UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
2443 WARRENVILLE ROAD, SUITE 210
LISLE, IL 60532-4352

March 12, 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 EVALUATIONS OF CHANGES, TESTS OR EXPERIMENTS AND PERMANENT PLANT MODIFICATIONS BASELINE INSPECTION REPORT 05000305/2010007(DRS)

Dear Mr. Heacock:

On February 12, 2010, the U.S. Nuclear Regulatory Commission (NRC) completed an evaluation of changes, tests or experiments and permanent plant modifications inspection at your Kewaunee Power Station. The enclosed report documents the inspection findings, which were discussed on February 12, 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, one NRC-identified finding of very low safety-significance was identified. The finding involved a violation of NRC requirements. However, because of its very low safety-significance, and because the issue was entered into your corrective action program, the NRC is treating the issue as a Non-Cited Violation (NCV) in accordance with Section VI.A.1 of the NRC Enforcement Policy.

If you contest the subject or severity of a NCV, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, 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 characterization of any finding in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the Regional Administrator, Region III, and the NRC Resident Inspector at the Kewaunee Power Station. The information that you provide will be considered in accordance with Inspection Manual Chapter 0305.

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 Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

/RA/

Robert C. Daley, Chief
Engineering Branch 3
Division of Reactor Safety

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

Enclosure: Inspection Report 05000305/2010007(DRS)
w/Attachment: Supplemental Information

cc w/encl: Distribution via ListServ

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No:	50-305
License No:	DPR-43
Report No:	05000305/2010007(DRS)
Licensee:	Dominion Energy Kewaunee, Inc.
Facility:	Kewaunee Power Station
Location:	Kewaunee, Wisconsin
Dates:	January 25, 2010, through February 12, 2010
Inspectors:	G. Hausman, Senior Reactor Inspector (Lead) N. Féliz Adorno, Reactor Inspector M. Munir, Reactor Inspector
Observer:	E. Sánchez Santiago, Reactor Engineer
Approved by:	R. C. Daley, Chief Engineering Branch 3 Division of Reactor Safety

Enclosure

SUMMARY OF FINDINGS

IR 05000305/2010007 (DRS); 01/25/2010 – 02/12/2010; Kewaunee Power Station; Evaluations of Changes, Tests or Experiments and Permanent Plant Modifications.

This report covers a two-week announced baseline inspection on evaluations of changes, tests or experiments and permanent plant modifications. The inspection was conducted by Region III based engineering inspectors. One Green finding was identified by the inspectors. The finding was considered a Non-Cited Violation (NCV) of NRC regulations. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process" (SDP). Findings for which the SDP does not apply may be Green or be assigned a severity level after NRC management review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 4, dated December 2006.

A. NRC-Identified and Self-Revealed Findings

Cornerstone: Mitigating Systems

- Green. A finding of very low safety-significance and associated NCV of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," was identified by the inspectors for the licensee's failure to assure that the calculation methodology represented the actual plant equipment configuration and that adequate design reviews were performed for verifying or checking the adequacy of design. Specifically, the licensee failed to assure that the methodology used in calculation C11716, "MCC [Motor Control Center] Control Circuit Voltage Drop," Revision 1, correctly represented the sequence of operation for the various devices contained within the plant equipment's control circuitry, such that the minimum required MCC voltage was available for proper circuit operation. Upon discovery of this condition, the licensee performed a preliminary evaluation and entered the finding into their corrective action program (CR366627 and CR366865).

  This finding was more than minor in accordance with IMC 0612, Appendix B because the finding was associated with the design control attribute of the mitigating systems cornerstone and affected the cornerstone's objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, the inadequate MCC voltages could render the safety-related loads required to mitigate the consequences of a design basis accident inoperable and not available. In addition, as a result of the calculation errors, the inspectors were concerned that unsubstantiated MCC voltage values could be used in future calculations and modifications to plant equipment. To resolve the inspectors' concerns, the licensee completed an interim evaluation, which evaluated the calculation's other circuit models and associated cases. Although, by the end of the inspection, the licensee was able to demonstrate operability; at the time of discovery there was reasonable doubt on the operability of the control circuits modeled in the calculation. The finding was of very low safety-significance based on a Phase I screening in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase I - Initial Screening and Characterization of Findings," Table 4a.

  This finding has a cross-cutting aspect in the area of human performance, work practices because the licensee did not ensure supervisory and management oversight of work activities, including contractors, such that nuclear safety was supported. Specifically, the licensee failed to assure that the calculation methodology represented the actual plant equipment configuration and that adequate design reviews were performed for verifying or checking the adequacy of design. (H.4(c)) (Section 1R17.2b)

B. **Licensee-Identified Violations**

No violations of significance were identified.

REPORT DETAILS

1. REACTOR SAFETY

Cornerstone: Initiating Events, Mitigating Systems, and Barrier Integrity

1R17 Evaluations of Changes, Tests or Experiments and Permanent Plant Modifications (71111.17)

.1 Evaluations of Changes, Tests or Experiments

a. Inspection Scope

From January 25, 2010, through February 12, 2010, the inspectors reviewed nine safety evaluations (SEs) performed pursuant to 10 CFR 50.59 to determine if the evaluations were adequate and that prior NRC approval was obtained as appropriate. The inspectors also reviewed 12 screenings where licensee personnel had determined that a 10 CFR 50.59 evaluation was not necessary. The inspectors reviewed these documents to determine if:

- the changes, tests or experiments performed were evaluated in accordance with 10 CFR 50.59 and that sufficient documentation existed to confirm that a license amendment was not required;
- the safety issue requiring the change, tests or experiment was resolved;
- the licensee conclusions for evaluations of changes, tests or experiments were correct and consistent with 10 CFR 50.59; and
- the design and licensing basis documentation was updated to reflect the change.

The inspectors used, in part, Nuclear Energy Institute (NEI) 96-07, “Guidelines for 10 CFR 50.59 Implementation,” Revision 1, to determine acceptability of the completed evaluations and screenings. The NEI document was endorsed by the NRC in Regulatory Guide 1.187, “Guidance for Implementation of 10 CFR 50.59, Changes, Tests and Experiments,” dated November 2000. The inspectors also consulted Part 9900 of the NRC Inspection Manual, “10 CFR Guidance for 10 CFR 50.59, Changes, Tests and Experiments.”

This inspection constituted 9 samples of evaluations and 12 samples of changes as defined in IP 71111.17-04.

b. Findings

No findings of significance were identified.

.2 Permanent Plant Modifications

a. Inspection Scope

From January 25, 2010, through February 12, 2010, the inspectors reviewed 15 permanent plant modifications that had been installed in the plant during the last three years. This review included in-plant walkdowns of the train A emergency diesel generator room, fuel oil storage tank, the safety injection common header injection line gas accumulation chamber and the north penetration room scaffolding. The modifications were selected based upon risk-significance, safety-significance, and complexity. The inspectors reviewed the modifications selected to determine if:

- the supporting design and licensing basis documentation was updated;
- the changes were in accordance with the specified design requirements;
- the procedures and training plans affected by the modification have been adequately updated;
- the test documentation as required by the applicable test programs has been updated; and
- post-modification testing adequately verified system operability and/or functionality.

The inspectors also used applicable industry standards to evaluate acceptability of the modifications. The list of modifications and other documents reviewed by the inspectors is included as an Attachment to this report.

This inspection constituted 15 permanent plant modification samples as defined in IP 71111.17-04.

b. Findings

Calculation Methodology Did Not Represent Actual Plant Equipment Configuration

Introduction: A finding of very low safety-significance (Green) and associated Non-Cited Violation (NCV) of 10 CFR Part 50, Appendix B, Criterion III, “Design Control,” was identified by the inspectors for the licensee’s failure to assure that the calculation methodology represented the actual plant equipment configuration and that adequate design reviews were performed for verifying or checking the adequacy of design. Specifically, the licensee failed to assure that the methodology used in calculation C11716, “MCC [Motor Control Center] Control Circuit Voltage Drop,” Revision 1, correctly represented the sequence of operation for the various devices contained within the plant equipment’s control circuitry, such that the minimum required MCC voltage was available for proper circuit operation.

Description: The inspectors reviewed safety-related calculation C11716, “MCC Control Circuit Voltage Drop,” Revision 1. The calculation determined the minimum required MCC voltage for starters/contactors, auxiliary relays, interposing relays and other devices used in the plant equipment’s control circuitry during inrush (pickup) and holding (sealing) conditions for all safety-related (QA1) and non-safety-related (QA2&3) circuits powered by control power transformers (CPTs) connected to MCCs. The calculation methodology involved the development of 18 control circuit models, which represented the control circuitry for each load connected to the MCCs. Each circuit model was then evaluated based on the sequence of operation of various devices reflected in the circuit model and the minimum MCC voltage required for proper circuit operation. The minimum required MCC voltages were then compared with the available MCC voltages derived from calculation C11450, "Auxiliary Power System Modeling and Analysis," Revision 1, to assure that all the components of the control circuit had adequate voltage for proper circuit operation.

During the inspectors' review, errors were identified with the charging pumps A and B control circuit models. The inspectors concluded that calculation C11716 did not accurately evaluate the actual control circuit's operation for charging pumps A and B motors 1-067 and 1-106, respectively. Specifically, the inspectors questioned the circuit models' operation and the licensee's evaluation of relays 42IR and FSR in each circuit. The calculation stated that relays 42IR and FSR picked-up simultaneously, however, the analysis evaluated them singularly. In addition, there were calculation errors made in modeling the series and parallel circuits. As a result, the formulae developed to calculate the required minimum MCC voltage did not accurately represent circuit operation.

To resolve the inspectors' concerns the licensee issued condition report CR366627 and performed a preliminary evaluation. The licensee determined that because of the circuit operation modeling errors there was a decrease in the margin between the minimum MCC voltage required and the voltage available. However, the licensee concluded that enough margin remained such that the component was operable.

The inspectors' review of calculation C11716 consisted of only one circuit model and the inspectors were concerned about the adequacy of the other 17 circuit models and the different cases associated with each circuit model. As a result, the licensee conducted a review of the remaining circuit models and different cases. The licensee discovered that calculation C11716 did not correctly evaluate the control circuitry for the radiation monitor channels R11/R12 for the containment particulate/containment gas pump motor 1-1227 and initiated condition report CR366865. The licensee found that the calculation methodology did not match the actual circuit operation but concluded that the error did not impact the operability or functionality of motor 1-1227.

<u>Analysis</u>: The inspectors determined that the licensee's failure to assure that the calculation methodology represented the actual plant equipment configuration and that adequate design reviews were performed for verifying or checking the adequacy of design was contrary to the requirements of 10 CFR Part 50, Criterion III, "Design Control" and was a performance deficiency.

The finding was determined to be more than minor because the finding was associated with the mitigating systems cornerstone attribute of design control and affected the cornerstone's objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the licensee failed to assure that the methodology used in calculation C11716 correctly represented the actual plant equipment configuration and that adequate design reviews were performed. The inspectors considered this a significant calculational error. The inspectors were concerned that inadequate MCC voltages would have rendered the safety-related loads required to mitigate the consequences of a design basis accident inoperable and not available. In addition, as a result of the calculation errors, the inspectors were concerned that unsubstantiated MCC voltage values could be used in future calculations and modifications to plant equipment. To resolve the inspectors' concerns, the licensee completed an interim evaluation, which evaluated the calculation's other circuit models and associated cases. Although, by the end of the inspection, the licensee was able to demonstrate operability; at the time of discovery there was reasonable doubt on the operability of the control circuits modeled in the calculation.

The inspectors determined the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase I - Initial Screening and Characterization of Findings," Table 4a for the mitigating systems cornerstone. The basis for selecting the mitigating systems cornerstone was that inadequate MCC voltages could render the safety-related loads required to mitigate the consequences of a design basis accident inoperable and not available. The finding screened as "Green" because it was a design deficiency that did not result in actual loss of safety function.

This finding has a cross-cutting aspect in the area of human performance, work practices because the licensee did not ensure supervisory and management oversight of work activities, including contractors, such that nuclear safety was supported. Specifically, the licensee failed to assure that the calculation methodology represented the actual plant equipment configuration and that adequate design reviews were performed for verifying or checking the adequacy of design. (H.4(c))

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

Contrary to the above, from August 28, 2008, to February 12, 2010, the licensee failed to provide for calculation C11716, "MCC Control Circuit Voltage Drop," Revision 1, design control measures that shall provide for verifying or checking the adequacy of design, such as by performance of design reviews or by the use of alternate or simplified calculational methods. Specifically, the licensee failed to assure that the methodology used in calculation C11716 correctly represented the sequence of operation for the various devices contained within the plant equipment's control circuitry, such that the minimum required MCC voltage was available for proper circuit operation. Because this violation was of very low safety-significance and it was entered into the licensee's corrective action program as CR366627 and CR366865, this violation is being treated as an NCV, consistent with Section VI.A.1 of the NRC Enforcement Policy (NCV 05000305/2010007-01 (DRS)).

4. OTHER ACTIVITIES (OA)

4OA2 Identification and Resolution of Problems

.1 Routine Review of Condition Reports

a. Inspection Scope

From January 25, 2010, through February 12, 2010, the inspectors reviewed corrective action process documents that identified or were related to 10 CFR 50.59 evaluations and permanent plant modifications. The inspectors reviewed these documents to evaluate the effectiveness of corrective actions related to permanent pant modifications and evaluations for changes, tests or experiments issues. In addition, corrective action documents written on issues identified during the inspection were reviewed to verify adequate problem identification and incorporation of the problems into the corrective action system. The specific corrective action documents that were sampled and reviewed by the inspectors are listed in the Attachment to this report.

b. Findings

No findings of significance were identified.

4OA5 Other Activities

(Closed) Unresolved Item (URI) 05000305/2009005-05 (DRP): Evaluation to Support Seismic Classification Downgrade to the Fuel Transfer Carriage

The fuel transfer carriage is used to transport fuel assemblies between the reactor refueling cavity and the spent fuel pool. The carriage runs on tracks (i.e., transport rails) that extend from the refueling cavity through the transfer tube and into the fuel transfer canal. On September 19, 2009, and October 4, 2009, during testing and the transfer of irradiated fuel, the carriage stopped moving. The licensee's assessment concluded that the cause for the carriage stopping was binding of the carriage's seismic restraints. The seismic restraints were installed in 2008 to prevent carriage derailing. The seismic restraints were L-shaped clips that attached the carriage to the carriage's transport rails. To prevent the carriage from binding during core defueling activities, the licensee modified the carriage by removing all the seismic restraints per engineering change notice (ECN) 3784-003. The inspectors' review of the ECN identified a contractor's condition report (i.e., Number 2009-6596), which stated that the contractor recommended a minimum of three restraint angles to be maintained in-place on the carriage. Contrary to the contractor's recommendation, the licensee performed an evaluation (i.e., ECN 3784-003, Attachment 2) and concluded that all of the seismic restraints could be removed. The inspectors noted that this evaluation was not a formal calculation. The licensee stated that the carriage was non-seismic and did not require a formal calculation. However, the inspectors questioned the licensee's change to the carriage's seismic qualification and the adequacy of the informal calculation that supported the removal of the carriage's seismic restraints. As a result, this URI was issued in the station's 2009 fourth quarter integrated inspection report (ML100390005) pending completion of an NRC inspectors' review.

During this inspection, the inspectors reviewed drawings, license basis documents, procedures, vendor documents, modification packages, and 50.59 screenings associated with the classification downgrade of the fuel transfer carriage and the removal of the seismic restraints. In addition, the inspectors conducted interviews of plant personnel and obtained clarification concerning the URI from the Office of Nuclear Reactor Regulations (NRR). The inspectors concluded to resolve this URI, the following two questions must be answered:

1. Was the seismic qualification of the fuel transfer carriage inappropriately changed?

2. Was the calculation to support removal of the fuel transfer carriage's seismic restraints inadequate?

<u>Question 1</u>: The fuel transfer carriage was originally classified as quality assurance QA (1). This classification was documented in internal memos and communications by the licensee. The documents were not referenced in any correspondence with the NRC as part of the original licensing activities. In 2008, the licensee downgraded the carriage from QA (1) to QA (2) and classified the carriage as seismic class 3. As part of this change, the licensee added the carriage's seismic classification to the final safety analysis report (FSAR). Prior to 2008, the carriage had no formal seismic classification. The inspectors concluded that the licensee's classification was consistent with the definition of seismic class 3 as described in the FSAR and with the licensee's procedures applicable for QA classifications. The inspectors contacted NRR concerning this issue. Based on the discussions with NRR, it was considered reasonable to conclude that the NRC staff accepted a non-safety classification for the fuel transfer carriage or did not specifically review the classification. Since the original classification of the carriage was not previously described in the Kewaunee Power Station's licensing basis, the inspectors determined that a 50.59 evaluation was not required and that the seismic qualification of the fuel transfer carriage was not inappropriately changed.

<u>Question 2</u>: For the calculation that supported the physical modification of the fuel transfer carriage, the inspectors noted that in FSAR, Table B.6-1, a design basis earthquake load analysis was not applicable to seismic class III components. However, the licensee completed a calculation that concluded that the removal of the seismic restraints did not increase the likelihood of the fuel transfer carriage becoming derailed. Specifically, the carriage would not derail or overturn during a design basis earthquake (DBE). In addition, the carriage was referenced in one of the safety analyses and the results of the analysis was not affected by the removal of the seismic restraints because the accident analysis already considered a scenario where the fuel transfer carriage became stuck in the transfer tube while carrying a fuel bundle. The safety analysis also concluded that if this condition were to occur the fuel bundle would not be damaged and would not lose cooling. The function of the seismic restraints was not referenced or taken credit for in the FSAR safety analysis. Therefore, the inspectors concluded that the calculation to support removal of the fuel transfer carriage's seismic restraints was not a concern.

Based on the above assessment the inspectors determined that no performance deficiencies or violations of regulatory requirements exist. The inspectors had no further concerns in this area. The documents that were reviewed are included in the attachment to this report. This unresolved item is closed.

4OA6 Meetings

.1 Exit Meeting Summary

On February 12, 2010, the inspectors presented the inspection results to Mr. Stephen Scace, and other members of the licensee staff. The licensee personnel acknowledged the inspection results presented and did not identify any proprietary content. The inspectors confirmed that all proprietary material reviewed during the inspection was returned to the licensee staff.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee

M. Aulik, Design Manager
T. Breene, Nuclear Licensing Manager
T. Evans, Maintenance Manager
S. Heironimus, ECP Specialist
W. Henry, NOD Manager
D. Laing, Training Manager
J. Marean, Rapid Response – Engineering
J. McNamara, Mechanical/Structural Design Engineering Supervisor
R. Repshas, Licensing _ Engineering
M. Rosseau, Electrical/I&C Design Engineering Supervisor
S. Scace, Site Vice President
R. Simmons, Plant Manager
M. Sortwell, Engineering Supervisor
D. Vorpaul, Balance of Plant/System Engineering Supervisor
M. Wilson, Safety and Licensing Director
S. Yuen, Engineering Director

Nuclear Regulatory Commission

J. Cassidy, Senior Health Physicist
M. Kunowski, Branch Chief
R. Ruiz, Senior Resident Inspector (acting)

LIST OF ITEMS OPENED, CLOSED AND DISCUSSED

Opened

05000305/2010007(DRS)-01	NCV	Calculation Methodology Did Not Represent Actual Plant Equipment Configuration

Closed

05000305/2010007(DRS)-01	NCV	Calculation Methodology Did Not Represent Actual Plant Equipment Configuration
05000305/2009005(DRP)-05	URI	Evaluation to Support Seismic Classification Downgrade to the Fuel Transfer Carriage

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.

CALCULATIONS

Number	Description or Title	Date or Revision
C11716	MCC Control Circuit Voltage Drop	August 28, 2008
C11710	120 VAC Coordination & Protection	December 11, 2008
C11715	120 VAC Loading and Voltage Drop Analysis for BRA-105 and BRB-105 Distribution	March 27, 2008
C10033	Safeguard's Diesel Fuel Oil Storage Volume Calculation	April 20, 2009
C11856	Dynamic support load determination and pressure pulse analysis for 6-SI-2502R-15 gas collection chamber	July 21, 2009
KPS-04055MG	Diesel Generator Room Temperatures	April 8, 2008
C10044	Diesel Generator Room Temperatures, Rev 1	February 28, 2007
C10049	Battery Room Hydrogen Generation Calculation, Rev 2	January 5, 2009
C11710, Addendum A	New Fuse Added for DCR 3762, Rev 1	April 2, 2009
C11710, Addendum B	Clarify Panel SD-100 QA1 to Non-QA1 Coordination, Rev 1	July 28, 2009
C11715, Addendum A	Distribution Incorporation of C11722, Rev 1 Results, Rev 0	August 5, 2009
C11716, Addendum A	Verification of Conservative Cable Lengths for DCR 3609-1, Rev 1	January 21, 2009
C11716, Addendum B	Motor 1-451 Control Circuit Required Voltage Calculation, Rev 1	April 23, 2009
C11716, Addendum C	Revised MCC Control Circuits Required Voltage Calculation, Rev 1	June 3, 2009

CORRECTIVE ACTION PROGRAM DOCUMENTS REVIEWED

Number	Description or Title	Date or Revision
CAP042654	Need to Implement Requirement to Restore CR A/C Per 10CFR50 App B - Timeliness	March 8, 2007
CAP 042431	Incorrect Control Power Transformer (CPT) Installed in Control Circuit	March 3, 2007
CR 321653	NRC Questions Compensatory Actions Associated with OD 160	January 28, 2009
CAP 041840	C-039-001 Methodology Contains Inherent	February 16, 2007

CORRECTIVE ACTION PROGRAM DOCUMENTS REVIEWED

Number	Description or Title	Date or Revision
	Non-Conservatism	
CR 119300	C11710, Rev 1- Coordination Not Shown for BRA-113 Ext.-12 Breaker, QA1 to QA2	November18, 2008
OE012316	WNSAL 2006-001 - Incorrect Pressurizer Volumes Used in Safety Analysis	February 9, 2006
CAP044838	NRC EN 42242 - Unanalyzed Condition Related to EDG Fuel Oil Tank	May 14, 2007
CAP041610	Calculation C10033 Requires Revision Based on Current EDG Loads	February 9, 2007
CAP041525	KPS Delivery of Ultra Low Sulfur Diesel Fuel	February 7, 2007
CR321554	EDG Fuel Oil Calculation C10033 Rev.1 Discrepancy/Error	January 27, 2009
CA019926	ECCS Pumps and ICS Pump NPSH Calcs May Not Account for Inst Accuracy	June 10, 2005
CAP039039	RWST Level Indication Accuracy Could Allow RWST Level To Be Too Low	November 2, 2006
CAP040650	RWST Setpoint Changes Proposed Do Not Consider Affect on Calculations	January 16, 2007
CR107209	Error in Vintage Calculations	August 27, 2008
PCR027795	ECCS Pumps and ICS Pump NPSH Calcs May Not Account for Inst Accuracy	October 31, 2006
PCR027962	RWST Level Indication Accuracy Could Allow RWST Level To Be Too Low	November 8, 2006
PCR030167	Provide Consistent Procedure Guidance Due To RWST Level Indication Accuracy Ques	March 2, 2007

CORRECTIVE ACTION PROGRAM DOCUMENTS GENERATED

Number	Description or Title	Date or Revision
CR 366627	Calculation C11716 Error in Evaluating Charging Pump Control Circuits	January 27,2010
CR 366865	2010 Mod/50.59 Inspection Calculation C11716 Extent of Condition Error	January 28, 2010
CR366483	2010-MOD/50.59 INSPECTION: Incorrect Response to 50.59 Screening Question	January 26, 2010
CR367059	Dimension Error Identified In Setpoint Calc Graphic	January 29, 2010
CR367305	USAR Update UCR R22-009 Includes Multiple Errors	February 1, 2010
CR368203	RWST Level Transmitter Zero Suppression Discrepancy	February 8, 2010
CR368267	Packing Leak on SI-39A-1,Common Injection Line Chamber Isolation Valve	February 9, 2010
CR368363	DG Inboard Jacket Water Cooler Mounting	February 9, 2010

CORRECTIVE ACTION PROGRAM DOCUMENTS GENERATED

Number	Description or Title	Date or Revision
	Bolt Is Missing a Washer	
CR368496	Boric Acid Concentration and Impact on RWST Level	February 10, 2010

DRAWINGS

Number	Description or Title	Date or Revision
E-233	Circuit Diagram DC Aux. and Emergency AC	AS
E-1379	Schematic Diagram MCC 1-52E Motor 1-067	R
E-1382	Schematic Diagram MCC 1-52F & 1-52F Ext. Motors 1-238 & 1-126	AB
E-1382	Schematic Diagram MCC 1-52F Ext. Motors 1-238 & 1-126	AC
E-1421	S/D MCC 1-62E Motor 1-248 MCC 1-62H Motor 1-376	P
OPERXK-100-28	Flow diagram SI system	Rev. AQ
E-3652	Battery Rooms Equipment Numbering Tabulations	F & J
E-852	General Arrangement Battery Rooms No. 1A & 1B	AJ & AL
M-339	Safety Injection Piping	N
M-340	Safety Injection Piping	M
M-950-1	Containment Spray Pump Suction Piping	D
M-992-1	Safety Injection Pumps Suction Piping	E & F
OPERM-217	Flow Diagram Internal Containment Spray System	AP & AQ
OPERXK-100-29	Flow Diagram Safety Injection System	AB & AJ
XK-152-1	RWST Erection Diagram 26’ x 70’ Self Supporting Cone Roof	9C

EQUIVALENCY EVALUATIONS

Number	Description or Title	Date or Revision
PTE 2006-0049	Dedication of generic I&C components	November 21, 2006
PTE 1995-0001	ASCO solenoid valve model HTX8302C26F and 206-832-3U	January 25, 2007

10 CFR 50.59 EVALUATIONS

Number	Description or Title	Date or Revision
07-01-00	CRAC Chilled Water Pump A Breaker in OFF During Operation at Power per N-ACC-25-CL, Rev. AH	March 9, 2007
08-03-01	Degraded Voltage and Loss of Voltage Relay Replacement	April 10, 2008
08-04-00	Change in Method of Evaluation of Safeguards Battery and Charger Sizing per	March 27, 2008

10 CFR 50.59 EVALUATIONS

Number	Description or Title	Date or Revision
	C11723, Rev. 0	
08-05-00	Approval and Issuance of the Initial Revision of Calculation C11450, “Auxiliary Power System Modeling and Analysis”	March 30, 2008
08-08-02	Elimination of air void between SI-350 and SI-351	July 20, 2009
08-08-02	Elimination of air void between SI-350 and SI-351	July 20, 2009
08-09-02	GL 2008-01 Gas accumulation venting and risk mitigation capabilities for SI, RHR, and ICS.	December 19, 2008
07-05-00	Installation of scaffold in north penetration room per scaffold request MM2-07-084	October 4, 2007
06-03-00	ASME Section III MOE for Application to KPS Pressure Pipping	October 15, 2006
07-05-01	DCR 3609-1 AFW Flow Control	April 8, 2008
08-08-00	DCR 3741, Modify SI-350A/B, SI-351A/B and Add Relief Valve to Piping Between the Valves, Rev 0	July 20, 2009
08-09-00	DCR 3750, Install Vent Valves On ICS, SI, and RHR Piping (GL 2008-01), Rev 0	September 17, 2009

10 CFR 50.59 SCREENINGS

Number	Description or Title	Date or Revision
07-025-00	Replace CPT and Associated Fuse in MCC 52F-A4 for Zone SV Exhaust Fan 1A Motor 1-126	March 7, 2007
07-037-00	UCR R21-006	March 23, 2007
08-011-01	Degraded Voltage and Loss of Voltage Relay Replacement	April 9, 2008
08-026-00	Change in Method of Evaluation of Safeguards Battery and Charger Sizing per C11723, Rev. 0	March 20, 2008
08-034-00	Approval and Issuance of the Initial Revision of Calculation C11450, “Auxiliary Power System Modeling and Analysis”	March 29, 2008
06-28-00	Change USAR based on OE 012316 and WNSAL 2006-01	June 20, 2006
06-07-01	Replace Containment Sump B Strainer	October 10, 2006
SCR R22-009	USAR changes regarding reactor water level instrumentation	April 23, 2009
SCR DCR 3784	Removal of car retainer angles	October 5, 2009
SCR Change No. 08-05	Request for Typing Change 08-05 related to fuel transfer car seismic	October 8, 2009

10 CFR 50.59 SCREENINGS

Number	Description or Title	Date or Revision
	reclassification	
SCR R21-102	USAR changes regarding the containment spray system	August 28, 2008
SCR R22-005	50.59 screening associated with USAR change R22-005	March 4, 2009
SCR R22-023	50.59 Screening associated with USAR change R22-023	December 15, 2008
07-037-00	UCR 21-014, Revise USAR To Reflect DCR 3668 & Associated LAR/LA	April 23, 2007
07-043-00	DCR 3609-1 AFW Flow Control	April 5, 2008
C10996, Addendum A	C10996 Addendum A, Incorporate RWST Level TLEs and Elevated Water Temperature Into The ECCS Pump NPSHA Calculation, Rev 0	June 16, 1998
C11412-4	C11412-4, Refueling Water Storage Tank (RWST) Level, Low Low Level Alarm (LOOP 921), Rev 0	April 1, 2004
C11412-7	C11412-7, Refueling Water Storage Tank (RWST) Level, Low Low Level Alarm (LOOP 920), Rev 0	April 1, 2004
UCR 21-102	Incorporate Changes Resulting from the Design and Licensing Bases Review of the Internal Containment Spray System	August 28, 2008
UCR 22-005	Incorporate the Changes Resulting from the Design and Licensing Basis Integrated Review of the Safety Injection System	March 4, 2009
UCR 22-009	Incorporate the Changes Resulting from the Design and License Basis Review of the Engineered Safety Features System	May 29, 2009
UCR 22-023	Remove Reference To and Discussion Related To Equipment That Never Existed In the Plant	December 5, 2008

MODIFICATIONS

Number	Description or Title	Date or Revision
DCR 3368	Install AC Variable Frequency Drives on Charging Pumps	Revision 1
DCR 3668	SI Inhibit On Spent Fuel Pool Pumps A & B – EDG Margin Recovery	Revision 0
DCR 3675	Replace Motor 1-126, Zone Special Ventilation Fan 1A, Control Power Transformer (CPT)	Revision 0
DCR 3760	480 Volt Motor Control Center Starter Bucket Improvements	Revision 0

MODIFICATIONS

Number	Description or Title	Date or Revision
DCR 3750	GL 2008-01 Gas accumulation venting and risk mitigation capabilities for SI, RHR, and ICS	February 19, 2009
DCR 3609-1	Install Auxiliary Feedwater Flow Control	1
PTE 1995-0001	ASCO Solenoid Valve Model HTX8302C26F and 206-832-3U, Rev 4	January 25, 2007
PTE 2006-0049	Dedication of Generic I&C Components, Rev 0	November 21, 2006

OTHER DOCUMENTS

Number	Description or Title	Date or Revision
OD 157	SW 903A and 903B Containment Isolation	July 9, 2009
OD 254	SSC Affected by Degraded or Non Conforming Condition	February 3, 2009
ECN 3784-003	Removal of fuel transfer car retainer angles	October 5, 2009
OD 222	Draft Calculation C11710, 120 VAC Coordination & Protection	November 25, 2008

PROCEDURES

Number	Description or Title	Date or Revision
N-ACC-25-CL	Control Room Air Conditioning System Prestart Up Checklist	35
N-ACC-25-CL	Control Room Air Conditioning System Prestart Up Checklist	AH
NAD-03.01	Directive, Implementing Document, and Procedure Control	Q
OP-KW-AOP-SFP-001	Abnormal Spent Fuel Pool Cooling and Cleanup System Operation	2
SP-87-151	Weekly Instrument Channel Checks	December 17, 2009
SP-10-225	Diesel Fuel Oil Sampling	June 25, 2009
ER-KW-NSP-SI-001A	Monitoring SI Gas Collection Chamber and SI Pump A Discharge Piping for Gas Accumulation	Rev. 2
CY-KW-049-026	RHR Venting using HRSR or primary sample sink	Rev. 0
CM-AA-CLC-301	Engineering Calculations	2
CM-AA-CLC-301-1001	Engineering Calculations	2
GNP-04.03.04	Calculation – Preparation, Review, and Approval, Rev 20	August 25, 2009
GNP-04.04.01	50.59 Applicability Review and Pre-Screening, Rev 13	November 24,2009
SP-33-040	Refueling Water Storage Tank Level Instrument Calibration, Rev 22	July 27, 2007

LIST OF ACRONYMS USED

ADAMS	Agencywide Documents Access and Management System
AFW	Auxiliary Feedwater
CFR	Code of Federal Regulations
CPT	Control Power Transformer
CR	Condition Report
DBE	Design Basis Earthquake
DCR	Design Change Request
DG	Diesel Generator
DRP	Division of Reactor Projects
DRS	Division of Reactor Safety
ECCS	Emergency Core Cooling System
ECN	Engineering Change Notice
ECP	Employee Concern Program
EDG	Emergency Diesel Generator
FSAR	Final Safety Analysis Report
I & C	Instrumentation and Control
IMC	Inspection Manual Chapter
IP	Inspection Procedure
IR	Inspection Report
MCC	Motor Control Center
NCV	Non-Cited Violation
NEI	Nuclear Energy Institute
NOD	Nuclear Oversight Department
NPSH	Net Positive Suction Pressure
NRC	Nuclear Regulatory Commission
NRR	Office of Nuclear Reactor Regulations
PARS	Publicly Available Records System
QA	Quality Assurance
RHR	Residual Heat Removal
RWST	Refueling Water Storage Tank
SDP	Significance Determination Process
SE	Safety Evaluation
SI	Safety Injection
TLE	Total Loop Error
URI	Unresolved Item
USAR	Updated Safety Analysis Report
Vac	Volts alternating current

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. The information that you provide will be considered in accordance with Inspection Manual Chapter 0305.

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 Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

/RA/

Robert C. Daley, Chief
Engineering Branch 3
Division of Reactor Safety

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

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