UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
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ARLINGTON, TEXAS 76011-4511

April 23, 2013

Mr. M.E. Reddemann
Chief Executive Officer
Energy Northwest
P.O. Box 968, Mail Drop 1023
Richland, WA 99352-0968

SUBJECT: COLUMBIA GENERATING STATION – NRC INTEGRATED INSPECTION REPORT 05000397/2013002

Dear Mr. Reddemann:

On March 23, 2013, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Columbia Generating Station. The enclosed inspection report documents the inspection results which were discussed on April 2, 2013, with you and other members of your staff.

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

The NRC identified three findings of very low safety significance (Green) during this inspection. Two of the findings involved violations of the NRC requirements; one of these violations was processed using traditional enforcement. Additionally, the NRC identified one traditional enforcement Severity Level IV violation with no associated finding. Further, a licensee-identified violation which was determined to be of very low safety significance is listed in this report. The NRC is treating these violations as non-cited violations (NCVs) consistent with Section 2.3.2.a of the Enforcement Policy.

If you contest these non-cited violations, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC 20555-0001; with copies to the Regional Administrator, Region IV; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at Columbia Generating Station.

If you disagree with a cross-cutting aspect assignment 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 IV; and the NRC Resident Inspector at Columbia Generating Station.

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

Wayne C. Walker, Branch Chief
Project Branch A
Division of Reactor Projects

Docket No.: 05000397
License No: NPF-21

Enclosure: Inspection Report 05000397/2013002
w/ Attachment: Supplemental Information

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SRI:DRP/A	RI:DRP/A	PE:DRP/A	C:DRS/EB1	C:DRS/EB2
JGroom	MHayes	MYoung	TRFarnholtz	GMiller
E-Walker	**E-Walker**	**/RA/**	**/GReplogle for/**	**/GPick for/**
4/22/13	4/22/13	4/18/13	4/19/13	4/19/13
C:DRS/OB	C:DRS/PSB1	C:DRS/PSB2	C:DRS/TSB	BC:DRP/A
VGaddy	MHaire	JDrake	RKeller	WWalker
/COsterholtz for/	***/DHolman for/***	***/RA/***	***/RA/***	***/RA/***
4/18/13	4/18/13	4/18/13	4/18/13	4/22/13

U.S. NUCLEAR REGULATORY COMMISSION

REGION IV

Docket:	05000397
License:	NPF-21
Report:	05000397/2013002
Licensee:	Energy Northwest
Facility:	Columbia Generating Station
Location:	Richland, WA
Dates:	January 1, 2013 through March 23, 2013
Inspectors:	J. Groom, Senior Resident Inspector M. Hayes, Resident Inspector G. Skaggs Ryan, Reactor Inspector, NSPDP G. Apger, Operations Engineer S. Hedger, Operations Engineer J. Laughlin, Emergency Preparedness Inspector, NSIR
Approved By:	Wayne Walker, Chief, Project Branch A Division of Reactor Projects

SUMMARY OF FINDINGS

IR 05000397/2013002; 01/01/2013 – 03/23/2013; Columbia Generating Station, Integrated Resident and Regional Report; Licensed Operator Requalification Program; Surveillance Testing

The report covered a 3-month period of inspection by resident inspectors and announced baseline inspections by region-based inspectors. The NRC identified three findings of very low safety significance (Green) during this inspection. Two of the findings involved violations of the NRC requirements; one of these violations was processed using traditional enforcement. Additionally, the NRC identified one traditional enforcement Severity Level IV violation with no associated finding. The significance of most findings is indicated by their color (Green, White, Yellow, or Red) using Inspection Manual Chapter 0609, "Significance Determination Process." The cross-cutting aspect is determined using Inspection Manual Chapter 0310, "Components Within the Cross-Cutting Areas." Findings for which the significance determination process 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 Findings and Self-Revealing Findings

Cornerstone: Mitigating Systems

- Severity Level IV. The inspectors identified a non-cited violation of 10 CFR Part 55.49, "Integrity of Examinations and Tests," and an associated Green finding, for the failure of the licensee to ensure the integrity of remedial tests given as part of the 2011 licensed operator annual operating test was maintained. During the 2011 annual operating test, 10 licensed operators received remedial simulator scenario tests that were comprised completely of simulator scenario test material that had been previously administered to other licensed operators in previous weeks. Allowing more than 50 percent of an operating test section to be comprised of examination material previously administered on any other test in the same examination cycle is considered an examination integrity compromise. However, an evaluation of the 2011 examination results for the affected population showed that the compromise did not have an actual effect on the equitable and consistent administration of the examination. The licensee entered the finding into the corrective action program as Action Request 274876.

  The failure of the licensee's training staff to maintain the integrity of examinations administered to licensed operations personnel was a performance deficiency. The finding was more than minor because it adversely affected the human performance attribute of the Mitigating Systems Cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Additionally, if left uncorrected, the performance deficiency could have become more significant in that allowing licensed operators to return to the control room without valid

demonstration of appropriate knowledge and abilities on the annual operating test could be a precursor to a more significant event. Using NRC Inspection Manual Chapter 0609, “Significance Determination Process,” Attachment 4, Tables 1 and 2 worksheets, and the corresponding Appendix I, “Licensed Operator Requalification Significance Determination Process,” the finding was determined to have very low safety significance (Green). Although the 2011 finding resulted in a compromise of the integrity of annual operating tests, with no compensatory actions immediately taken when the compromise should have been discovered, the equitable and consistent administration of the annual operating tests was not actually affected by this compromise. In addition, the failure to meet 10 CFR 55.49 was evaluated through the traditional enforcement process, which resulted in its association with a Severity Level IV (SL-IV) violation consistent with Sections 2.2.4 and 6.4d of the NRC Enforcement Policy. This finding has a cross-cutting aspect in the area of resources associated with ensuring that procedures are adequate to ensure nuclear safety. Review of the issue in a licensee-developed barrier analysis revealed that there were no directions or guidance provided in their licensed operator requalification program procedures to define the expectations for applying the 50 percent examination overlap industry standard on their examinations [H.2(c)](Section 1R11).

- Green. The inspectors identified a non-cited violation of 10 CFR 55.53, "Conditions of License," for the failure of the licensee to ensure that licensed operators met all the conditions of their licenses in order to be considered an active watch stander. Specifically, the licensee failed to ensure that two licensed operators met the complete plant tour requirement specified in 10 CFR 55.53(f)(2) prior to license reactivation and subsequent performance of licensed operator duties. The licensee entered the finding into the corrective action program as Action Request 274726.

  The failure of the licensee to ensure that all individuals authorized by a license to operate the controls of the facility met the conditions of their licenses as defined in 10 CFR Part 55.53 was a performance deficiency. This finding was more than minor because it was associated with the human performance 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. Specifically, licensed operators that do not properly complete the requirements of 10 CFR 55.53(f)(2) prior to resuming control room watch standing duties may commit operator errors that could cause mitigating systems to fail to respond properly. Using NRC Manual Chapter 0609, "Significance Determination Process," Attachment 4, Tables 1 and 2 worksheets, the team was directed to use Appendix I, "Licensed Operator Requalification Significance Determination Process (SDP)," to process the violation. However, the team determined that NRC Manual Chapter 0609, Appendix I, could not be used to process this. Based on direction from regional management to use NRC Manual Chapter 0609, Appendix M, "Significance Determination Process Using Qualitative Criteria," the finding was determined to have very low safety significance because a prior similar violation's significance

bounded this finding's significance. The prior similar violation occurred at Comanche Peak (NCV 05000445/2011004-02) was determined to have very low safety significance because more than 20 percent of the license reactivation records reviewed contained these deficiencies as processed under the last revision to NRC Manual Chapter 0609, Appendix I.

This finding was determined to have a cross-cutting aspect in the area of human performance, associated with resources, because the licensee failed to ensure complete, accurate, and up-to-date procedures are available and adequate to assure nuclear safety. Specifically, the licensee failed to specify in procedures what plant areas must be included to meet the requirements of a complete plant tour [H.2(c)] (Section 1R11).

- Green. The inspectors identified a finding associated with addressing noticeable differences between the simulator and the plant in accordance with the standards of ANSI/ANS 3.5-1998 and -2009. Specifically, there was a failure to correct a difference in the operation of recirculation pumps identified in 2006 while conducting transient testing prescribed by the ANSI standard. In addition, there was a failure to install a simulator modification to reflect an actual reference plant modification relevant to operator training within 24 months. The licensee initiated corrective action documented in Action Request 277631.

  Failure to correct noticeable differences between the simulator and the plant that were relevant to operator training in accordance with the ANSI/ANS 3.5 Standard (-1998 and -2009 revisions) was a performance deficiency. The performance deficiency is more than minor because it adversely impacted the human performance attribute of the Mitigating Systems Cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Additionally, if left uncorrected, the performance deficiency could have become more significant in that not correcting noticeable differences between the simulator and the plant can provide the potential for negative training to the licensed operators. Using Manual Chapter 0609, “Significance Determination Process,” Attachment 4, Tables 1 and 2 worksheets, and the corresponding Appendix I, “Licensed Operator Requalification Significance Determination Process (SDP),” Flowchart Block #14, the finding was determined to have very low safety significance (Green) because it dealt with deficiencies associated with simulator testing, modification, and maintenance and there was no actual plant event caused by the issue with maintaining the simulator. This finding has a cross-cutting aspect in the problem identification and resolution area associated with the corrective action program - taking appropriate corrective action [P.1(d)](Section 1R11).

Cornerstone: Miscellaneous

- Severity Level IV. The inspectors identified a non-cited violation of 10 CFR 50.59, “Changes, Tests, and Experiments,” because the licensee failed to obtain a license amendment, pursuant to 10 CFR 50.90, prior to implementing

a change to the control room heating, ventilation and air conditioning system (HVAC). Specifically, through the course of several Final Safety Analysis Report amendments, the licensee changed the control room habitability requirements from 75 degrees Fahrenheit (F) ± 3 degrees F to 85 degrees F effective temperature without obtaining a license amendment.

The violation was evaluated using Section 2.2.4 of the NRC Enforcement Policy, because the violation may impact the ability for the NRC to perform its regulatory oversight function. In accordance with the NRC Enforcement Policy, the significance determination process was used to inform the significance of the failure to obtain a license amendment prior to implementing a proposed change to the main control room design requirements. Using Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," the inspectors determined the finding was of very low safety significance because the finding does not represent a degradation of the radiological barrier function provided for the control room and does not represent a degradation of the barrier function of the control room against smoke or a toxic atmosphere. Therefore, in accordance with Section 6.1.d of the NRC Enforcement Policy, the significance was determined to be at Severity Level IV, since the impact of the incorrect changes was evaluated as having very low safety significance by the significance determination process. This issue was entered into the licensee's corrective action program as AR 280119, and therefore, this violation is treated as SL-IV NCV consistent with Section 2.3.2 of the NRC Enforcement Policy. This violation did not have a cross-cutting aspect because it was strictly associated with a traditional enforcement violation (Section 1R22).

B. Licensee-Identified Violations

A violation of very low safety significance was identified by the licensee has been reviewed by the inspectors. Corrective actions taken or planned by the licensee have been entered into the licensee's corrective action program. This violation and associated corrective action tracking numbers are listed in Section 4OA7 of this report.

REPORT DETAILS

Summary of Plant Status

The plant began the inspection period at 100 percent power. The plant operated at 100 percent power, with the exception of scheduled reduction in power to support maintenance and testing, for the remainder of the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R04 Equipment Alignment (71111.04)

.1 Partial Walkdown

a. Inspection Scope

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

- January 15, 2013, diesel generator 2
- February 12, 2013, residual heat removal system C

The inspectors selected these systems based on their risk significance relative to the reactor safety cornerstones at the time they were inspected. The inspectors attempted to identify any discrepancies that could affect the function of the system, and, therefore, potentially increase risk. The inspectors reviewed applicable operating procedures, system diagrams, FSAR, technical specification requirements, administrative technical specifications, outstanding work orders, condition reports, and the impact of ongoing work activities on redundant trains of equipment in order to identify conditions that could have rendered the systems incapable of performing their intended functions. The inspectors also inspected accessible portions of the systems to verify system components and support equipment were aligned correctly and operable. The inspectors examined the material condition of the components and observed operating parameters of equipment to verify that there were no obvious deficiencies. The inspectors also verified that the licensee had properly identified and resolved equipment alignment problems that could cause initiating events or impact the capability of mitigating systems or barriers and entered them into the corrective action program with the appropriate significance characterization. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of two partial system walkdown samples as defined in Inspection Procedure 71111.04-05.

b. Findings

No findings were identified.

1R05 Fire Protection (71111.05)

.1 Quarterly Fire Inspection Tours

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:

- January 2, 2013, Fire Area R-4/2, residual heat removal B heat exchanger room
- February 6, 2013, Fire Areas DG-2/1 and DG-3/2, diesel generator rooms 1 and 2
- March 7, 2013, Fire Area R-1/1, reactor building 501' elevation
- March 22, 2013, Fire Area RC-10/U, main control room

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

These activities constitute completion of four quarterly fire-protection inspection samples as defined in Inspection Procedure 71111.05-05.

b. Findings

No findings were identified.

1R11 Licensed Operator Requalification Program and Licensed Operator Performance (71111.11)

.1 Quarterly Review of Licensed Operator Requalification Program

a. Inspection Scope

On March 13, 2013, the inspectors observed a crew of licensed operators in the plant's simulator during requalification testing. The inspectors assessed the following areas:

- Licensed operator performance
- The ability of the licensee to administer the evaluations and the quality of the training provided
- The performance of the control room simulator
- The quality of post-scenario critiques
- Follow-up actions taken by the licensee for identified discrepancies

These activities constitute completion of one quarterly licensed operator requalification program sample as defined in Inspection Procedure 71111.11.

b. Findings

No findings were identified.

.2 Quarterly Observation of Licensed Operator Performance

a. Inspection Scope

On January 23, 2013, the inspectors observed the performance of on-shift licensed operators in the plant's main control room. At the time of the observations, the plant was in a period of heightened risk due to a loss of the rod drive control system. The inspectors observed the operators' performance of the following activities:

- Adherence to procedural guidance
- Troubleshooting activities
- Crew communications and prioritization of parameters

In addition, the inspectors assessed the operators' adherence to plant procedures, including conduct of operations procedure and other operations department policies.

These activities constitute completion of one quarterly licensed-operator performance sample as defined in Inspection Procedure 71111.11.

b. Findings

No findings were identified.

.3 Biennial Inspection (71111.11B)

The licensed operator requalification program involves two training cycles that are conducted over a 2-year period. In the first cycle, the annual cycle, the operators are administered an operating test consisting of job performance measures and simulator scenarios. In the second part of the training cycle, the biennial cycle, operators are administered an operating test and a comprehensive written examination. The examiners observed the associated training cycles during this inspection period.

a. Inspection Scope

To assess the performance effectiveness of the licensed operator requalification program, the inspectors conducted personnel interviews, reviewed both the operating tests and written examinations, and observed ongoing operating test activities.

The inspectors interviewed four licensee personnel from the training staff and two licensed operators to determine their understanding of the policies and practices for administering requalification examinations. The inspectors also reviewed operator performance on the written examinations and operating tests. These reviews included observations of portions of the operating tests by the inspectors. The operating tests observed included four job performance measures and three scenarios that were used in the current biennial requalification cycle. These observations allowed the inspectors to assess the licensee's effectiveness in conducting the operating test to ensure operator mastery of the training program content. The inspectors also reviewed medical records of twelve licensed operators for conformance to license conditions and the licensee's system for tracking qualifications and records of license reactivation for three operators.

The results of these examinations were reviewed to determine the effectiveness of the licensee's appraisal of operator performance and to determine if feedback of performance analyses into the requalification training program was being accomplished. The inspectors interviewed members of the training department and reviewed minutes of training review group meetings to assess the responsiveness of the licensed operator requalification program to incorporate the lessons learned from both plant and industry events. Examination results were also assessed to determine if they were consistent with the guidance contained in NUREG 1021, "Operator Licensing Examination Standards for Power Reactors", Revision 9, Supplement 1, and NRC Manual Chapter 0609, Appendix I, "Licensed Operator Requalification Significance Determination Process."

In addition to the above, the inspectors reviewed examination security measures, simulator fidelity and existing logs of simulator deficiencies.

The inspectors conducted onsite inspection activities the week of November 26, 2012. Due to challenges with licensee simulator staff availability during this time, the majority of the simulator inspection occurred during the months of January and February 2013.

On December 27, 2012, the licensee informed the lead inspectors of the results of the written examinations and operating tests for the Licensed Operator Requalification Program. The inspectors compared these results to NRC Inspection Manual Chapter 0609, Appendix I, "Licensed Operator Requalification Significance Determination Process," values and determined that there were no findings based on these results and because all of the individuals that failed the applicable portions of their examinations and/or operating tests were remediated, retested, and passed their retake examinations prior to returning to shift.

The inspectors completed one inspection sample of the biennial licensed operator requalification program.

b. Findings

.1 Failure to Maintain Licensed Operator Examination Integrity

Introduction. The NRC inspectors identified a Severity Level IV non-cited violation (NCV) of 10 CFR Part 55.49, "Integrity of Examinations and Tests," associated with a Green finding, for the failure to ensure the integrity of remedial tests given as part of the 2011 licensed operator annual operating test was maintained. The administration practices for the years 2011 and 2012 were reviewed to determine if they were consistent with industry standards used to enforce uniform conditions on the examination process. During the 2011 annual operating test, 10 licensed operators received remedial simulator scenario tests that had been previously administered to other licensed operators in previous weeks. Allowing more than 50 percent of an operating test section to be comprised of examination material previously administered on any other test in the same examination cycle is considered an examination integrity compromise. However, an evaluation of the 2011 examination results for the affected population showed that the compromise did not have an actual effect on the equitable and consistent administration of the examination.

Description. The licensee administered the required annual operating test to licensed operators over the course of a seven-week cycle. The first week was dedicated to testing licensed operators not assigned to a specific operations crew (Staff), and the follow weeks were scheduled to evaluate their six operations crews (Crew A through F). If individuals or crews failed a portion of their annual operating test, then they were administratively withheld from watch standing duties, completed remediation for the test failure, and were administered a second annual operating test to evaluate the test elements that were originally failed (either simulator scenarios or Job Performance Measures). On November 29, 2012, the inspectors discovered that during the 2011 annual operating test, 10 licensed operators received secondary annual operating test (re-take for a failure of the simulator scenario portion of the annual operating test) that were completely composed of simulator scenarios previously administered to other licensed operators during the Crew A and B annual operating tests. This resulted in

these groups of licensed operators receiving the following amounts of overlap on their re-take operating test components:

- Five licensed operators evaluated as part of their Staff group had 100 percent overlap on their operating test simulator scenarios

- Four licensed operators evaluated as part of Crew C had 100 percent overlap on their operating test simulator scenarios

- One licensed operator evaluated with Crew D had 100 percent overlap on his operating test simulator scenarios

The inspectors noted that the licensee failed to ensure portions of the 2011 annual operating test were constrained by the 50 percent overlap criteria. This constituted a compromise of examination integrity required by 10 CFR 55.49 in that it is a practice which, if left uncorrected, could affect the equitable and consistent administration of the examinations.

The affected licensed operators were in the Staff crew, Crew C, and Crew D. At the time of discovery, the members of the Staff crew had completed their 2012 annual operating tests satisfactorily. For Crew C, one of the affected licensed operators had completed a 2012 annual operating test satisfactorily, while two other affected operators had terminated their licenses between 2011 and 2012. The one licensed operator on Crew D affected by this had an inactive license at the time and he was restricted from watch standing duties until successful completion of the 2012 annual operating test and completion of license reactivation.

The licensee evaluated the 2011 overlap event to determine its effect on the equitable and consistent administration of the exam. This evaluation was submitted to the NRC on January 16, 2013. The scope of the evaluation included review of examination security agreements signed by the licensed operators during examination administration, interviews with the licensed operator population to determine if information about the content of the examination was discussed amongst them during the examination administration period, and a review of examination performance to see if there was a noticeable increase in satisfactory performance in the examination elements. Based on this review, there was no indication that the examination overlap issue had an actual effect on the results of the 2011 annual operating test. The inspectors concluded that, although the integrity of the 2011 operating test was not maintained, no actual effect on the equitable and consistent administration of the 2011 operating test had occurred. The licensee documented this issue in Action Request 274876.

Analysis. The failure of the licensee's training staff to maintain the integrity of examinations administered to licensed operations personnel was a performance deficiency. The failure constitutes a violation of 10 CFR 55.49, which impacts the regulatory process and is therefore, evaluated through the traditional enforcement process. The Significance Determination Process (SDP), which was used to evaluate this performance deficiency, does not specifically consider the impact on the regulatory process. Thus, although related to a common regulatory concern, it is necessary to

address both the violation and finding using different processes to correctly reflect both the regulatory importance of the violation and the safety significance of the associated performance deficiency.

The performance deficiency was more than minor and, therefore, a finding because it adversely affected the Human Performance attribute of the Mitigating Systems cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Additionally, if left uncorrected, the performance deficiency could have become more significant in that allowing licensed operators to return to the control room without valid demonstration of appropriate knowledge on the annual operating tests could be a precursor to a more significant event. Using NRC Inspection Manual Chapter 0609, "Significance Determination Process," Attachment 4, Tables 1 and 2 worksheets (issue date June 19, 2012), and the corresponding Appendix I, "Licensed Operator Requalification Significance Determination Process (SDP)," Flowchart Block #10 (issue date December 6, 2011), the finding was determined to have very low safety significance (Green). Although the 2011 finding resulted in a compromise of the integrity of the annual operating tests, with no compensatory actions immediately taken when the compromise should have been discovered, the equitable and consistent administration of the annual operating test was not actually affected by this compromise.

The failure to meet 10 CFR 55.49 was determined to be a Severity Level IV (SL-IV) violation, as specified in Section 6.4.d.1- of the NRC Enforcement Policy (issued January 28, 2013). The violation involved a failure to ensure the integrity of the remedial simulator scenario operating tests that were performed in 2011. The NRC determined that the failure was a nonwillful compromise of the integrity of 10 exams required by 10 CFR Part 55 that did not contribute to the NRC making an incorrect regulatory decision. The violation was evaluated in accordance with Section 2.2.4 of the NRC Enforcement Policy, because the violation may impact the ability of the NRC to perform its regulatory oversight function. The issue was entered into the licensee's corrective action program as Action Request 274876, and therefore, this violation is being treated as a SL-IV NCV consistent with Section 2.3.2 of the NRC Enforcement Policy.

This finding has a cross-cutting aspect in the area of resources associated with ensuring that procedures are adequate to ensure nuclear safety. A barrier analysis prepared by the licensee as part of their corrective actions revealed that the procedures used to develop requalification program examinations did not specify the industry standards or guidelines that ensure that 50 percent or less of the examination material is repeated on a given examination in comparison to those examination elements used in previous weeks' examinations. The procedures reviewed to confirm this were TDI-08, "Licensed Operator Requalification Program (Revision 09) (last revised May 29, 2012)," and TDI-02, "Systematic Approach to Training (Revision 17) (last revised June 29, 2012)." [H.2(c)].

Enforcement. Title 10 CFR 55.49, "Integrity of Examinations," requires, in part, that facility licensees shall not engage in any activity that compromises the integrity of any application, test, or examination. The integrity of a test or examination is considered compromised if any activity, regardless of intent, affected or, but for detection, would

have affected the equitable and consistent administration of the test or examination. This includes activities related to the preparation, administration, and grading of tests and examinations. Contrary to the above, during the weeks of November 28 and December 8, 2011, the licensee engaged in an activity that compromised the integrity of a test required by 10 CFR Part 55. Specifically, training personnel administered re-take annual operating tests to 10 operators that had been previously administered to other licensed operators the weeks of November 14 and 21, 2011. This resulted in these groups of licensed operators receiving 100 percent overlap on their re-take simulator scenario tests. Administering an operating test with greater than 50 percent overlap from previously administered operating tests is considered a compromise of the integrity of the test in that it is a practice that, but for detection, would affect the equitable and consistent administration of these tests.

The inspectors determined that the compromise of the 2011 annual operating test re-take examinations did not result in an actual effect on the equitable and consistent administration of the examination. Because this finding was of very low safety significance (Green), the associated violation resulted in no or relatively inappreciable potential safety consequences (SL-IV), and has been entered into the licensee's corrective action program to address recurrence as Action Request 274876, this violation is being treated as a non-cited violation consistent with Section 2.3.2 of the NRC Enforcement Policy: NCV 05000397/2013002-01; "Failure to Maintain Licensed Operator Examination Integrity."

.2 Failure to Ensure that All License Conditions are Met for Licensed Operators

Introduction. The inspectors identified a Green non-cited violation of 10 CFR 55.53, "Conditions of License," for the failure of the licensee to ensure that licensed operators met all the conditions of their licenses in order to be considered an active watch stander. Specifically, the licensee failed to ensure that two licensed operators met the complete plant tour requirement specified in 10 CFR 55.53(f)(2) prior to license reactivation and subsequent performance of licensed operator duties.

Description. During the period of December 2010 through December 2012, three licensed operators entered the process to reactivate their licenses. Two of these individuals, based on review of key card access logs and radiological controlled area access logs on the site, performed incomplete plant tours. Licensed operators are required to perform a complete plant tour per 10 CFR 55.53(f)(2) prior to reactivation of the license. Procedure 1.3.1, "Operating Policies, Programs and Practice", Step 4.27.1, requires that licensed operators complete a thorough plant tour as part of the process to reactive an inactive license. However, the inspectors determined that this procedure did not specify what plant areas were required to be included as part of the complete plant tour. During an interview with licensee personnel, they stated that the areas to be toured and thoroughness of the tour would be decided by the individual based upon their current familiarity with the plant (length of time since standing watch).

Without a clear definition of which plant areas were required onsite to be included in this complete plant tour, reference was made to re-activation process expectations documented in NUREG-1021, "Operator Licensing Examination Standards for Power

Reactors (Revision 9, Supplement 1)." Section ES-605, Sub-Section C.2.f, fifth bullet, states, "the NRC expects this tour will include all readily accessible major areas of the plant that are routinely toured by in-plant operators that contain safety related equipment." Review of licensed operator door access logs during the re-activation tours conducted revealed that one licensed operator did not access the site pump house, which is where Service Water system equipment is located (safety-related system). Two licensed operators, including the one previously mentioned, accessed the site emergency diesel generator (EDG) rooms for an amount of time that calls into question the adequacy of the tour in those spaces. For the individual already mentioned, this person accessed the EDG 1 room for two minutes, and the EDG 2 room for three minutes. The other licensed operator accessed both EDG rooms for a cumulative time of less than one minute.

The licensee had addressed concerns with the reactivation tour in Action Request (AR) 249592. Specific guidance at the site for what constitutes a thorough plant tour is being addressed in AR 274726.

Analysis. The failure of the licensee to ensure that all individuals authorized by a license to operate the controls of the facility met the conditions of their licenses as defined in 10 CFR Part 55.53 was a performance deficiency. This finding was more than minor because it was associated with the Human Performance attribute of the Mitigating Systems cornerstone and affects the cornerstone's objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, licensed operators that do not properly complete the requirements of 10 CFR 55.53(f) prior to resuming control room watch standing duties may commit operator errors that could cause mitigating systems to fail to respond properly. Using NRC Manual Chapter 0609, "Significance Determination Process," Attachment 4, Tables 1 and 2 worksheets (issue date June 19, 2012); the team was directed to use NRC Manual Chapter 0609, Appendix I, "Licensed Operator Requalification Significance Determination Process (SDP) (issue date December 6, 2011)," to process the violation. However, the team determined that NRC Manual Chapter 0609, Appendix I, could not be used to process this finding. Based on direction from regional management to use NRC Manual Chapter 0609, Appendix M, "Significance Determination Process Using Qualitative Criteria (issue date April 12, 2012)," the finding was determined to have very low safety significance (Green) because of a bounding qualitative evaluation. In this case, a prior similar violation's significance bounded this finding's significance. The prior similar violation, which occurred at Comanche Peak (NCV 05000445/2011004-02), was determined to have very low safety significance because more than 20 percent of the license reactivation records reviewed contained these deficiencies as processed under the last revision to NRC Manual Chapter 0609, Appendix I (issue date August 22, 2005).

This finding was determined to have a cross-cutting aspect in the area of human performance, associated with resources, because the licensee failed to ensure complete, accurate, and up-to-date procedures are available and adequate to assure nuclear safety. Specifically, the licensee failed to specify in Procedure 1.3.1 (Revision 108, revised September 26, 2012) what plant areas must be included to meet the requirements of a complete plant tour [H.2(c)].

Enforcement. Title 10 CFR 55.53, "Conditions of License," states, in part, that if a licensed operator has not been actively performing the functions of an operator or senior operator, the licensed operator may not resume activities authorized by a license issued under this part except as permitted by Title 10 CFR 55.53(f). Title 10 CFR 55.53(f)(2) states, in part, that the forty hours must have included a complete tour of the plant. Contrary to the above, two inactive licensed operators failed to perform the complete plant tour specified in Title 10 CFR 55.53(f) prior to reactivation of their licenses. Specifically, from October 2010 to October 2012, the licensee failed to ensure that the inactive licensed operators performed a complete plant tour in accordance with regulations and industry standards. Because this was of very low safety significance and was entered into the licensee's corrective action program as Action Request 274726, this violation is being treated as a Green non-cited violation, consistent with Section 2.3.2 of the NRC Enforcement Policy: NCV 05000397/2013002-02, "Failure to Ensure that All License Conditions are Met for Licensed Operators."

.3 Failure to Maintain the Simulator in Accordance with ANSI/ANS 3.5-2009

Introduction. The inspectors identified a Green finding associated with the addressing noticeable differences between the simulator and the plant in accordance with the standards of ANSI/ANS 3.5-1998 and -2009. Specifically, there was a failure to correct a difference in the operation of recirculation pumps identified in 2006 while conducting transient testing prescribed by the ANSI standard. In addition, there was a failure to install a simulator modification to reflect an actual plant modification relevant to operator training within 24 months.

Description. In order to maintain an NRC approved simulation facility, each licensee is required to test, modify, and maintain the facility in accordance with an approved standard. The licensee committed to maintaining their simulator in accordance with industry standard ANSI/ANS 3.5, “Nuclear Power Plant Simulators for Use in Operator Training and Examination.” As part of this, the licensee is required to correct noticeable differences between the simulator and the reference plant or be able to provide a training needs assessment prepared by the criteria provided in Section 4.2.1.4 (stated in Sections 4.2.1.1 through 4.2.1.3). Also, for reference plant modifications determined to be relevant to the operator training program shall be implemented on the simulator within 24 months of the reference unit’s modification in-service date (Section 5.3.1.2). There are two examples of compliance issues with the standard:

Example 1: In 2006, while performing simulator transient performance testing in accordance Appendix B, Section B.2.2.1 of ANSI/ANS 3.5, a noticeable difference was discovered associated with control of the recirculation system. Transient test (7), “Maximum Rate Power Ramp (Master Recirculation Flow Control in ‘Manual’) Down to ~75% and Back Up to 100%,” tests the simulator response to a rapid decrease in recirculation flow. The licensee identified that the reactor power during the down power transient went below 75 percent by an additional 15 percent, when it was observed that similar down power evolutions in the plant resulted in a transient going below the target power by 1 to 5 percent. The noticeable difference was documented in simulator Discrepancy Report DR 06-0278. To aide in licensed operator training, it was also detailed in a document called “Plant vs. Simulator Differences that Have a Potential to

Affect Simulator Training" (referred to in following text as the "simulator differences list"). To date, this noticeable difference has been maintained on the simulator differences list. A revision of the "simulator differences list" on January 8, 2012, advises licensed operators conducting fast power/flow reductions using the recirculation system to "let off earlier in the power decrease than they would in the plant." Analysis of the noticeable difference versus other computer models and data from another BWR plant have been conducted, but these still have not corrected the noticeable difference, which is still annotated in the simulator differences list with the quotation provided as of January 2, 2013.

To determine if there was a basis for not correcting the difference to date, the NRC requested a copy of a training needs assessment for this issue in January 2013. On February 12, 2013, the licensee responded that they did not have documentation that constituted a training needs assessment as described in Section 4.2.1.4 of the ANSI standard. A copy of Simulator Review Board (SRB) meeting minutes was provided from May 23, 2012, where this issue was discussed. The attendees discussed whether the continued existence of the noticeable difference affected operator training negatively, but there was no discussion of whether it impacted the actions to be taken by the operator in the simulator. Both of these topics should have been reviewed per the applicable section of the ANSI standard (Section 4.2.1.4).

Based on this request, the licensee prepared a training needs assessment for this issue, dated February 12, 2013. This revealed that the reason that licensed operators have been trained to alter their approach to conducting such down power maneuvers is different in the simulator to avert entering the Area of Increased Awareness (AIA) region of the power to flow map. Section 4.2.1.4 of the ANSI standard states that noticeable differences between the simulator and the reference plant that "do not impact the actions to be taken by the operator or do not detract from training are acceptable." Based on documentation reviewed, this noticeable difference has impacted actions that licensed operators take in the simulator that would not be taken in the reference plant. In accordance with the standard, living with this noticeable difference is not acceptable. Therefore, to be in accordance with Sections 4.2.1.1 through 4.2.1.3 of the standard, the licensee must correct this noticeable difference. It has not been corrected as of the time of this inspection.

Example 2: In June 2009, the 3D Monicore program was installed in the reference plant. This program is used by licensed operators to maintain compliance with Technical Specification 3.4.1, "Recirculation Loops Operating." It provides the control room with data used to determine where the reactor is being operated with respect to their core thermal limits. Since this program is used by operators to properly implement their technical specifications, it was a reference unit modification that is relevant to the operator training program.

Section 5.3.1.2 of the ANSI standard says that reference unit modifications determined to be relevant to the operator training program shall be implemented on the simulator within 24 months of the reference unit's modification in-service date or earlier, if warranted by a training needs assessment. Based on review of documentation in the licensee's corrective action program (Action Requests 232189 and 178926), the 3D

Monicore Program installed in the plant in June 2009 was installed in the simulator on June 29, 2012. NRC inspectors asked to review a training needs assessment on this issue, but the licensee had no training needs assessment prepared for this noticeable difference.

NRC inspectors asked the licensee if any request for exemption from the ANSI standard was submitted to NRC headquarters to account for any issues with meeting this requirement. There is allowance for this provided in Section D of Regulatory Guide 1.149. Based on feedback provided by the licensee on December 11, 2012, no request for an exemption from the ANSI standard had been requested.

Both of these examples show that the licensee needs to improve their evaluation of noticeable simulator differences that are taking some time to resolve to see if they can detract from operator training or impact actions taken by licensed operators in the control room. The licensee has documented this issue in Action Request 277631.

Analysis. Failure to correct noticeable differences between the simulator and the plant that were relevant to operator training in accordance with the ANSI/ANS 3.5 standard (-1998 and -2009 revisions) was a performance deficiency. The performance deficiency is more than minor because it adversely impacted the human performance attribute of the Mitigating Systems Cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Additionally, if left uncorrected, the performance deficiency could have become more significant in that not correcting noticeable differences between the simulator and the reference plant can both leave the potential for negative training of licensed operators and call into question the ability to conduct valid licensing examinations with the simulator. Using Manual Chapter 0609, “Significance Determination Process,” Attachment 4, Tables 1 and 2 worksheets (issue date June 19, 2012), and the corresponding Appendix I, “Licensed Operator Requalification Significance Determination Process (SDP),” Flowchart Block #14 (issue date December 6, 2011), the finding was determined to have very low safety significance (Green) because the issue dealt with deficiencies associated with simulator testing, modifications, and maintenance, and there was no actual plant event caused by the issue with maintaining the simulator.

This finding has a cross-cutting aspect in the problem identification and resolution area associated with their corrective action program - taking appropriate corrective actions because the licensee did not take appropriate actions to address adverse trends in a timely manner. Assessment groups, including an NRC inspection team in 2010, expressed concern over the lack of action to resolve these issues (documented in Action Request 232189). This provided an opportunity for the licensee to review their basis for delaying correction of these issues to address the concerns about whether management’s priority was maintaining simulator fidelity or budget as a priority. However, the actions of the licensee showed that they didn’t re-assess their assumptions and take adequate action based on this. Instead, the delays in scheduling resolution on these issues continued.

For the 3D Monicore installation, the licensee incorrectly decided that the 24 month installation requirement in the ANSI standard did not apply to the situation, so they exceeded this time in completing the installation without requesting an NRC exemption. For the issue with the recirculation system operation, it was communicated to the NRC in 2010 that it would be corrected by the end of fiscal year 2012. However, it is currently scheduled for completion in July 2013 [P.1(d)].

Enforcement. No violation of regulatory requirements was identified. Because this finding does not involve a violation and has very low safety significance, it is identified as FIN 05000397/2013002-03: "Failure to Address Noticeable Differences in the Simulator in Accordance with ANSI/ANS 3.5-1998 and -2009."

1R12 Maintenance Effectiveness (71111.12)

a. Inspection Scope

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

- January 16, 2013, electrical distribution panel E-DP-S1/7 following erratic indication of battery charger E-C1-7
- March 12, 2013, review of 10 CFR 50.65(a)(3) periodic evaluation

The inspectors reviewed events such as where ineffective equipment maintenance has 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)
- Characterizing system reliability issues for performance
- Charging unavailability for performance
- Trending key parameters for condition monitoring
- Ensuring proper classification in accordance with 10 CFR 50.65(a)(1) or -(a)(2)
- Verifying appropriate performance criteria for structures, systems, and components classified as having an adequate demonstration of performance through preventive maintenance, as described in 10 CFR 50.65(a)(2), or as requiring the establishment of appropriate and adequate goals and corrective

actions for systems classified as not having adequate performance, as described in 10 CFR 50.65(a)(1)

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

These activities constitute completion of two quarterly maintenance effectiveness samples as defined in Inspection Procedure 71111.12-05.

b. Findings

No findings were identified.

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

a. Inspection Scope

The inspectors reviewed licensee personnel'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:

- February 4, 2013, Yellow risk during planned surveillance testing of standby liquid control and planned transfer of reactor protection system A to its backup source for maintenance

- February 19, 2013, Orange risk during planned high pressure core spray system outage

- February 22, 2013, Unplanned Yellow risk entry during fuel movement in the spent fuel pool

The inspectors selected these activities based on potential risk significance relative to the reactor safety cornerstones. As applicable for each activity, the inspectors verified that licensee personnel performed risk assessments as required by 10 CFR 50.65(a)(4) and that the assessments were accurate and complete. When licensee personnel performed emergent work, the inspectors verified that the licensee personnel promptly assessed and managed plant risk. 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 the technical specification requirements and inspected portions of redundant safety systems, when applicable, to verify risk analysis assumptions were valid and applicable requirements were met. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of three maintenance risk assessments and emergent work control inspection samples as defined in Inspection Procedure 71111.13-05.

b. Findings

No findings were identified.

1R15 Operability Evaluations and Functionality Assessments (71111.15)

a. Inspection Scope

The inspectors reviewed the following assessments:

- January 14, 2013, Action Request 276937 documenting a lack of preventative maintenance on electrical circuit breaker E-CB-71/7AB2
- January 15, 2013, Action Request 277443 documenting calculation E/I-02-01-1002 not being adequate to support the intended function of three reactor core isolation cooling pressure switches
- February 15, 2013, Action Request 278932 documenting an inadequate method for measuring sediment in the ultimate heat sink
- February 22, 2013 Action Request 279213 documenting degraded thermal performance of diesel cooling water heat exchangers associated with diesel generator 1

The inspectors selected these operability and functionality assessments based on the risk significance of the associated components and systems. The inspectors evaluated the technical adequacy of the evaluations to ensure technical specification operability was properly justified and to verify 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 technical specifications and FSAR 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. 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. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of four operability evaluations inspection samples as defined in Inspection Procedure 71111.15-05.

b. Findings

No findings were identified.

1R18 Plant Modifications (71111.18)

.1 Temporary Modifications

a. Inspection Scope

To verify that the safety functions of important safety systems were not degraded, the inspectors reviewed the temporary modification identified as Engineering Change 11543, “Reactor Building Airlock Door Interlock Indication”.

The inspectors reviewed the temporary modification and the associated safety-evaluation screening against the system design bases documentation, including the FSAR and the technical specifications, and verified that the modification did not adversely affect the system operability/availability. The inspectors also verified that the installation and restoration were consistent with the modification documents and that configuration control was adequate. Additionally, the inspectors verified that the temporary modification was identified on control room drawings, appropriate tags were placed on the affected equipment, and licensee personnel evaluated the combined effects on mitigating systems and the integrity of radiological barriers.

These activities constitute completion of one sample for temporary plant modifications as defined in Inspection Procedure 71111.18-05.

b. Findings

No findings were identified.

1R19 Post-Maintenance Testing (71111.19)

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:

- January 30, 2013, postmaintenance testing of residual heat removal pump 2C following replacement of its associated circuit breaker
- February 12, 2013, postmaintenance testing of air damper WMA-AD-51A1 following motor replacement
- February 21, 2013, postmaintenance testing of high pressure core spray system diesel generator following planned maintenance
- March 18, 2013, postmaintenance testing of diesel generator 1 following cleaning of diesel cooling water heat exchangers

- March 21, 2013, postmaintenance testing of control room HVAC cooling coil WMA-CC-51A1 following cleaning

The inspectors selected these activities based upon the structure, system, or component's ability to affect 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

The inspectors evaluated the activities against the technical specifications, the FSAR, 10 CFR Part 50 requirements, licensee procedures, and various NRC generic communications to ensure that the test results adequately ensured that the equipment met the licensing basis and design requirements. In addition, the inspectors reviewed corrective action documents associated with post-maintenance tests to determine whether the licensee was identifying problems and entering them in the corrective action program and that the problems were being corrected commensurate with their importance to safety. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of five post-maintenance testing inspection samples as defined in Inspection Procedure 71111.19-05.

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors reviewed the FSAR, procedure requirements, and technical specifications to ensure that the surveillance activities listed below demonstrated that the systems, structures, and/or components tested were capable of performing their intended safety functions. The inspectors either witnessed or reviewed test data to verify that the significant surveillance test attributes were adequate to address the following:

- Preconditioning

- Evaluation of testing impact on the plant

- Acceptance criteria

- Test equipment
- Procedures
- Jumper/lifted lead controls
- Test data
- Testing frequency and method demonstrated technical specification operability
- Test equipment removal
- Restoration of plant systems
- Fulfillment of ASME Code requirements
- Updating of performance indicator data
- Engineering evaluations, root causes, and bases for returning tested systems, structures, and components not meeting the test acceptance criteria were correct
- Reference setting data
- Annunciators and alarms setpoints

The inspectors also verified that licensee personnel identified and implemented any needed corrective actions associated with the surveillance testing.

- January 10, 2013, ISP-MS-Q901, “RPS, Reactor Water Level Low, Level 3-Div-1-CFT/CC,” Revision 10
- February 5, 2013, OSP-SLC/IST-Q701, “Standby Liquid Control Pumps Operability Test,” Revision 23
- February 22, 2013, OSP-HPCS/IST-Q701, “HPCS System Operability Test,” Revision 42
- March 2, 2013, TSP-CR/HVAC-B101, ”Control Room AC Heat Load Capacity Test - Div 1,” Revision 1

Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of four surveillance testing inspection samples as defined in Inspection Procedure 71111.22-05.

b. Findings

Introduction. The inspectors identified a Severity Level IV non-cited violation of 10 CFR 50.59, "Changes, Tests, and Experiments," because the licensee failed to obtain a license amendment, pursuant to 10 CFR 50.90, prior to implementing a change to the control room heating, ventilation and air conditioning system (HVAC). Specifically, through the course of several final safety analysis report amendments, the licensee changed the control room habitability requirements from 75 degrees Fahrenheit (F) ± 3 degrees F to 85 degrees F effective temperature without obtaining a license amendment.

Description. In February 1973, Columbia Generating Station (formerly Washington Public Power Supply System, Washington Nuclear Project Unit 2) submitted their Preliminary Safety Analysis Report (PSAR) to the NRC. Preliminary Safety Analysis Report, Section 9.4, "Main Control Room/Cable Spreading Room/Critical Switchgear Area HVAC System," stated that the standby service water system is used as an emergency cooling medium and that in the event of an emergency the standby service water system will maintain the control room temperature below 104 degrees F, which is the temperature limit for maintaining equipment performance.

During the initial licensing of Columbia Generating Station, the NRC staff expressed concern about the 104 degrees F maximum temperature for the main control room. In response to the NRC staff's concern, the licensee committed to provide seismic Category I, redundant, environmentally qualified water chillers for control room heating, ventilation, and air conditioning to maintain ambient conditions compatible with the comfort zone, as defined by the American Society of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE). Based on the addition of these chillers, the NRC staff concluded in NUREG-0892, "Safety Evaluation Report related to the operation of WPPSS Nuclear Project No. 2," dated December 1983, that the requirements of General Design Criteria (GDC) 19, "Control Room," with respect to ambient operator/equipment environmental conditions would be satisfied. The NRC modified the operating license for Columbia Generating Station by adding Condition 2.C.(21) which required these emergency chillers be operable for control room HVAC prior to May 31, 1984. In November 1984, Amendment 35 to the Final Safety Analysis Report (FSAR) was issued which reflected installation of the control room emergency chillers and updated Section 9.4 to change the habitability temperature limit for the main control room to 75 degrees F ± 3 degrees F.

On October 28, 1988, the licensee performed FSAR Change 88-059 which was used to support FSAR Amendment 40 issued in September 1989. This amendment changed the habitability temperature limit for the main control room in FSAR Section 9.4 from 75 degrees F ± 3 degrees F to 85 degrees F. The licensee determined in their 10 CFR 50.59 screening that this FSAR update did not require a safety evaluation since the change was only intended to "properly relate the control room cooling system and associated design bases." The inspectors reviewed this FSAR change and noted that while 85 degrees F did correlate to the limit in Technical Specification Surveillance Requirement 4.7.2, "Control Room Emergency Filtration System," the 85 degrees F limit

fell outside of the ASHRAE comfort zone. Consequently, the inspectors determined that the change as implemented in FSAR Amendment 40 established a control room HVAC design outside of those previously approved in the safety evaluation for Columbia Generating Station (NUREG-0892). The inspectors also determined that FSAR Amendment 40 deviated from a design previously reviewed and approved by the NRC as part of NUREG-0737, “Clarification of TMI Action Plan Requirements.” NUREG-0737, Action Item I.D.1, “Control Room Design Reviews”, outlined control room habitability requirements and used NUREG-0700, "Guidelines for Control Room Design Review," to establish the required capability of the control room HVAC system. Item 6.1.5.1 of NUREG-0700 specified that the HVAC [system] for a control room should be capable of maintaining temperature at 73 degrees F to 78 degrees F with a range in relative humidity of 20 percent to 60 percent. These limits directly correlate to the ASHRAE Standard 55 (1974) comfort zone limits. The ASHRAE limits are the same limits used as a basis for approval of the operating license for Columbia Generating Station as documented in NUREG-0892. The NRC approved the licensee’s detailed control room design review by letter dated July 9, 1990, and specifically stated that any changes to the control room design should be submitted to the NRC for approval. The inspectors noted that the licensee did not seek NRC approval for changes to the control room HVAC design implemented under FSAR Change 88-059.

On May 11, 1998, the licensee again updated the Columbia Generating Station FSAR under LDCN FSAR 97-163, to modify the temperature limit for the main control room specified in Section 9.4 from 85 degrees F to 85 degrees F effective temperature. Effective temperature is based on a combination of wet bulb and dry bulb temperatures. The use of 85 degrees F effective temperature would allow the licensee to assume design inputs of up to 105 degrees F dry bulb and 71 degrees F wet bulb when evaluating control room habitability. The licensee considered this an editorial change which did not require a 10 CFR 50.59 evaluation. Since calculations using only service water supplying the control room air conditioning cooling coil determined that the main control room in a post accident environment would be 104 degrees dry bulb and 71 degrees wet bulb for an effective temperature 84 degrees F, the licensee used the new limit of 85 degrees F effective temperature to justify that the emergency chillers do not support a safety-related function. The licensee’s interpretation of Technical Specifications for Limiting Condition for Operation 3.7.4, “Control Room HVAC,” also used the 85 degrees F effective temperature to eliminate the need for the emergency chillers to be operable to support control room habitability. The inspectors determined that the change to the control room from 85 degrees F to 85 degrees F effective temperature was not an editorial change and did result in a reduction in margin of safety, which at the time of implementation, would have been considered an unreviewed safety question. Similar to FSAR Change 88-059, LDCN FSAR 97-163 did not consider deviations from control room HVAC design previously approved by the NRC staff in the Columbia Generating Station Safety Evaluation Report (NUREG-0892) or the NRC staff’s approval of the detailed control room design review approved as part of Three Mile Island Action Plan Requirements (NUREG-0737).

Following identification of this issue, the licensee began implementing changes to restore the wording in the FSAR to reflect the previously approved control room HVAC

design. Additionally, the licensee implemented changes to technical specification interpretation that would require the control room HVAC system be capable of maintaining 85 degrees F dry bulb to meet Limiting Condition for Operation 3.7.4, "Control Room HVAC." This issue was entered into the licensee's corrective action program as Action Request AR 280119.

Analysis. The inspectors determined that the failure to obtain a license amendment prior to implementing a proposed change to the main control room design requirements was a violation of 10 CFR 50.59(c)(2). The violation was evaluated using Section 2.2.4 of the NRC Enforcement Policy, because the violation may impact the ability for the NRC to perform its regulatory oversight function. In accordance with the NRC Enforcement Policy, the significance determination process was used to inform the significance of the failure to obtain a license amendment prior to implementing a proposed change to the main control room design requirements. Using Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," the inspectors determined the finding was of very low safety significance because the finding does not represent a degradation of the radiological barrier function provided for the control room and does not represent a degradation of the barrier function of the control room against smoke or a toxic atmosphere. Therefore, in accordance with Section 6.1.d of the NRC Enforcement Policy, the significance was determined to be at Severity Level IV, since the impact of the incorrect changes was evaluated as having very low safety significance by the significance determination process. This issue was entered into the licensee's corrective action program as AR 280119, and therefore, this violation is treated as SL-IV NCV consistent with Section 2.3.2 of the NRC Enforcement Policy. This violation did not have a cross-cutting aspect because it was strictly associated with a traditional enforcement violation.

Enforcement. Title 10 CFR 50.59(c)(2), "Changes, Tests and Experiments", (1988 and 1998 Revisions), requires, in part, that a licensee who desires to make a change in the facility or the procedures described in the safety analysis report which involve an unreviewed safety question shall submit an application for amendment of his license pursuant to § 50.90. Title 10 CFR 50.59(a)(2) states, in part, that a proposed change, test, or experiment shall be deemed to involve an unreviewed safety question if the margin of safety as defined in the basis for any technical specification is reduced. Contrary to the above, on October 28, 1988, and May 11, 1998, the licensee implemented a change to the facility as described in the Safety Analysis Report which involved an unreviewed safety question without first submitting an application for a license amendment pursuant to § 50.90. Specifically, FSAR Change 88-059 and LDCN FSAR 97-163 modified the temperature limit for the main control room from the previously approved limits established in NUREG-0892, "Safety Evaluation Report related to the operation of WPPSS Nuclear Project No. 2", dated December 1983, and the NRC staff's approval of the licensee's detailed control room design dated July 9, 1990. The new limits established by the licensee in FSAR Change 88-059 and LDCN FSAR 97-163 were non-conservative and resulted in a reduction in the margin of safety as defined in the basis for any technical specification and the licensee failed to obtain a license amendment pursuant to § 50.90 prior to implementing the proposed changes. Because this violation was determined to be of very low safety significance and has

been entered into the licensee's corrective action program as Action Request AR 280119, this violation is being treated as a non-cited violation consistent with section 2.3.2 of the NRC Enforcement Policy: NCV 05000397/2013002-04, "Failure to Obtain NRC Approval for Changes to Control Room HVAC Requirements."

Cornerstone: Emergency Preparedness

1EP4 Emergency Action Level and Emergency Plan Changes (71114.04)

a. Inspection Scope

The NSIR headquarters staff performed an in-office review of the latest revisions of various Emergency Plan Implementing Procedures (EPIPs) and the Emergency Plan located under ADAMS accession number ML13032A163 as listed in the Attachment.

The licensee determined that in accordance with 10 CFR 50.54(q), the changes made in the revisions resulted in no reduction in the effectiveness of the Plan, and that the revised Plan continued to meet the requirements of 10 CFR 50.47(b) and Appendix E to 10 CFR Part 50. The NRC review was not documented in a safety evaluation report and did not constitute approval of licensee-generated changes; therefore, this revision is subject to future inspection. The specific documents reviewed during this inspection are listed in the Attachment.

b. Findings

No findings were identified.

1EP6 Drill Evaluation (71114.06)

.1 Emergency Preparedness Drill Observation

a. Inspection Scope

The inspectors evaluated the conduct of a routine licensee emergency drill on February 26, 2013, to identify any weaknesses and deficiencies in classification, notification, and protective action recommendation development activities. The inspectors observed emergency response operations in the Technical Support Center to determine whether the event classification, notifications, and protective action recommendations were performed in accordance with procedures. The inspectors also attended the licensee drill critique to compare any inspector-observed weakness with those identified by the licensee staff in order to evaluate the critique and to verify whether the licensee staff was properly identifying weaknesses and entering them into the corrective action program. As part of the inspection, the inspectors reviewed the drill package and other documents listed in the attachment.

These activities constitute completion of one sample as defined in Inspection Procedure 71114.06-05.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

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

4OA1 Performance Indicator Verification (71151)

.1 Data Submission Issue

a. Inspection Scope

The inspectors performed a review of the performance indicator data submitted by the licensee for the fourth quarter 2012 performance indicators for any obvious inconsistencies prior to its public release in accordance with Inspection Manual Chapter 0608, "Performance Indicator Program."

This review was performed as part of the inspectors' normal plant status activities and, as such, did not constitute a separate inspection sample.

b. Findings

No findings were identified.

.2 Unplanned Scrams per 7000 Critical Hours (IE01)

a. Inspection Scope

The inspectors sampled licensee submittals for the unplanned scrams per 7000 critical hours performance indicator for the period from the first quarter 2012 through the fourth quarter 2012. To determine the accuracy of the performance indicator data reported during those periods, the inspectors used definitions and guidance contained in NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6. The inspectors reviewed the licensee's operator narrative logs, issue reports, event reports, and NRC integrated inspection reports for the period of January 2012 through December 2012, to validate the accuracy of the submittals. The inspectors also reviewed the licensee's issue report database to determine if any problems had been identified with the performance indicator data collected or transmitted for this indicator and none were identified. Specific documents reviewed are described in the attachment to this report.

These activities constitute completion of one unplanned scrams per 7000 critical hours sample as defined in Inspection Procedure 71151-05.

b. Findings

No findings were identified.

.3 Unplanned Power Changes per 7000 Critical Hours (IE03)

a. Inspection Scope

The inspectors sampled licensee submittals for the unplanned power changes per 7000 critical hours performance indicator for the period from the first quarter 2012 through the fourth quarter 2012. To determine the accuracy of the performance indicator data reported during those periods, the inspectors used definitions and guidance contained in NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6. The inspectors reviewed the licensee's operator narrative logs, issue reports, maintenance rule records, event reports, and NRC integrated inspection reports for the period of January 2012 through December 2012, to validate the accuracy of the submittals. The inspectors also reviewed the licensee's issue report database to determine if any problems had been identified with the performance indicator data collected or transmitted for this indicator and none were identified. Specific documents reviewed are described in the attachment to this report.

These activities constitute completion of one unplanned transients per 7000 critical hours sample as defined in Inspection Procedure 71151-05.

b. Findings

No findings were identified.

.4 Unplanned Scrams with Complications (IE04)

a. Inspection Scope

The inspectors sampled licensee submittals for the unplanned scrams with complications performance for the period from the first quarter 2012 through the fourth quarter 2012. To determine the accuracy of the performance indicator data reported during those periods, the inspectors used definitions and guidance contained in NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6. The inspectors reviewed the licensee's operator narrative logs, issue reports, event reports, and NRC integrated inspection reports for the period of January 2012 through December 2012, to validate the accuracy of the submittals. The inspectors also reviewed the licensee's issue report database to determine if any problems had been identified with the performance indicator data collected or transmitted for this indicator and none were identified. Specific documents reviewed are described in the attachment to this report.

These activities constitute completion of one unplanned scrams with complications sample as defined in Inspection Procedure 71151-05.

b. Findings

No findings were identified.

4OA2 Problem Identification and Resolution (71152)

.1 Routine Review of Identification and Resolution of Problems

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 corrective action program at an appropriate threshold, that adequate attention was being given to timely corrective actions, and that adverse trends were identified and addressed. The inspectors reviewed attributes that included the complete and accurate identification of the problem; the timely correction, commensurate with the safety significance; the evaluation and disposition of performance issues, generic implications, common causes, contributing factors, root causes, extent of condition reviews, and previous occurrences reviews; and the classification, prioritization, focus, and timeliness of corrective actions. Minor issues entered into the licensee's corrective action program because of the inspectors' observations are included in the attached list of documents reviewed.

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 were identified.

.2 Daily Corrective Action Program Reviews

a. Inspection Scope

In order to assist with the identification of repetitive equipment failures and specific human performance issues for follow-up, the inspectors performed a daily screening of items entered into the licensee's corrective action program. The inspectors accomplished this through review of the station's daily corrective action documents.

The inspectors performed these daily reviews as part of their daily plant status monitoring activities and, as such, did not constitute any separate inspection samples.

b. Findings

No findings were identified.

.3 Selected Issue Follow-up Inspection

a. Inspection Scope

During a review of items entered in the licensee's corrective action program, the inspectors recognized a corrective action item documenting a discrepancy in the minimum flow required from the reactor core isolation cooling system in an emergency. The inspectors were concerned that the reactor core isolation cooling system may have been incapable of providing the necessary flow during an emergency. The inspectors reviewed design basis information and calculations and determined the reactor core isolation cooling system was capable of providing the required flow necessary during an emergency.

These activities constitute completion of one in-depth problem identification and resolution sample as defined in Inspection Procedure 71152-05.

b. Findings

No findings were identified.

4OA3 Followup of Events and Notices of Enforcement Discretion (71153)

.1 (Closed) Licensee Event Reports 2012-004-00, 2012-004-01, and 2012-004-02, Failure to meet Technical Specifications completion time for offsite power

On August 22, 2012, the inspectors were walking down the main control board and observed the feeder breaker from the startup transformer to non-safety related electrical bus SM-1 (E-CB-S/1) was out of service for planned maintenance. With this breaker out of service the licensee was not capable of meeting the acceptance criteria in Procedure OSP-ELEC-W101, "Offsite Station Power Alignment Check," Revision 21, which is credited for compliance with Surveillance Requirement 3.8.1.1. Per the guidance given in the "Use & Application" section of technical specifications, this constituted an LCO condition not met and required the licensee to take the Required Actions specified in LCO 3.8.1. The licensee failed to take the Required Actions within the Completion Time specified in LCO 3.8.1, Conditions A and F. See Section 1R04 of NRC Inspection Report 05000397/2012004 for a discussion of an NRC identified non-cited violation associated with this issue. The inspectors completed a review of the licensee event reports and did not identify any more than minor violations of regulatory requirements or more than minor findings associated with this event. The inspectors did note that the extent of condition associated with Licensee Event Report 2012-004-001 did not identify all of the circuit breakers which could impact the ability of the startup transformer to provide power to safety-related electrical distribution buses. The licensee submitted Licensee Event Report 2012-004-02 based on the inspectors concerns. These licensee event reports are closed.

4OA6 Meetings, Including Exit

Exit Meeting Summary

The inspectors debriefed Mr. B. MacKissock, Plant General Manager, and other members of the licensee's staff of the results of the licensed operator requalification program inspection on November 29, 2012. The results of the inspection were telephonically exited with Mr. MacKissock and other members of your staff on March 28, 2013. The licensee representatives acknowledged the findings presented. The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

On April 2, 2013, the inspectors presented the inspection results to Mr. M. Reddemann, Chief Executive Officer, and other members of the licensee staff. The licensee acknowledged the issues presented. The inspector asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

4OA7 Licensee-Identified Violations

The following violation of very low safety significance (Green) was identified by the licensee and is a violation of NRC requirements which meets the criteria of the NRC Enforcement Policy for being dispositioned as a non-cited violation.

.1 Technical Specification 5.4.1.a, “Procedures,” requires, in part, that written procedures be established, implemented, and maintained as recommended in Regulatory Guide 1.33, Revision 2, Appendix A, dated February 1978. Paragraph 8 of Regulatory Guide 1.33, Appendix A, requires specific procedures for surveillance tests. Contrary to the above, prior to February 14, 2013, Procedure OSP-SW-Q101, “SW Spray Pond Average Sediment Depth Measurement,” Revisions 0-8, were inadequate because the tool specified for use during the surveillance was inadequate for measuring the sediment in the service water basin. This finding was entered into the corrective action program as Action Request AR 278932. This finding was determined to be of very low safety significance because the procedure did not result in a loss of operability for the standby service water system.

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

V. Bhardwaj, Manager, System Engineer
A. Black, Operations General Manager
T. Borak, Work Week Manager
S. Brown, Manager, Operations
M. Davis, Manager, Radiation Protection
C. England, Manager, Organization Effectiveness
D. Gregoire, Manager, Regulatory Affairs
B. Guldemond, Manager, Recovery
L. Williams, Licensing Supervisor
R. Guthrie, Continuing Training Supervisor
G. Hettel, Vice President, Operations
A. Javorik, Vice President, Engineering
B. MacKissock, Plant General Manager
J. Moon, Manager, Training
J. Pierce, Manager, Chemistry
B. Sawatzke, Chief Nuclear Officer
K. Smart, Operations Training Manager
R. Torres, Manager, Quality

NRC Personnel

J. Groom, Senior Resident Inspector
M. Hayes, Resident Inspector

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

None.

Opened and Closed

05000397-2013002-01	NCV	Failure to Maintain Licensed Operator Examination Integrity (Section 1R11)
05000397-2013002-02	NCV	Failure to Ensure that All License Conditions are Met for Licensed Operators (Section 1R11)
05000397-2013002-03	FIN	Failure to Address Noticeable Differences in the Simulator in Accordance with ANSI/ANS 3.5-1998 and -2009 (Section 1R11)
05000397-2013002-04	SLIV	Failure to Obtain NRC Approval for Changes to Control Room HVAC Requirements (Section 1R22)

Closed

05000397-2012-004-00	LER	Failure to meet Technical Specifications completion time for offsite power
05000397-2012-004-01	LER	Failure to meet Technical Specifications completion time for offsite power
05000397-2012-004-02	LER	Failure to meet Technical Specifications completion time for offsite power

Discussed

None.

LIST OF DOCUMENTS REVIEWED

Section 1R04: Equipment Alignment

PROCEDURES

NUMBER	TITLE	REVISION
SOP-DG2-LU	Emergency Diesel Generator (DIV 2) Valve and Power Supply Lineup	3
SOP-DG2-STBY	Emergency Diesel Generator (DIV 2) Standby Lineup	18
SOP-RHR-LU	RHR System Valve and Breaker Lineup	3

Section 1R05: Fire Protection

PROCEDURES

NUMBER	TITLE	REVISION
PFP-RB-548	Reactor 548	3
PFP-DG-Building	Diesel Generator Building	3
PFP-RB-501	Reactor 501	3

ACTION REQUESTS

280140

Section 1R11: Licensed Operator Requalification Program

PROCEDURES

NUMBER	TITLE	REVISION
ABN-ROD	Control Rod Faults	23
TDI-02	Systematic Approach to Training	17
TDI-08	Licensed Operator Requalification Program	9
TDI-06	Simulator Management	12
OI-69	Time Critical Operator Actions	0
SWP-TQS-02	Training Committees	10
ABN-CORE	Unplanned Core Operating Conditions	14
9.3.12	Plant Power Maneuvering	30
3.2.6	Power Maneuvering	3
1.3.1	Operating Policies, Programs and Practice	111

MISCELLANEOUS DOCUMENTS

NUMBER	TITLE	REVISION / DATE
LR002154	Cycle 13-2 Scenario	
	Energy Northwest Condition Evaluation for AR 24871	
	Energy Northwest Condition Evaluation for AR 251613	
	Root Cause Evaluation – Unmonitored Letdown of Reactor Water to the Under Vessel Sump Area (AR 245507)	0
	Energy Northwest Condition Evaluation for AR 248226	
	Apparent Cause Evaluation – Inadequate Immediate Operability Determination	2
	HU/EPT Operations Training Content Since 2010 Plant Evaluation	
CGS-FTS-0168	Columbia Generating Station Alternate Source Term	2

	Simulator Performance Test 02 – Mid Power Range Stability Test	October 15, 2012
	B1 Apparent Cause Evaluation – Control Rod 3447 Not Declared Inoperable and Disarmed as Required (AR 243588)	3
	Root Cause Evaluation – Continued Decline in Operational Human Performance at Columbia Generating Station (AR 248578)	2
	Apparent Cause Evaluation – Inadequate Immediate Operability Determination (AR 266371)	2
	Apparent Cause B2 Evaluation – HPCS 125 VDC Battery Declared Inoperable Without Required Testing Being Performed (AR 264204)	1
LR002039	Columbia Generating Station Classroom Training – Updates Cycle 11-03	0
LR001915	Columbia Generating Station Classroom Training – Outage Overview	2
LR000058	Columbia Generating Station Classroom Training – Nuclear Boiler Instrumentation (NBI)	5
	Night Order Number 1306	September 10, 2011
LR002105	Columbia Generating Station Classroom Training – Loss of Reactor Building Pressure Control	0
SD000188	Columbia Generating Station System Description – DC Distribution	9 (Minor Revision 2)
LR002100	Columbia Generating Station Simulator Examination	0
LR002088	Columbia Generating Station Simulator Examination	0
LR002011	Columbia Generating Station Simulator Examination	0
LR002079	Job Performance Measure – Start SGT Train A and Take Actions for A Fire in the SGT Charcoal (Simulator) (Alt Path)	0
LO001730	Job Performance Measure – Reactor Feed Pump ‘A’ Quick Restart (SIM) (MT Not on Line)	1

LO001647	Job Performance Measure – Determine if Delta T Cavitation Limit Alarm is Valid (Admin) (TC)	1
LR001508	Job Performance Measure – Perform QEDPS and Determine EAL (SAE) (SRO Only) (TC)	5
LR001565	Job Performance Measure – Respond to Control Room HVAC High Radiation on One Intake (Plant) (Alt Path)	5
LR001563	Job Performance Measure – Reset HPCS DG Mechanical Overspeed Trip (Plant)	3
LR002143 E2	2012 Biennial Reactor Operator Written Exam	0
LR002144 E2	2012 Biennial Senior Reactor Operator Written Exam	0
TT01	Transient Test 01 – Manual Scram from 100% Power	June 28, 2012
TT02	Transient Test 02 – Loss of High Pressure Feedwater	June 28, 2012
TT03	Transient Test 03 – MSIV Closure	June 28, 2012
TT04	Transient Test 04 – Trip of Both Recirc Pumps	June 28, 2012
TT05	Transient Test 05 – Trip of a Single Recirc Pump	September 26, 2012
TT06	Transient Test 06 – Turbine Trip from Low Power	June 28, 2012
TT07	Transient Test 07 – Max Rate Power Ramp	June 28, 2012
TT08	Transient Test 08 – DBA LOCA and LOOP	June 28, 2012
TT09	Transient Test 09 – Maximum Main Steam Line Rupture	June 28, 2012
	2012 Annual Exam Report	December 27, 2012
	Training Needs Assessment, DR 08-0245, “3D Monicore is Not Installed in the Simulator”	February 12, 2013

	Training Needs Assessment, DR 06-0278, "Power Response Differs Between Plant and Simulator for 25% Down Power"	February 12, 2013
	Simulator Review Board Meeting Minutes	May 23, 2012
	Simulator Review Board Meeting Minutes	August 15, 2012
	DR 06-0278 Action Timeline	November 28, 2012

ACTION REQUESTS

178926	232189	236879	237425	237779
238032	239405	239461	239462	239466
243588	245507	248171	248226	248578
249592	251613	264204	266371	269114
269569	274726	274876	277631	277518

Section 1R12: Maintenance Effectiveness

PROCEDURES

NUMBER	TITLE	REVISION
ABN-ELEC-125VDC	Plant BOP, DIV 1, 2, & 3 125VDC Distribution System Failures	9
SYS-4-22	Maintenance Rule Program	4
1.5.11	Maintenance Rule Program	11

ACTION REQUESTS

276873	201091	276935

Section 1R13: Maintenance Risk Assessment and Emergent Work Controls

PROCEDURES

NUMBER	TITLE	REVISION
1.5.14	Risk Assessment and Management for Maintenance/Surveillance Activities	25

1.3.76	Integrated Risk Management	35

Section 1R15: Operability Evaluations

PROCEDURES

NUMBER	TITLE	REVISION
4.601.A4	601.A4 Annunciator Panel Alarms	37
8.4.54	Thermal Performance Monitoring of DCW-HX-1A1 and DCW-HX-1A2	9

CALCULATIONS

NUMBER	TITLE	REVISION
E/I-02-01-1002	Setting Range Determination for Instrument Loop RCIC-PIS-1 and RCIC-PIS-34	
NE-02-91-02	Safe Shutdown Analysis, Electrical Separation	0

MISCELLANEOUS DOCUMENTS

NUMBER	TITLE	REVISION / DATE
	Instrument Master Data Sheet for RCIC-PIS-1	0
Regulatory Guide 1.75	Physical Independence of Electric Systems	1
TM 626	USAEC Regulatory Guide 1.75, Recommendation Concerning Implementation	May 7, 1974
TM 821	USAEC Regulatory Guide 1.75, Revision 1, Recommendation Concerning Implementation	June 2, 1975
WPBR-74-493	W.O. 2808 WPSSS Nuclear Project No. 2 Review of AEC Regulatory Guide 1.75	April 29, 1974
IEEE Std 384-1977	IEEE Standard Criteria for Independence of Class 1E Equipment and Circuits	1977

ACTION REQUESTS

204950	276937	274317	277229	278932
279213	279308	280142	280427	

Section 1R18: Plant Modifications

PROCEDURE

NUMBER	TITLE	REVISION
PPM 1.3.57	Barrier Impairment	29

MISCELLANEOUS DOCUMENT

NUMBER	TITLE	REVISION
EC 11543	Reactor building Airlock Door Interlock Indication	1

ACTION REQUEST

277518

Section 1R19: Post-Maintenance Testing

PROCEDURES

NUMBER	TITLE	REVISION
SOP-RHR-SPC	Suppression Pool Cooling/Spray/Discharge/Mixing	8
10.25.13A	4.16KV Vacuum Breaker Maintenance with Stored Energy Mechanism	14
OSP-ELEC-M703	HPCS Diesel Generator Monthly Operability Test	57

ACTION REQUESTS AND LCO LOGS

279159	LCO 15999	LCO 15879	LCO 15878	

WORK ORDERS

02033924	02021213	02028640	02021214	01190593
02016673	02016674	02029737	02038100	

Section 1R22: Surveillance Testing

PROCEDURES

NUMBER	TITLE	REVISION
ISP-MS-Q901	RPS, Reactor Water Level Low, Level 3 - Div 1 - CFT/CC	10
ISP-MS-Q901	RPS, Reactor Water Level Low, Level 3 - Div 1 - CFT/CC	5

DRAWINGS

NUMBER	TITLE	REVISION / DATE
807E178TC		

MISCELLANEOUS DOCUMENTS

NUMBER	TITLE	DATE
	Plant Tracking LOG 215177	
	FSAR Change 88-059	October 25, 1988
GI2-90-143	Detailed Control Room Design Review (TAC No. 56181)	July 9, 1990
NUREG-0700	Guidelines for Control Room Design Reviews	September 1981
NUREG/CR-3786	A Review of Regulatory Requirements Governing Control Room Habitability Systems	August 1984

PROBLEM EVALUATION REQUESTS

PER 204-0806 PER 290-399

ACTION REQUESTS

22791 00007912 00194355

Section 1EP4: Emergency Action Level and Emergency Plan Changes

MISCELLANEOUS DOCUMENT

TITLE	REVISION
Columbia Generating Station Emergency Plan	58

Section 1EP6: Drill Evaluation

PROCEDURES

NUMBER	TITLE	REVISION
13.1.1	Classifying the Emergency	42
5.1.1	RPV Control	19
3.3.1	Reactor Scram	58
5.1.3	Emergency Depressurization	18
5.2.1	Primary Containment Control	20
5.3.1	Secondary Containment Control	18

Section 4OA1: Performance Indicator Verification

MISCELLANEOUS DOCUMENT

NUMBER	TITLE	REVISION
NEI 99-02	Regulatory Assessment Performance Indicator Guideline	6

Section 4OA2: Identification and Resolution of Problems

MISCELLANEOUS DOCUMENT

NUMBER	TITLE	REVISION
315	Reactor Core Isolation Cooling System	8

ACTION REQUESTS

276394	276557	276601	276610	277008
277341	278846	278939	279114	279164
279213	279977	280602		

Section 4OA7: Licensee-Identified Violations

PROCEDURES

NUMBER	TITLE	REVISION
OSP-SW-Q101	SW Spray pond Average Sediment Depth Measurement	0-8

ACTION REQUEST

278932