensee's evaluation only addressed removal of the SW pump screenhouse cover, which had significantly less surface area than a removed TWS cover. With the TWS covers removed, the inspectors determined that there was direct line of site to either pump and that the documented evaluation did not seem applicable to the current plant configuration. Licensee engineering staff confirmed that the evaluation was only applicable to removal of a SW pump screenhouse cover and was not intended for global application to larger screenhouse covers. Therefore, operations staff had incorrectly applied the documented evaluation to this evolution.

On September 14, the temporary rain covers were removed to allow completion of the installation of the rebuilt TWS. Later around noon, the inspectors observed rain entering the open screenhouse roof. The rain accumulated around the base of safety-related electrical motor control center (MCC) 52D in the screenhouse. This motor control center contained the breaker for the "A" screenhouse exhaust fan, a high risk-significant piece of equipment. The inspectors notified operations staff, who subsequently took action to protect the SRE and determined that the rain did not adversely affect the function of the SRE. The permanent TWS covers were re-installed later that day.

The inspectors reviewed the barrier impairment permit for having the TWS covers removed and identified that the barrier type categories listed as options on the permit did not include tornado missiles or inclement weather as a factor. The barrier impairment permit was an attachment to SA-KW-EVL-GEN-001, "Planned Barrier Impairment Control." The inspectors reviewed a previous barrier impairment permit from a 2009 TWS replacement and found that it also did not consider tornado missiles or inclement weather, and licensee documentation determined that the cover was removed for four days in July 2009. The 2009 barrier impairment permit was an attachment to OP-KW-AOP-GEN-005, "Barrier Control." The inspectors communicated their concern to the licensee regarding the inadequate barrier impairment procedures for removal of the TWS covers and protection of SRE in the screenhouse. The licensee entered the inspectors' observations into the CAP.

Analysis: The inspectors determined that failing to have adequate procedures to address the removal of the screenhouse TWS covers, which are hazard barriers, was contrary to 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," and was a performance deficiency.

The finding was determined to be more than minor in accordance with IMC 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening," dated December 24, 2009, because it was associated with the Mitigating Systems Cornerstone attribute of protection against external factors 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). Specifically, the screenhouse TWS covers protected SW pumps and a safety-related electrical motor control center from tornado missiles and rain.

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," Tables 3b, 4a, and 4b, dated January 10, 2008, for the Mitigating Systems Cornerstone. The inspectors determined that the screenhouse covers were designed to prevent tornado missiles from damaging

the safety-related equipment housed inside the greenhouse and that two trains of the service water system would be degraded; therefore, the inspectors answered "yes" to the Table 4b seismic, flooding, and severe weather screening criteria questions 1 and 2.

The inspectors contacted the Region III senior reactor analyst who determined, using NUREG/CR-4461, Revision 2, "Tornado Climatology of the Contiguous United States," that the performance deficiency risk was of very low risk significance (Green), mainly because of the short time period the covers were removed.

The finding has a cross-cutting aspect in the areas of human performance, Decision Making, because the licensee failed to make safety-significant or risk-significant decisions using a systematic process to ensure safety is maintained. Specifically, the licensee applied an incorrect evaluation to a situation that resulted in the multiple trains of service water pumps being unprotected from tornado missiles (H.1(a)).

Enforcement: 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," requires, in part, that activities affecting quality be prescribed and accomplished by procedures appropriate to the circumstances. The licensee established SA-KW-EVL-GEN-001, "Planned Barrier Impairment Control," and OP-KW-AOP-GEN-005, "Barrier Control," as the implementing procedures for providing instructions and authorization for planned barrier impairments, an activity affecting quality.

Contrary to this, from November 4, 2008, to September 14, 2010, procedure OP-KW-AOP-GEN-005, "Barrier Control," was not appropriate to the circumstances for an activity that affected quality. Additionally, from July 12 to September 14, 2010, SA-KW-EVL-GEN-001, "Planned Barrier Impairment Control," was also not appropriate to the circumstances for an activity that affected quality. Specifically, the procedures did not consider tornado missiles or rain as external factors for which safety-related equipment should be protected against when the existing permanent barrier to protect the SRE was removed. Because this violation was of very low safety significance and it was entered into the licensee's CAP as CR394670, CR395541, AND CR395717, this violation is being treated as an NCV, consistent with Section 2.3.2 of the NRC Enforcement Policy. (NCV 05000305/2010004-02; Inadequate Barrier Control Procedures Result in Exposed Service Water Pumps)

At the end of the inspection period, the licensee performed a causal evaluation and developed corrective actions to address the issue.

.2 Routine Quarterly Evaluations (71111.12Q)

a. Inspection Scope

The inspectors evaluated degraded performance issues for the safety injection (SI) and the turbine building ventilation systems.

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 systems. 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 during the following weeks:

- July 26;
- August 2;
- August 9;
- August 16;
- August 23;
- August 30; and
- September 6.

These activities were selected based on the potential risk significance relative to the Reactor Safety Cornerstones. As applicable for each activity, the inspectors verified that risk assessments were performed as required by 10 CFR 50.65(a)(4) and were accurate and complete. When emergent work was performed, the inspectors verified that the plant risk was promptly reassessed and managed. The inspectors reviewed the scope of maintenance work, discussed the results of the assessment with the licensee's probabilistic risk analyst or shift technical advisor, and verified plant conditions were consistent with the risk assessment. The inspectors also reviewed TS requirements and

walked down portions of redundant safety systems, when applicable, to verify risk analysis assumptions were valid and applicable requirements were met. Documents reviewed are listed in the Attachment to this report.

These maintenance risk assessments and emergent work control activities constituted seven 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:

- CR393235; Hilti-anchor bolt material issue;
- CR385890; surveillance procedure for battery BRB101 does not match or bound the calculation based load profile; and
- CR390908; 50.59 assessment inconsistent with docketed TS compliance description;
- Operability Determination (OD) 198; gas void found in residual heat removal (RHR) pump "A" minimum flow recirculation line; and
- OD 201; gas void found in SI pump bypass/flushing line.

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 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 five samples as defined in IP 71111.15-05.

b. Findings

No findings of significance were identified.

.2 Operability Evaluations Associated with Temporary Instruction (TI) 2515/177, “Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems”

a. Inspection Scope

The inspectors reviewed the following issues associated with the scope of GL 2008-01, “Managing gas accumulation in emergency core cooling, decay heat removal, and containment spray systems”:

- OD 198; gas void found in RHR pump “A” minimum flow recirculation line; and
- OD 201; gas void found in SI pump bypass/flushing line.

The inspectors verified that the licensee has acceptably identified the gas intrusion mechanisms that apply to the licensee’s plant. If the licensee’s evaluation was incomplete, the inspectors verified that corrective actions were placed into the CAP (TI 2515/177, Section 04.02.e).

In addition, the inspectors verified that the licensee’s void acceptance criteria were consistent with the Office of Nuclear Reactor Regulation’s (NRR) void acceptance criteria. If NRR’s acceptance criteria were not met, then the inspectors verified that the licensee has justified the deviations. Also, the inspectors confirmed that: the licensee addressed the effect of pressure changes during system startup and operation since such changes could significantly affect the void fraction from the initial value; and the range of flow conditions evaluated by the licensee was consistent with the full range of design basis and expected flow rates for various break sizes and locations (TI 2515/177, Section 04.02.f). Documents reviewed are listed in the Attachment to this report.

This inspection effort counts towards the completion of TI 2515/177, which will be closed in a later inspection report and is further discussed in Section 4OA5.4 of this report.

b. Findings

No findings of significance were identified.

1R18 Plant Modifications (71111.18)

.1 Permanent Plant Modifications

a. Inspection Scope

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

- DCR 3163, modify control for valves SW-1300A, SW-1300B, SW-1306A and SW-1306B on an SI signal.

This document and related documentation were reviewed for the following attributes: adequacy of the associated 10 CFR 50.59 safety evaluation screening; consideration of design parameters; implementation of the modification; post-modification testing; and updating of relevant procedures, design, and licensing documents. The inspectors reviewed completed work activities to verify that installation was consistent with the

design control documents. The modification maximized the flow to the containment fan coil units early in an accident that pressurizes and heats up containment by transferring the SI signal to the service water bypass valves for the component cooling water heat exchanger from the original main SW valves. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one permanent plant modification sample as defined in IP 711111.18-05.

b. Findings

Replacement of Automatic Action with Manual Operator Action

Introduction: A Severity Level IV NCV of 10 CFR 50.59(d)(1), "Changes, Tests, and Experiments," was identified by the inspectors for the failure to document an evaluation that provided a basis for the determination that the changes implemented in Design Change Request (DCR) 3163 and EOP ES 1.3, "Transfer to Sump Recirculation," in 2001 did not require a license amendment. Specifically, the licensee failed to provide an evaluation that adequately documented why replacing the automatic opening of the SW valves SW-1300A and SW-1300B upon an SI signal (to support the SW safety function of loss of coolant accident (LOCA) recirculation operation) with a manual action to open the valves in EOP ES 1.3, did not present more than a minimal increase in the likelihood of occurrence of a malfunction of an SSC important to safety previously evaluated in the USAR.

Description: The inspectors identified that the licensee introduced a permanent manual action in place of a previously automatic one during a 2001 modification of the SW system valves SW-1300A and SW-1300B, via DCR 3163. The SW-1300A and SW-1300B valves provided the required service water accident flow to the component cooling water (CCW) heat exchangers for cooling of the sump water from containment for the recirculation phase of a LOCA. To maximize SW flow to the containment fan coil units during the injection phase of a design basis accident that pressurizes and heats up containment, such as a main steam line break or a large break LOCA, the licensee removed the SI signal from the SW-1300A and SW-1300B valves. The licensee then added solenoid valves to the SW-1306A and SW-1306B service water bypass valves to the CCW heat exchangers, which caused these smaller valves to open on an SI signal instead. While these valves provided less SW flow to the CCW heat exchangers and more SW flow to the containment fan coil units for the injection phase of the accident, the CCW system heat removal needs during the injection phase of a design basis accident were still met. The licensee then revised EOP ES 1.3, "Transfer to Containment Sump Recirculation," to add steps that allowed the operators to manually open the SW-1300A and SW-1300B valves prior to initiating the transfer to containment sump recirculation.

The licensee's evaluation of the change acknowledged that the SW-1300A and SW-1300B valves automatically aligned the SW supply to the CCW heat exchanger for the purpose of ultimately cooling, through CCW, containment sump water for the recirculation phase of a LOCA. The modification also acknowledged that SW-1300A and SW-1300B valves' electrical loads were listed as an SI sequence load in Table 8.2-1 of the USAR, and that those valves were designated on plant drawings as receiving an automatic SI signal to open. The safety evaluation acknowledged the additional

operator action added to the EOPs, but incorrectly compared this existing automatic action to the manual actions in the USAR to align the emergency core cooling system pump suction for the recirculation phase of an accident. In addition, the evaluation failed to adequately address how this new permanent manual action did not increase the probability for the malfunction of equipment important to safety, previously evaluated in the USAR. The licensee's design change package did, however, reference NRC guidance for the temporary substitution of manual actions for automatic actions to compensate for degraded/nonconforming conditions as provided in NRC Generic Letter 91-18, Revision 1.

A historical review of licensee correspondence to the NRC related to the automatic open function of the SW-1300A and SW-1300B valves to support the recirculation phase of a LOCA revealed that the licensee acknowledged this automatic design function in Licensee Event Report (LER) 81-33. Additionally, licensee correspondence to the NRC dated December 1, 1992, and June 27, 1996, in informational responses to Generic Letter 88-20, "Individual Plant Examination," acknowledged automatic actions of these valves for the recirculation phase, in Section 4.15.11.

Replacing an automatic function with a manual action is considered to be an adverse change to the reliability of the SW system function (reference Section 4.2.1 of Nuclear Energy Institute (NEI) 96-07, "Guidelines for 10 CFR 50.59 Implementation," that is endorsed by NRC Regulatory Guide 1.187, "Guidance for Implementation of 10 CFR 50.59, Changes, Tests, and Experiments) and required a 10 CFR 50.59 evaluation to determine why this adverse action did not present more than a minimal increase in the likelihood of occurrence of a malfunction of an SSC important to safety previously evaluated in the USAR. Further, based upon examples in Section 4.3.2 of NEI 96-07, a permanent substitution of manual for automatic actions requires prior NRC approval because it would result in more than a minimal increase in the likelihood of occurrence of a malfunction of an SSC important to safety.

The inspectors determined that this issue did not affect the operability of the SW system because the manual actions were reflected in the plant procedures and operator training programs, and although the margin for completion of manual actions prior to sump recirculation was reduced, the licensee has demonstrated the action could be completed with the time available.

Analysis: The inspectors determined that the failure to perform an adequate evaluation for the permanent substitution of a manual action for an automatic action was contrary to 10 CFR 50.59(d)(1) and was a performance deficiency warranting a significance evaluation. The violation was determined to be more than minor in accordance with IMC 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening," dated December 24, 2009, because the inspectors could not reasonably determine that the changes would not have ultimately required prior NRC approval.

Violations of 10 CFR 50.59 are dispositioned using the traditional enforcement process instead of the SDP because they are considered to be violations that potentially impede or impact the regulatory process. However, if possible, the underlying technical issue is evaluated under the SDP to determine the severity of the violation. In this case, 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," Tables 3b and 4a, for the Mitigating

Systems Cornerstone, dated January 10, 2008. The inspectors answered "yes" to question 1 of the Mitigating Systems Cornerstone column of the Phase 1 worksheet because the inspectors concluded that this was a design basis deficiency confirmed not to result in the loss of operability. Based upon this Phase 1 screening, the inspectors concluded that the issue was of very low safety significance (Green).

In accordance with Section 6.1.d.2 of the NRC Enforcement Policy, this violation is categorized as Severity Level IV because the resulting changes were evaluated by the SDP as having very low safety significance (Green finding).

The inspectors determined that this finding did not reflect present performance since the error was introduced in a design change that was greater than three years old; therefore, there was no cross-cutting aspect associated with this finding.

Enforcement: Title 10 CFR Part 50.59, "Changes, Tests, and Experiments," Section (d)(1) states, in part, that the licensee shall maintain records of changes in the facility or procedures, and that the records must include a written evaluation that provides the bases for the determination that the change does not require a license amendment pursuant to paragraph 10 CFR 50.59(c)(2).

Contrary to this, in 2001, the licensee approved an evaluation for a modification and EOP procedure, a change to the facility as described in the UFSAR, to the SW SW-1300A and SW-1300B valves, which credited manual operator actions in place of previous automatic actions to open the valves upon an SI signal. In both changes, the licensee failed to include in the written evaluation a basis as to why the newly introduced manual actions would not increase the likelihood of a malfunction of equipment important to safety. In accordance with the Enforcement Policy, the violation was classified as a Severity Level IV violation because the underlying technical issue was of very low risk significance. Because this violation was of a very low safety-significance, was not repetitive or willful, and was entered into the licensee's CAP as CR389330, this violation is being treated as an NCV, consistent with Section 2.3.2 of the NRC Enforcement Policy. (NCV 05000305/2010004-03; Replacement of Automatic Action with an Operator Manual Action Without Prior NRC Approval)

The finding is evaluated separately from the traditional enforcement violation and, therefore, the finding is being assigned a separate tracking number. (FIN 05000305/2010004-04; Replacement of Automatic Action with an Operator Manual Action Without Prior NRC Approval)

The licensee initiated CR389330, and at the end of the inspection period, was planning to submit a license amendment request to the NRC for this design change.

1R19 Post-Maintenance Testing (71111.19)

.1 Post-Maintenance Testing

a. Inspection Scope

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

- fire pump “B” following pump replacement;
- switchyard breaker 199-W;
- charging pump “C” following maintenance;
- hot leg sampling isolation valve RC-423, following maintenance;
- containment spray pump “B” following motor maintenance; and
- SW pump “B1” following breaker maintenance.

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

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 the intended safety function and to verify testing was conducted in accordance with applicable procedural and TS requirements:

- turbine redundant overspeed trip test conducted in July under SP-54-233 (routine test);
- diesel generator “A” monthly availability test conducted in August under OP-KW-OSP-DGE-001B (routine test)
- diesel generator “B” monthly availability test conducted in September under OP-KW-OSP-DGE-001B (routine test);
- train “A” containment sump “B” water level verification conducted in September under OP-KW-ORT-SI-001A (containment isolation valve);

- train “B” containment spray pump and valve test conducted in August under SP-23-100B (inservice test);and
- train “A” safety injection pump and valve testing conducted in September under SP-33-098A (inservice test).

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 three routine surveillance testing samples, one containment isolation valve sample, and two inservice testing samples as defined in IP 71111.22, Sections -02 and -05.

b. Findings

No findings of significance were identified.

1EP6 Drill Evaluation (71114.06)

.1 Emergency Preparedness Drill Observation

a. Inspection Scope

The inspectors evaluated the conduct of two routine licensee emergency drills on September 16 to identify any weaknesses and deficiencies in classification, notification, and protective action recommendation development activities. The inspectors observed emergency response operations in the Emergency Operations Facility to determine whether the event classification and notifications were performed in accordance with procedures. The inspectors also attended the licensee drill critique to compare any inspector-observed weaknesses with those identified by the licensee to evaluate the critique and to verify whether the licensee staff properly identified weaknesses and entered them into the CAP. As part of the inspection, the inspectors reviewed the drill package and other documents listed in the Attachment to this report.

This emergency preparedness drill inspection constituted two samples as defined in IP 71114.06-05.

b. Findings

No findings of significance were identified.

2. RADIATION SAFETY

2RS1 Radiological Hazard Assessment and Exposure Controls (71124.01)

This inspection supplemented the sample documented in Inspection Report 05000305/2010002.

.1 Radiological Hazards Control and Work Coverage (02.04)

a. Inspection Scope

The inspectors evaluated the adequacy of radiological controls, such as required surveys, radiation protection (RP) job coverage (including audio and visual surveillance for remote job coverage), and contamination controls for selected work activities performed during the previous refueling outage, KR-30. The inspectors evaluated the licensee's use of electronic dosimeters (EDs) in high noise areas as high radiation area (HRA) monitoring devices.

b. Findings

Introduction: A finding of very low safety significance and an associated NCV of TS 6.13 was identified by the inspectors after a worker entered into an HRA on October 15, 2009. Radiation protection did not authorize the worker to enter the area nor was the worker made knowledgeable of the dose rate level in the area.

Description: On October 15, 2009, a worker was temporarily re-assigned from the turbine building to the containment building to assist with the cleaning out of containment in preparation for containment close-out. The worker received a briefing from RP on the radiological condition of containment but was instructed not to enter any HRAs. The worker entered the radiological controlled area on Radiation Work Permit (RWP) C09-0202-1, which allowed access to containment but did not allow access to HRAs. The ED worn by the worker was set to alarm at 50 mrem/hour.

During the course of the work activity, the worker was instructed to retrieve a piece of equipment from the basement elevation of containment. An unknown individual held the swing gate open, which also blocked the HRA posting, and the worker entered the basement elevation of containment. The worker was alerted to the higher dose rate conditions through an ED alarm and exited the work area. The worker immediately reported the event to the RP staff who confirmed the basement elevation of containment was a posted HRA and the dose rates were greater than 100 mrem/hour. The maximum dose rate measured by the ED was 106 mrem/hour.

Subsequent evaluations of the event by the licensee incorrectly concluded that the worker was briefed of the dose rate levels in the containment basement and had been authorized to enter the HRA but entered the wrong RWP task during the check in process. The inspectors identified that the briefing and authorization occurred after the ED alarm and before another entry into containment.

Analysis: The inspectors determined that the issue of concern was a performance deficiency because the radiological protective measures, as implemented, did not control entry into and work within HRAs, as provided in the licensee's TS. The inspectors determined that the cause of the performance deficiency was reasonably within the licensee's ability to foresee and correct and should have been prevented.

The finding was not subject to traditional enforcement since the incidents did not have a significant safety consequence, did not impact the NRC's ability to perform its regulatory function, and were not willful.

The inspectors reviewed the guidance in IMC 0612, Appendix E, "Examples of Minor Issues," dated August 11, 2009, and identified Example 6(h) as similar to the performance issue, in that, the worker was neither authorized by RP to work in specific locations within containment, nor was the worker made knowledgeable of the dose rate level in the area. Therefore, in accordance with IMC 0612 and Example 6(h) of Appendix E, the inspectors determined that the performance deficiency was more than minor. Additionally, the performance deficiency impacted the program and process attribute of the Occupational Radiation Safety Cornerstone and adversely affected the cornerstone objective of ensuring adequate protection of worker health and safety from exposure to radiation, in that, unauthorized entry into areas without knowledge of the radiological conditions placed the worker at increased risk for unnecessary radiation exposure. The finding was assessed using the Occupational Radiation Safety SDP and was determined to be of very-low-safety significance because these problems were not as-low-as-is-reasonably-achievable (ALARA) planning issues, there were no overexposures nor substantial potential for overexposures given the worker's reaction to the ED alarms and the dose rate ranges, and the licensee's ability to assess dose was not compromised.

The events surrounding this incident included assigning all available workers to containment to remove unnecessary items to support close-out. This included individuals, such as this worker, that had not worked in containment prior to this temporary assignment and were unfamiliar with containment layout. Consequently, the inspectors determined that the cause of this incident involved a cross-cutting component in the human performance area for inadequate work control. Specifically, the licensee did not appropriately coordinate work activities by incorporating actions necessary to assure human performance (H.3(b)).

Enforcement: Technical Specification 6.13 states, in part, that entry into HRAs be made after authorized by RP and the dose rate levels in the area have been established and personnel are made aware of them. Contrary to this, on October 15, 2009, an unauthorized individual entered into an HRA without being aware of the radiological conditions of the areas entered. Since the failure to comply with the TS was of very low safety significance and has been entered in the licensee's CAP (as CR352985 and CR391985), this violation is being treated as an NCV, consistent with Section 2.3.2 of the NRC Enforcement Policy, (NCV 05000305/2010-004-05; Unauthorized Entry into an HRA). The corrective actions taken by the licensee included temporarily restricting the individual's further access to the radiologically controlled area and counseling of the individual by the licensee's Radiation Protection Manager.

2RS2 Occupational As-Low-As-Is-Reasonably-Achievable Planning and Controls (71124.02)

This inspection constitutes a partial sample as defined in IP 71124.02-5.

.1 Inspection Planning (02.01)

a. Inspection Scope

The inspectors reviewed pertinent information regarding plant collective exposure history, current exposure trends, and ongoing or planned activities in order to assess current performance and exposure challenges. The inspectors reviewed the plant's three-year rolling average collective exposure.

The inspectors reviewed the site-specific trends in collective exposures (using NUREG-0713, "Occupational Radiation Exposure at Commercial Nuclear Power Reactors and Other Facilities," and plant historical data) and source term (average contact dose rate with reactor coolant piping) measurements.

The inspectors reviewed site-specific procedures associated with maintaining occupational exposures ALARA, which included a review of processes used to estimate and track exposures from specific work activities.

b. Findings

No findings were identified.

.2 Radiological Work Planning (02.02)

a. Inspection Scope

The inspectors selected the following work activities and radiation work permits (RWP) of the highest exposure significance.

- ALARA Plan and Associated RWP; 09-002; Refueling Activities;
- ALARA Plan and Associated RWP; 09-003; Valve Work;
- ALARA Plan and Associated RWP; 09-005; Scaffolding;
- ALARA Plan and Associated RWP; 09-007; Decontamination, Laundry, and Shielding; and
- ALARA Plan and Associated RWP; 09-008; "A" RCP Seals.

The inspectors reviewed the ALARA work activity evaluations, exposure estimates, and exposure mitigation requirements. The inspectors determined whether the licensee reasonably grouped the radiological work into work activities, based on historical precedence, industry norms, and/or special circumstances.

The inspectors assessed whether the licensee's planning identified appropriate dose mitigation features; considered alternate mitigation features; and defined reasonable dose goals. The inspectors evaluated whether the licensee's ALARA assessment had taken into account decreased worker efficiency from use of respiratory protective devices and/or heat stress mitigation equipment (e.g., ice vests). The inspectors determined whether the licensee's work planning considered the use of remote technologies (e.g., tele-dosimetry, remote visual monitoring, and robotics) as a means to reduce dose and the use of dose reduction insights from industry operating experience and plant-specific lessons learned. The inspectors assessed the integration of ALARA requirements into work procedure and RWP documents.

The inspectors compared the results achieved (dose rate reductions, person-rem used) with the intended dose established in the licensee's ALARA planning for these work activities. The inspectors compared the person-hour estimates provided by maintenance planning and other groups to the radiation protection group with the actual work activity time requirements, and evaluated the accuracy of these time estimates. The inspectors assessed the reasons (e.g., failure to adequately plan the activity, failure to provide sufficient work controls) for any inconsistencies between intended and actual work activity doses.

The inspectors determined whether post-job reviews were conducted and if identified problems were entered into the licensee's corrective action program.

b. Findings

No findings were identified.

.3 Verification of Dose Estimates and Exposure Tracking Systems (02.03)

a. Inspection Scope

The inspectors reviewed the assumptions and basis for the current annual collective exposure estimate for reasonable accuracy for select ALARA work packages. The inspectors reviewed applicable procedures to determine the methodology for estimating exposures from specific work activities and the intended dose outcome.

The inspectors evaluated whether the licensee had established measures to track, trend, and if necessary to reduce, occupational doses for ongoing work activities. The inspectors assessed whether trigger points or criteria were established to prompt additional reviews and/or additional ALARA planning and controls.

The inspectors evaluated the licensee's method of adjusting exposure estimates, or re-planning work, when unexpected changes in scope or emergent work were encountered. The inspectors assessed whether adjustments to exposure estimates (intended dose) were based on sound RP and ALARA principles or if they were simply adjusted to account for failures to control the work. The inspectors evaluated whether the frequency of these adjustments called into question the adequacy of the original ALARA planning process.

b. Findings

No findings were identified.

.4 Problem Identification and Resolution (02.06)

a. Inspection Scope

The inspectors evaluated whether problems associated with ALARA planning and controls were identified by the licensee at an appropriate threshold and were properly addressed for resolution in the licensee's CAP.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification (71151)

.1 Unplanned Scrams per 7000 Critical Hours

a. Inspection Scope

The inspectors sampled licensee submittals for the Unplanned Scrams per 7000 Critical Hours Performance Indicator (PI) for the fourth quarter 2009 through the second quarter 2010. To determine the accuracy of the PI data reported, PI definitions and guidance in NEI 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6, were used. The inspectors reviewed the licensee's operator narrative logs, issue reports, and event reports to validate the accuracy of the submittals. The inspectors also reviewed

the licensee's CR database to determine if any problems had been identified with the PI data collected or transmitted for this indicator and none were identified. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one unplanned scrams per 7000 critical hours sample as defined in IP 71151-05.

b. Findings

No findings of significance were identified.

.2 Unplanned Scrams with Complications

a. Inspection Scope

The inspectors sampled licensee submittals for the Unplanned Scrams with Complications PI for the fourth quarter 2009 through the second quarter 2010. To determine the accuracy of the PI data reported, PI definitions and guidance in NEI 99-02 were used. The inspectors reviewed the licensee's operator narrative logs, issue reports, event reports, and NRC inspection reports to validate the accuracy of the submittals. The inspectors also reviewed the licensee's CR database to determine if any problems had been identified with the PI data collected or transmitted for this indicator and none were identified. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one unplanned scrams with complications sample as defined in IP 71151-05.

b. Findings

No findings of significance were identified.

.3 Unplanned Transients per 7000 Critical Hours

a. Inspection Scope

The inspectors sampled licensee submittals for the Unplanned Transients per 7000 Critical Hours PI for the fourth quarter 2009 through the second quarter 2010. To determine the accuracy of the PI data reported, PI definitions and guidance in NEI 99-02 were used. The inspectors reviewed the licensee's operator narrative logs, issue reports, maintenance rule records, event reports, and NRC inspection reports to validate the accuracy of the submittals. The inspectors also reviewed the licensee's CR database to determine if any problems had been identified with the PI data collected or transmitted for this indicator and none were identified. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one unplanned transients per 7000 critical hours sample as defined in IP 71151-05.

b. Findings

No findings of significance were identified.

.4 Reactor Coolant System Leakage

a. Inspection Scope

The inspectors sampled licensee submittals for the Reactor Coolant System (RCS) Leakage PI for the third quarter 2009 through the second quarter 2010. To determine the accuracy of the PI data reported during this period, PI definitions and guidance in NEI 99-02 were used. The inspectors reviewed the licensee's operator narrative logs, issue reports, maintenance rule records, event reports, and NRC inspection reports to validate the accuracy of the submittals. The inspectors also reviewed the licensee's CR database to determine if any problems had been identified with the PI data collected or transmitted for this indicator and none were identified. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one reactor coolant system leakage sample as defined in IP 71151-05.

b. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems (71152)

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

.1 Routine Review of Items Entered into the Corrective Action Program

a. Inspection 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; that timeliness was commensurate with the safety significance; that evaluation and disposition of performance issues, generic implications, common causes, contributing factors, root causes, extent-of-condition reviews, and previous occurrences reviews were proper and adequate; and that the classification, prioritization, focus, and timeliness of corrective actions were commensurate with safety and sufficient to prevent recurrence of the issue. Minor issues entered into the licensee's CAP as a result of the inspectors' observations are 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. Inspection 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 Annual Sample: Review of Operator Workarounds

a. Inspection Scope

The inspectors evaluated the licensee's implementation of the process used to identify, document, track, and resolve operational challenges. Inspection activities included, but were not limited to, a review of the cumulative effects of the operator workarounds on system availability and the potential for improper operation of the system, for potential impacts on multiple systems, and on the ability of operators to respond to plant transients or accidents.

The inspectors performed a review of the cumulative effects of operator workarounds. The documents listed in the Attachment to this report were reviewed to accomplish the objectives of the inspection procedure. The inspectors reviewed both current and historical operational challenge records to determine whether the licensee was identifying operator challenges at an appropriate threshold, had entered them into its CAP and proposed or implemented appropriate and timely corrective actions which addressed each issue. Reviews were conducted to determine if any operator challenge could increase the possibility of an Initiating Event, was contrary to training, required a change from long-standing operational practices, or created the potential for inappropriate compensatory actions. Daily plant and equipment status logs, degraded instrument logs, and operator aids or tools being used to compensate for material deficiencies were also assessed to identify any potential sources of unidentified operator workarounds.

This review constituted one operator workaround annual inspection sample as defined in IP 71152-05.

b. Findings

No findings of significance were identified.

4OA5 Other Activities

.1 (Closed) Unresolved Item (URI) 05000305/2009004-04: Potential Unreported Safety System Functional Failures

The inspectors obtained additional information from the licensee and consulted with regional inspectors. The inspectors concluded that LER 2008-001 and LER 2009-003 were properly reported and did not constitute safety system functional failures.

This unresolved issue is closed. Documents reviewed are listed in the Attachment to this report.

.2 (Closed) URI 05000305/2009002-04: Multiple CCW Pipes in Close Proximity to High Energy Feedwater Lines

The licensee completed their evaluation of whether the CCW system was required for safe shutdown after a high energy line break and determined that the plant was able to safely shutdown without it. The inspectors reviewed the licensee's evaluation and determined that it was adequate.

This unresolved issue is closed. Documents reviewed are listed in the Attachment to this report.

.3 (Closed) URI 05000305/2009005-08: Changes to Emergency Action Level (EAL) CU1 and SU5 in the EA Technical Bases Document Potential Decrease in the Effectiveness of the Plan Without Prior NRC Approval

This URI was closed out in NRC Inspection Report 050000305/2010502, dated September 30, 2010; however, the incorrect tracking number was cited. Therefore, for administrative purposes URI 05000305/2009005-08 is being closed in this report.

.4 (Open) NRC TI 2515/177, "Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal and Containment Spray Systems (NRC Generic Letter 2008-01)"

As documented in Section 1R15, the inspectors confirmed the acceptability of the licensee's described actions. This inspection effort counts towards the completion of TI 2515/177 which will be closed in a subsequent Inspection Report.

4OA6 Management Meetings

.1 Exit Meeting Summary

On October 5, 2010, 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:

- The results of Occupational ALARA inspection with the Site Vice-President, Mr. S. Scace, on August 20, 2010.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee

S. Scace, Site Vice-President
R. Simmons, Plant Manager
M. Wilson, Director, Safety and Licensing
T. Breene, Licensing Manager
D. Lawrence, Operations Manager
T. Evans, Maintenance Manager
C. Chovan, Outage and Planning Manager
J. Gadzala, Licensing Engineer
S. Heironimus, Employee Concerns Manager
B. Harris, Emergency Preparedness Manager
D. Asbel, Engineering Programs Manager
M. Aulik, Engineering Design Manager
J. Hale, Radiation Protection Manager
B. Lehmbek, ALARA Supervisor
C. Olson, Radiation Protection Supervisor

Nuclear Regulatory Commission

M. Kunowski, Chief, Division of Reactor Projects, Branch 5
K. Feintuch, Project Manager, Office of Nuclear Reactor Regulation

LIST OF ITEMS OPENED, CLOSED AND DISCUSSED

Opened and Closed

05000305/2010004-01	NCV	Inadequate Emergency Operating Procedure (Section 1R04.1)
05000305/2010004-02	NCV	Inadequate Barrier Control Procedures Result in Exposed Service Water Pumps (Section 1R12.1)
05000305/2010004-03	NCV	Replacement of Automatic Action with an Operator Manual Action Without Prior NRC Approval (Section 1R18.1)
05000305/2010004-04	FIN	Replacement of Automatic Action with an Operator Manual Action Without Prior NRC Approval (Section 1R18.1)
05000305/2010004-06	NCV	Unauthorized Entry into an HRA (Section 2RS1.1)

Closed

05000305/2009004-04	URI	Potential Unreported Safety System Functional Failures (SSFFs) (Section 4OA5.1)
05000305/2009002-04	URI	Multiple CCW Pipes in Close Proximity to High Energy Feedwater Lines (Section 4OA5.2)
05000305/2009005-08	URI	Changes to EAL CU1 and SU5 in the EAL Technical Bases Document Potential Decrease in the Effectiveness of the Plan Without Prior NRC Approval (Section 4OA5.3)

Discussed

None.

LIST OF DOCUMENTS REVIEWED

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

1R01 Adverse Weather Protection

- CA168275; Revise Calculation B11.967.7 Technical Support Center Heating, Ventilation And Air Conditioning And Pressurization Units;
- CR097679; Tube Plugging In 'A' Containment Fan Coil Unit; Revision 1
- CR343933; Draft Calculation 09-018 Indicates "B" Battery Room Temperature Could Exceed 104F; Revision 0
- CR377524; TAV-63B Does Not Appear To Be Opening; Revision 0
- CR390581; High Radiation Sample Room Air Conditioning Unit Belts Have Failed And Need To Be Replaced
- GMP-172; Tornado Missile Hazard Inspection; Revision 9
- OP-KW-AOP-EG-001; Abnormal Grid Conditions; Revision 5
- OP-KW-AOP-GEN-004; Response To Natural Events; Revision 8
- OP-KW-ORT-MISC-006; Hot Weather Operations Routine Test; Revision 2
- SA-AA-109; Heat Stress Management Administrative Procedure; Revision 4

1R04 Equipment Alignment

- BKG E-2; Faulted Steam Generator Isolation; Revision 5
- BKG E-3; Steam Generator Tube Rupture; Revision 9
- CR328623; AFW Discharge Pressure Switch Procedure And Margin; Revision 0
- CR364409; AFW Pressure Switch (Suction/Discharge) Calculation Issues; Revision 0
- CR395989; Caustic Residue On CI-10056 Swagelock Cap
- Drawing APM-217; Analytical Part Flow Internal Containment Spray System; Revision J
- Drawing APXK-100-28; Analytical Part Flow Safety Injection; Revision N
- Drawing APXK-100-29; Analytical Part Flow Safety Injection; Revision R
- Drawing OPERM-205; Flow Diagram Feedwater System; Revision BF
- E-2 Background; Westinghouse Emergency Response Guidelines – Faulted Steam Generator Isolation; April 30, 2005
- E-2; Faulted Steam Generator Isolation; Revision 22
- E-2; Faulted Steam Generator Isolation; Revision 23
- E-3; Steam Generator Tube Rupture; Revision 35
- N-FW-05B-CL; Auxiliary Feedwater System Prestartup Checklist; Revision 44
- N-ICS-23-CL; Containment Spray System Prestartup Checklist; Revision 32
- N-SI-33-CL; Safety Injection System Prestartup Checklist; Revision 41
- Operator Aid 02-022; Motor Control Centers; March 12, 2007

1R05 Fire Protection

- CR395616; Knee Saver Found In Relay Room; September 20, 2010
- Drawing E- 2445; Fire Detection System Turbine and Administration Building Operating Floor; Revision D

- Drawing E2441; Fire Detection System Turbine And Administration Building Basement Floor; Revision U
- Drawing E2442; Fire Detection System Reactor And Auxiliary Building Basement Floor; Revision K
- Drawing E2443; Fire Detection System Turbine And Administration Building Mezzanine Floor; Revision Q
- Drawing E2444; Fire Detection System Reactor And Auxiliary Building Mezzanine Floor; Revision N
- Drawing E2449; Fire Detection System Control Room And Relay Room; Revision D
- Fire Protection Plan Drawing Summary; PFP-11; TU-22/ Turbine Building Basement; Revision April 25, 2008
- Fire Protection Plan Drawing Summary; PFP-12; TU-22/ Turbine Building Mezzanine; Revision December 19, 2007
- Fire Protection Plan Drawing Summary; PFP-13; TU-97, 98/ Battery Rooms 1A And 1B; Revision December 19, 2007
- Fire Protection Plan Drawing Summary; PFP-14; TU-22/ Turbine Building Operating Floor; Revision September 21, 2007
- Fire Protection Plan Drawing Summary; PFP-17; AX-23B,-23D, -25/ Charging, BAC, And RHR Pump Area; Revision; April 25, 2007
- Fire Protection Plan Drawing Summary; PFP-21; AX-30/ Relay Room And Loft
- Fire Protection Plan Drawing Summary; PFP-22; AX-23B,-23D, -25/ RHR -Heat Exchanger, CCW Pump, And Seal Water Filter Area; Revision November 27, 2004
- Fire Protection Plan Drawing Summary; PFP-5; TU-90, -91/ DG 1A And Day Tank Rooms; Revision April 25, 2007
- Fire Protection Plan Drawing Summary; TU-95B, 95C/ 480V Switchgear Bus 1-61, 1-62, and AFW Pump Area Summary; PFP- 9; Revision 7
- Fire Protection Plan Drawing; PFP- 11; TU-22, Turbine Building Basement; Revision G
- Fire Protection Plan Drawing; PFP- 12; TU-22, Turbine Building Mezzanine; Revision D
- Fire Protection Plan Drawing; PFP- 14; TU-22, Turbine Building Operating Floor; Revision D
- Fire Protection Plan Drawing; PFP- 5; TU-90, 91, Diesel Generator "A" and DG Day Tank Rooms; Revision C
- Fire Protection Plan Drawing; PFP- 9 : TU-95C, 480-V Bus 1-61 and 1-62 Room Auxiliary Feedwater Pump Area; Revision D
- Fire Protection Plan Drawing; PFP-13; TU-97, TU-98, Battery Rooms 1A and 1B; Revision D
- Fire Protection Plan Drawing; PFP-21; AX-30, Relay Room And Loft; Revision C
- Fire Protection Plan Drawing; PFP-22; AX-23B, Residual Heat Removal Heat Exchanger Area, Component Cooling Water Pump Area, Letdown And Seal Water Filter Area And Refueling Water Storage Tank And Valve Gallery; Revision E
- Fire Protection Program Analysis; Fire Zone Summary; AX-23B Reactor Auxiliaries North Center; Revision 8
- Fire Protection Program Analysis; Fire Zone Summary; AX-30 Relay Room; Revision 8
- Fire Protection Program Analysis; Fire Zone Summary; TU-22 Turbine Room; Revision 8
- Fire Protection Program Analysis; Fire Zone Summary; TU-90, Diesel Generator 1A; Revision 8
- Fire Protection Program Analysis; Fire Zone Summary; TU-95C, Auxiliary Feedwater Pump 1A Room; Revision 8
- Fire Protection Program Analysis; Fire Zone Summary; TU-97, Battery Room 1-A; Revision 8
- Fire Protection Program Analysis; Fire Zone Summary; TU-98, Battery Room 1-B; Revision 8

1R06 Flooding

- Drawing E-350; Plan – Plant Site Underground Conduit And Cable Routes; Revision AV
- Drawing E-351; Plan And Sections Underground Conduit-Transformer Area; Revision J

1R11 Licensed Operator Requalification Program

- LRC-10-DY501; Simulator Exercise Guide Dynamic Exam, Course No. 10-05; Revision A

1R12 Maintenance Effectiveness

- ACE 018263; ACE To Supply Chain; Revision 0
- ACE 018263; Boric Acid Transfer Pump 1B Bearing Seized
- CA173633; Evaluate Boric Acid Transfer Pump “B” Tripped During Recirculation Of Boric Acid Storage Tanks As Rework; Revision 0
- Condition Report Search List for Safety Injection; 3Q 2008 – 2Q 2010
- Condition Report Search List For Turbine Building Ventilation; 2Q 2008 – 2Q 2010
- Control Room Logs and Out of Service Time Data For Safety Injection System; 3Q 2008 – 2Q 2010
- Control Room Logs and Out Of Service Time Data For Turbine Building Ventilation; 3Q 2008 – 2Q 2010
- Count Demand Starts For NRC Pls-Cascade; April 2009
- Count Demand Starts For NRC Pls-Cascade; June 2009
- Count Demand Starts For NRC Pls-Cascade; June 2010
- Count Demand Starts For NRC Pls-Cascade; November 2009
- CR099801; MRE For Failure Of TB FCU ‘A’ To Start, May Have Incorrect RMPFF Determination; May 22, 2008
- CR109576; Turbine Building Ventilation (a)(1) Action Plan Work Order (WO) Was Rescheduled At T-5; September 15, 2008
- CR119513; Turbine Building Ventilation (a)(1) Action Plan Put In Jeopardy; November 19, 2008
- CR324805; Turbine Building Basement FCU “A” Fails To Start; February 26, 2009
- CR340201; TWS Gates Lifted In A Protected Area; Revision 0
- CR387372; Boric Acid Transfer Pump “B” Tripped During Recirculation Of BASTs
- CR387736; Boric Acid Transfer Pump 1B Bearing Found Seized; Revision 0
- CR394670; Scope Of Barrier Impairments For Roof Blocks Or Hatches; September 14, 2010
- ES-1.3; Transfer To Containment Sump Recirculation; Revision 34
- GNP-03.30.06D; Protected Train And Equipment Program Procedure; Revision 7
- Licensee Maintenance Rule Data Tracking Sheets; Safety Injection; 3Q 2008 – 2Q 2010
- Log Entries Report; July 6 Through July 16, 2010
- Maintenance Rule Scoping Questions For 02-Service Water; Revision 3
- Maintenance Rule Scoping Questions; 16 Turbine Building And Screenhouse Ventilation; Attachment A, Revision 2
- Maintenance Rule Scoping Questions; 33 Safety Injection; Attachment A Revision 1
- Maintenance Rule Summary Safety Injection Unavailability; 3Q 2008 – 2Q 2010
- Maintenance Rule Summary Turbine Building Ventilation Unavailability; 3Q 2008 – 2Q 2010
- Maintenance Rule System Basis – Chemical And Volume Control (35.1.3(35-01)); Revision 11
- Maintenance Rule System Basis For 02-Service Water; Revision 13
- Maintenance Rule System Basis; 16 Turbine Building And Screenhouse Ventilation; Revision 7
- Maintenance Rule System Basis; 33 Safety Injection; Revision 8

- Memorandum from J. Kasper, PE To M. Lindahl: Review Of Impacts To KPS' Licensing Basis Due To Removal Of A Service Water Hatch Cover To Support An Operability Determination – DCR 3699; June 3, 2009
- MRE 011940; MRE For SW-4A Inoperable; Revision 0
- MRE 012349; For Boric Acid Transfer Pump “B” Tripped During Recirculation Of Boric Acid Storage Tanks; Revision 0
- OP-KW-AOP-GEN-004; Response To Natural Events Procedure; Revision 9
- OP-KW-MOP-CVC-032; Boric Acid Transfer Pump “B” Seal Maintenance Procedure; Revision 0
- Permit 09-037; for WR KW100270585, Replace Traveling Water Screen 1B1; June 29, 2009
- Permit 10-136; Barrier Impairment Permit For WO KW100279986, Replace Traveling Water Screen 1A1; September 1, 2010
- RCE 000970; RCE For Turbine Building Basement Fan Coil Unit “A” Fails To Start; March 16, 2008
- RIS 01-009; Control Of Hazard Barriers; April 2, 2001
- SA-KW-EVL-GEN-001; Planned Barrier Impairment Control Procedure; Revision 0
- Service Water Availability/Reliability Data; Date Range February 2009 Through July 2010
- SSC Performance Criteria Sheet For System 02-Service Water; Revision 5
- SSC Performance Criteria Sheet; 16 Turbine Building And Screenhouse Ventilation; Attachment B, Revision 4
- SSC Performance Criteria Sheet; 33 Safety Injection; Attachment B, Revision 2
- System Health Report; 16-TAV, Turbine Building And Screenhouse Ventilation; 2nd Quarter 2010
- System Health Report; 33-SI, Safety Injection; 2nd Quarter 2010
- WM-AA-20; Risk Assessment Of Maintenance Activities; Revision 0
- WO KW100324354; Replace The Existing Turbine Building Fan Coil Unit
- WO KW100402049; (a)(1) Action Plan Item. Inspect Turbine Building Fan Coil Unit Fan Bearings To Ensure They Are Not Worn
- WO KW100699410; Replace Auxiliary Contact In MCC62E-H4 Starter
- WO KW100699497; Disassemble, Inspect, And Repair Boric Acid Transfer Pump 1B

1R13 Maintenance Risk

- Major Activities Data Lists, Control Room Operator Logs, Daily Risk Profiles And Work Planning Schedules For The Weeks Of July 26, 2010, And August 2, 9, 16, 23, And 30, 2010

1R15 Operability Evaluations

- CR393235; Hilti-Anchor Material Issue
- Dominion Energy Kewaunee, Inc. Nine-Month Response To NRC Generic Letter 2008-01; October 14, 2008
- Drawing M-1360; CVC-From Regeneration Heat Exchanger KX.1A And Point Near Valve. LD-60 To Containment Penetration 11; Revision A
- Drawing M-1608 A; SI-From 16” SI Pump Suction Line To Valve SI-31 to 8” SI Pump Suction Line From Boric Acid Tanks; Revision A/3750-1
- Drawing M-958-1; RHR-From Containment Sump “B” & Anchors Thru RHR Pump “A” To Anchor On Discharge Line; Revision C-3150-2
- Drawing M-992-1; Safety Injection Pumps Suction Piping; Revision E/3150-1
- Drawing OperXK-100-18; Flow Diagram Residual Heat Removal System; Revision BD
- OD 198; Gas Void Found In RHR Pump “A” Mini-Flow Recirculation Line

- OD 201; Gas Void Found In SI Pump Bypass/Flushing Line
- TR ME-0181; Evaluation Of Gas Accumulations In ECCS, Containment Spray And RHR Systems For GL 2008-01 Response; Revision 1

1R18 Plant Modifications

- CA175982; Review – Component Cooling Water Heat Exchanger Service Water Supply licensing Basis
- CR390908; 50.59 Assessment Inconsistent With Docketed TS Compliance Description
- CR397865; Operability Assessment Affecting Redundant ECCS Based Upon Questioned 50.59
- DC/PM 3163; Physical Change Affected Plant Procedures, ES-1.3
- DCR-3163; Modify Control Valves For SW-1300A(B) And SW 1306(A)(B) On An SI Signal
- E-0-07; Safety Injection Actuation; May 15, 1984
- ES-1.3; Transfer To Containment Sump Recirculation; Revisions Q, R, S, And 34
- IN 97-60; NRC Information Notice: Incorrect Unreviewed Safety Question Determination Related To Emergency Core Cooling System Swapover From The Injection Mode To The Recirculation Mode
- IN 97-78; NRC Information Notice: Crediting Of Operator Actions In Place Of Automatic Actions And Modifications Of Operator Actions, Including Response Times
- Licensee Correspondence To NRC Dated January 14, 1982; IE Inspection Report No. 50-305/81-18 Response
- Licensee Correspondence To NRC Dated October 27, 1981; Reportable Occurrences LER 81-031/03L-0, LER 81-032/03L-0 And LER 81-033/03L-0
- Licensee Correspondence To The NRC Dated December 1, 1992; Response To Generic Letter 88-20, Individual Plant Examination
- Licensee Correspondence To The NRC Dated June 27, 1996; Additional Information In Response To Generic Letter 88-20, Individual Plant Examination
- NEI 96-07; Guidelines For 10 CFR 50.59 Implementation; Revisions 1, 2, And 3
- NRC Correspondence To Licensee Date December 15, 1981; Inspection Report No. 50-305/81-18
- Regulatory Guide 1.187; Guidance For Implementation Of 10 CFR 50.59, Changes, Tests, And Experiments; November 2000
- Safety Evaluation 00-27; DCR 3163, Modify Controls For Valve SW1300A&B And SW1306A&B; Revisions 0 And 1

1R19 Post-Maintenance Testing

- CR390339; 1B Fire Pump Tripped On The Breaker Over Load While Performing Flow Test
- CR390487; Fire Pump “B” Pressure Leakoff Line Not Present In New Pump
- CR390488; New Replacement “B” Fire Pump Machining Error
- CR390494; Deadheading Of Fire Pump “B”
- CR393052; Control Room Isolation Status Light For RC-423 Blinking
- GNP-03.24.01; Job Briefs Implementation; Revision 16
- IEE 10000013965; Item Equivalency Evaluation: Peerless Pump Fire Pumps, Model 16MC; Version 00
- OP-KW-NOP-SUB-001; Substation Equipment Switching Procedure; Revision 1
- OP-KW-ORT-CVC-006; Charging Pump “C” Operability Test; Revision 6
- Outage No. 124413; ATC Switching Procedure For Scheduled Interruption; Revision 1
- PMP-08-31B; FP – Fire Pump “B” Flow Test; August 30, 2010

- SP-55-167-5B; Miscellaneous Systems Valve Timing Tests (IST) – Train “B”, Performed On August 31, 2010; Revision 6
- WO KW07-002365; PMT Test Data Sheet For Pump-Fire Pump 1B; August 5, 2010
- WO KW07-002365; Replace “B” Fire Pump And Motor With Like For Like Pump And Motor; August 2, 2010
- WO KW100575746; PM08-783: Flush And Flow Test; July 27, 2010

1R22 Surveillance Testing

- CAP 034000; Lack Of Documented Basis For SI Pump Minimum Flow Recirculation
- Correspondence Entitled Initial Response To NRC Bulletin 88-04; July 8, 1988
- CR363106; SI Pump “A” Inboard Has A Drop Every 30 Seconds Leak; December 24, 2009
- CR384361; SI-5A has Dry, Inactive BA Leak Around Packing Gland, June 13, 2010
- CR395620; Change Needed In SI System Operation (From Follow-Up To NRC Question)
- Drawing #-3091; Schematic Diagram Redundant Overspeed Trip System; Revision G
- Drawing APXK-100-28; Analytical Part Flow Safety Injection; Revision N
- Drawing APXK-100-29; Analytical Part Flow Safety Injection; Revision R
- Drawing E-2057; Integrated Logic Diagram Turbine System; Revision T
- Drawing E-3090; Schematic Diagram Redundant Overspeed Trip System; Revision E
- GNP-03.24.01; Job Briefs Implementation; Revision 16
- GNP-03.24.01; Job Briefs Implementation; Revision 16
- KPS.RA.022; Probabilistic Risk Assessment Notebook – Significance Determination Of Kewaunee Safety Injection Pump Recirculation Issue; Revision 0
- KPS.RA.022; Probabilistic Risk Assessment Notebook – Significance Determination Of Kewaunee Safety Injection Pump Recirculation Issue; Revision 1
- MA-KW-EPM-DGE-003; Train “A” Auto Sequencing Test With Diesel “A” In Pullout; Performed August 9, 2010, Revision 7
- MA-KW-EPM-DGE-008; Train “B” Autosequencing Test with Diesel “B” In Pullout; Revision 3
- MA-KW-MPM-DGM-010A; Barring Over Train “A” Emergency Diesel Generator; Revision 4
- NUREG/CR-5500, Volume 9; Reliability Study: High-Pressure Safety Injection System, 1987-1997
- OP-KW-ORT-SI-001A; Train “A” Containment Sump “B” Water Level Verification; Performed September 24, 2010, Revision 6
- OP-KW-OSP-DGE-001A; Diesel Generator “A” Monthly Availability Test; Revision 10
- OP-KW-OSP-DGE-001B; Diesel Generator “B” Monthly Availability Test; Revision 11
- OPR-15; Safety Injection Pumps
- ORT-KW-ORT-DGM-001A; Emergency Diesel Generator 1A Operation Log; Performed August 9, 2010, Revision 9
- PI-AA-5000; Human Performance; Revision 4
- SP-05B-346; Turbine-Driven AFW Pump Low Suction And Low Discharge Pressure Trip Test; Revision 12
- SP-23-100B; Train “B” Containment Spray Pump And Valve Test – IST Surveillance Procedure; August 3, 2010
- SP-33-098A; Train “A” Safety Injection Pump And Valve Test – IST
- SP-34-099B; Train “B” RHR Pump And Valve Test – IST; Revision 25
- SP-54-233; Turbine Redundant Overspeed Trip Test Surveillance Procedure; Performed July 29, 2010
- USAR Section 6.2; Safety Injection System; Revision 22
- WO KW 100669802; Train “A” Safety Injection Pump and Valve Test - IST

1EP6 Drill Evaluation

- 50.54(q) Attachment; Emergency Action Levels (EALs) Bases And Matrix, Revision 7
- 50.54(q) Emergency Action Level Bases And Matrix Attachment Pages; Revision 8
- CA176158; Determine If Procedure Changes And/Or Additional Training Is Needed For Personnel; Revision 0
- DRILL: Event Notice-Nuclear Accident Reporting System Form (NARS); September 16, 2010 At 0825
- DRILL: Event Notice-Nuclear Accident Reporting System Form (NARS); September 16, 2010 At 0858
- DRILL: Event Notice-Nuclear Accident Reporting System Form (NARS); September 16, 2010 At 0925
- Emergency Response Manager (ERM) Checklist; September 16, 2010
- EIPF-AD-07-08; Plant Emergency Status Report; Revision B
- EIPF-AD-07-09; Radiological Status Report; Revision A
- EIPF-EOF-04-04; Emergency Response Manager (ERM) Checklist; Revision 8
- EIPF-EOF-04-13; Off-Site Communicator-EOF Checklist; Revision 4
- ERO Participant Comments; September 16, 2010
- Form NTP-6401; Training Attendance Report; September 16, 2010
- Radiological Status Form: Monitor Reading; September 16, 2010
- Scenario ID: EOF Evaluation 4; September 15, 2010
- State And County Notification Checklist; September 16, 2010

2RS1 Radiological Hazard Assessment and Exposure Controls

- CR352985; Worker Entered HRA On Incorrect RWP Task And Received Dose Rate Alarm; November 2, 2009

2RS2 Occupational As-Low-As-Is-Reasonably-Achievable Planning and Controls

- ALARA Committee Meeting Minutes; May 11, 2010
- ALARA Committee Meeting Minutes; November 19, 2009
- ALARA Plan And Associated RWPs; 09-002; Refueling Activities
- ALARA Plan And Associated RWPs; 09-003; Valve Work
- ALARA Plan And Associated RWPs; 09-005; Scaffolding
- ALARA Plan And Associated RWPs; 09-007; Decontamination, Laundry, And Shielding
- ALARA Plan And Associated RWPs; 09-008; "A" RCP Seals
- CR352468; And Associated Corrective Actions; Contamination Levels In Reactor Cavity Were Greater Than Expected
- CR352967; And Associated Corrective Actions; Worker Received Unexpected Dose Rate Alarm
- CR369023; And Associated Corrective Actions; 2009 Refueling RWPs Missing Air Sample Data
- CR372615; And Associated Corrective Actions; CR372615; KR30 ALARA Suggestions
- CR391905; Whole Body Count Records Not Found In Personnel File Folders
- HP-02.009; TEDE ALARA Evaluation For Use Of Respiratory Protection Equipment; Revision 4
- Kewaunee Nuclear Plant KR-30 RP/ALARA Report; April 26, 2010
- RP-AA-230; Personnel Contamination Monitoring And Documentation; Revision 2
- RP-AA-240; Discrete Radioactive Particle Control; Revision 0

- RP-AA-300; ALARA Program; Revision 1
- RP-KW-004-001; ALARA Plan; Revision 5

40A1 Performance Indicator Verification

- KPS NRC Quarterly Performance Indicators Graphs; Reactor Coolant System Leakage
- KPS NRC Quarterly Performance Indicators Graphs; Unplanned Scrams Per 7000 Critical Hours
- KPS NRC Quarterly Performance Indicators Graphs; Unplanned Scrams With Complications
- KPS NRC Quarterly Performance Indicators Graphs; Unplanned Transients Per 7000 Critical Hours
- Load Reductions And Trips Data Sets; 4Q 2009 – 2Q 2010
- Maximum And Minimum Power Data; 4Q 2009 – 2Q 2010
- PI Summary; 2Q 2010
- Reactor Coolant System Leakage Process Data; 3Q 2009 – 2Q 2010

40A2 Identification and Resolution of Problems

- Dominion Nuclear Trend Report; Kewaunee Power Station; First Quarter Of 2010
- Dominion Nuclear Trend Report; Kewaunee Power Station; Second Quarter Of 2010
- Dominion Nuclear Trend Report; Kewaunee Power Station; Third Quarter Of 2010
- Kewaunee Operations Department Data; Department Self Evaluation; Department Key Performance Indicators; January Through September 2010
- Kewaunee Power Station; Department Human Performance Event-Free Day Clock Resets Data; January 1 – September 15, 2010
- Kewaunee Power Station; Number Of Operator Work Arounds Equipment Reliability Index; Metric 1a; January 2010 – September 2010
- Kewaunee Power Station; Self-Evaluation Meeting; First Through Third Quarters 2010

40A5 Other Activities

- CA169810; Work with Eng To Evaluate The Conditions Documented In The LERs
- CA173430; Determine And Document If The CCW System Is Required For Safe Shutdown In Accordance With USAR 10A Requirements
- CR382152; Safety System Functional Failures May Not Have Been Properly Assessed
- CR386478; CCW Piping And Supports Adversely Impacted By Postulated FW Line HELB
- CR386746; Incomplete Actions For Resolution Of NRC URI 2009-002-04 CCW Piping HELB Issue

NRC-Identified Condition Reports

- CR387735; LD-27 Red Indicating Light Burnt Out
- CR387745; Breaker 1-303 Red Indicating Light Bulb Burnt Out.
- CR387922; Review Of Site Actions Regarding HSM Temperature Issue
- CR388841; Water Intrusion Into Diesel Generator Room “B” During Rain Storm.
- CR389330; NRC Concern That Corrective Actions For SW-1306A/B Modification Inappropriate
- CR390303; Gaitronics Issue
- CR390407; NRC Question Regarding 50.59 Compliance, DCR-3163
- CR390686; DG “A” Has A Small Oil Leak On The Lube Oil Separator Ejector
- CR390889; Proposed NRC Violation For Inadequate NRC Approval For Change Made To EALS

- CR390908; 50.59 Assessment Inconsistent With Docketed TS Compliance Description
- CR391101; Procedure Improvements For Diesel Generator Operational Procedures
- CR391458; EOP Procedure E-2 Step 5.D Missing Response Not Obtained Action To Locally Close Valve.
- CR391905; Whole Body Count Records Not Found In Personnel File Folders
- CR392262; NRC FIN 2010003-01:Probabilistic Methodology Used For Operability Determination
- CR392571; Chlorine Injection Line Flange Boot On Service Water Pump A2 Loose
- CR393480; NRC SRI Feedback On CR392540 Clamp-On Flow Meter 91455: Calibration Frequency
- CR393930; Request Engineering Evaluate SI Mini-Flow Recirculation Line
- CR394072; August 25, 2010, NRC Debrief Meeting Identifies Potential Violation-Deficiency In EOP E-2
- CR394670; Scope Of Barrier Impairments For Roof Blocks Or Hatches
- CR395129; NRC Concern About Possible E-Plan Decrease In Effectiveness (Vent Flow)
- CR395178; NRC SRI Questioned The Appropriate Screening Level Of CR393930
- CR395541; NRC Identified Issue With Procedure And Tornado Analysis For Screenhouse
- CR395616; "Knee Saver" Found In Relay Room Cable Tray
- CR395620; Change Needed In SI System Operation (From Follow Up To NRC Question)
- CR395717; NRC Concern – Screen House Barrier Removed Without Appropriate Analysis
- CR396215; NRC Concern – Operability Of Refueling Water Storage Tank During Refueling Water Storage Tank Purification
- CR396342; Water In Tertiary Station Transformer To Tertiary Auxiliary Transformer Pulling Pit
- CR396665; NRC Identified Scaffold Build Discrepancies
- CR396672; Gas Cylinder In Spare Transformer Bay Secured With Non Fire Retardant Strap.
- CR396753; Green Indicating Light In The Control Room For Diesel Generator “A” Burnt Out
- CR396804; NRC Question - Lack Of Operability Call
- CR397225; Error Identified By NRC On Fire Pump Evaluation Curve
- CR397446; Upgrade Screenhouse Exhaust Fan 1A Scaffold Evaluation To High Risk
- CR397806; Safeguards Alley Low Light Levels

LIST OF ACRONYMS USED

ADAMS	Agencywide Document Access Management System
ALARA	As-Low-As-Is-Reasonably-Achievable
CAP	Corrective Action Program
CCW	Component Cooling Water
CFR	Code of Federal Regulations
CR	Condition Report
DCR	Design Change Request
DRS	Division of Reactor Safety
EAL	Emergency Action Level
ED	Electronic Dosimeter
EOP	Emergency Operating Procedure
FIN	Finding
HRA	High Radiation Area
IMC	Inspection Manual Chapter
IP	Inspection Procedure
LER	Licensee Event Report
LOCA	Loss of Coolant Accident
MCC	Motor Control Center
NCV	Non-Cited Violation
NEI	Nuclear Energy Institute
NRC	U.S. Nuclear Regulatory Commission
NRR	Office of Nuclear Reactor Regulation
OD	Operability Determination
PI	Performance Indicator
PARS	Publicly Available Records System
RCS	Reactor Coolant System
RHR	Residual Heat Removal
RP	Radiation Protection
RWP	Radiation Work Permit
SSFF	Safety System Functional Failures
SDP	Significance Determination Process
SI	Safety Injection
SRE	Safety-Related Equipment
SSC	Structure, System, and Component
SSFF	System Functional Failures
SW	Service Water
TAT	Tertiary Auxiliary Transformer
TDAFWP	Turbine-Driven Auxiliary/Feedwater Pump
TI	Temporary Instruction
TS	Technical Specification
TWS	Traveling Water Screen
USAR	Updated Safety Analysis Report
URI	Unresolved Item
WERG	Westinghouse Emergency Response Guideline
WO	Work Order

D. Heacock

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Sincerely,

/RA/

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

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Letter to D. Heacock from M. Kunowski dated November 3, 2010

SUBJECT: KEWAUNEE POWER STATION INTEGRATED INSPECTION REPORT
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