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Sincerely,

/RA/

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Docket: 50-397
License: NPF-21

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NRC Inspection Report 05000397/2010003
w/Attachment: Supplemental Information

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C:DRS/OB	C:DRS/PSB1	C:DRS/PSB2	C:DRS/TSB	C:DRP/A	
MHaire	MPShannon	GEWerner	MCHay	WWalker	
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U.S. NUCLEAR REGULATORY COMMISSION

REGION IV

Docket: 05000397
License: NPF-21
Report: 05000397/2010003
Licensee: Energy Northwest
Facility: Columbia Generating Station
Location: Richland, WA
Dates: March 28 through June 26, 2010
Inspectors: R. Cohen, Senior Resident Inspector
M. Hayes, Resident Inspector
P. Elkmann, Senior Emergency Preparedness Inspector
Approved By: W. Walker, Chief, Project Branch A
Division of Reactor Projects

SUMMARY OF FINDINGS

IR 05000397/2010003; 03/28 – 06/26/2010; Columbia Generating Station, Integrated Resident and Regional Report; Operability Evaluations

The report covered a 3-month period of inspection by resident inspectors and an announced baseline inspection by a region-based inspector. One Green noncited violation of very low significance was identified. The significance of most findings is indicated by their color (Green, White, Yellow, or Red) using Inspection Manual Chapter 0609, "Significance Determination Process." 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: Barrier Integrity

- Green. The inspectors reviewed a Green self-revealing noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings" for Energy Northwest's failure to include acceptance criteria appropriate to the circumstances in surveillance testing Procedure TSP-CREF-Z801, "Control Room Envelope Unfiltered In-leakage Tracer Gas Test," Revision 2. Specifically, Energy Northwest personnel incorrectly documented a design bases unfiltered air in-leakage value as an administrative limit in the surveillance testing procedure. This led to a delay in declaring the control room emergency filtration system inoperable and a delay in the implementation of mitigating actions to protect control room occupants in the event of an accident. The violation has been placed in the licensee's corrective action program and corrective actions are being implemented.

The performance deficiency is more than minor because it affects the procedure quality attribute of the Barrier Integrity Cornerstone for maintaining the radiological barrier functionality of the control room. This performance deficiency was of very low safety significance (Green) because the finding represented a degradation of only the radiological barrier function provided for the control room. Also, if left uncorrected, incorrectly documenting design bases acceptance criteria could lead to a more significant safety concern. Specifically, incorrectly documenting design bases acceptance criteria could lead personnel to rely on equipment to perform a specified safety function when it is incapable of doing so. This finding has a crosscutting aspect in the area of problem identification and resolution, self and independent assessments, in that the licensee failed to conduct self assessments that are of sufficient depth. Specifically, Energy Northwest focused too narrowly on the affect of licensing changes, in a 2007 self assessment, on the licensing organization instead of the impact of licensing changes to the organization as a whole [P.3.a] (Section 1R15).

B. Licensee-Identified Violations

None

REPORT DETAILS

Summary of Plant Status

The station began the inspection period at a power level of 81 percent due to isolating condensate heat exchanger 4B to facilitate repairs. The station returned to 100 percent power on April 2, 2010. On May 3, the station reduced power to 96 percent power due to the combination of high winds and a circulating water cooling tower out of service having an impact on condenser back pressure and the steam jet air ejector temperature. Later, on May 3, the station returned to 100 percent power. On June 4, the station reduced power to 55 percent to repair a leak in the main condenser. On June 11 the station reduced power to 25 percent at the request of Bonneville Power Administration for economic dispatch. The station completed repair of the main condenser on June 11, and remained at 25 percent power for economic dispatch. On June 15, the station returned to 100 percent power. The facility operated at 100 percent power, with the exception of scheduled reductions in power to support minor maintenance and testing, and requested economic dispatch for the remainder of the inspection period.

1. REACTOR SAFETY

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

1R04 Equipment Alignments (71111.04)

.1 Partial Walkdown

a. Inspection Scope

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

- May 3, 2010, diesel generator 2 following two year maintenance and postmaintenance testing
- May 19, 2010, floor drain system
- June 1, 2010, standby gas treatment trains A and B

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 three partial system walkdown samples as defined in Inspection Procedure 71111.04-05.

b. Findings

No findings were identified.

1R05 Fire Protection (71111.05)

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:

- April 15, 2010, fire area RC-5; Division 1 battery room
- April 19, 2010, fire area RC-11/1; HVAC equipment room A division 1
- May 4, 2010, fire area RC-1; Main control room
- June 2, 2010, fire areas R-1, R-4, M-9; Reactor Building 471 foot elevation

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.

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.

1R06 Flood Protection Measures (71111.06)

a. Inspection Scope

The inspectors reviewed the FSAR, the flooding analysis, and plant procedures to assess susceptibilities involving internal flooding; reviewed the corrective action program to determine if licensee personnel identified and corrected flooding problems; inspected underground bunkers/manholes to verify the adequacy of sump pumps, level alarm circuits, cable splices subject to submergence, and drainage for bunkers/manholes; and verified that operator actions for coping with flooding can reasonably achieve the desired outcomes. The inspectors also inspected the areas listed below to verify the adequacy of equipment seals located below the flood line, floor and wall penetration seals, watertight door seals, common drain lines and sumps, sump pumps, level alarms, and control circuits, and temporary or removable flood barriers.

- June 10, 2010, FP-V-39 packing leak causing catch barrel to overflow into cable spreading room

These activities constitute completion of one flood protection measures inspection sample and one bunker/manhole sample as defined in Inspection Procedure 71111.06-05.

b. Findings

No findings were identified.

1R11 Licensed Operator Requalification Program (71111.11)

a. Inspection Scope

On April 21, 2010, the inspectors observed a crew of licensed operators in the plant's simulator to verify that operator performance was adequate, evaluators were identifying and documenting crew performance problems, and training was being conducted in accordance with licensee procedures. The inspectors evaluated the following areas:

- Licensed operator performance
- Crew's clarity and formality of communications
- Crew's ability to take timely actions in the conservative direction

- Crew's prioritization, interpretation, and verification of annunciator alarms
- Crew's correct use and implementation of abnormal and emergency procedures
- Control board manipulations
- Oversight and direction from supervisors
- Crew's ability to identify and implement appropriate technical specification actions and emergency plan actions and notifications

The inspectors compared the crew's performance in these areas to pre-established operator action expectations and successful critical task completion requirements. Specific documents reviewed during this inspection are listed in the attachment.

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.

1R12 Maintenance Effectiveness (71111.12)

a. Inspection Scope

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

- April 8, 2010, Action Request/Condition Report 213800, WOA-RIS-313B Appears Failed Following Grid Hit
- June 10, 2010, Action Request/Condition Report 219465, FP-V-39 Packing Leak Causing Catch Barrel to Overflow into Cable Spreading Room
- June 18, 2010, Work Order 01188694, 500 kV Ashe Substation Removed from Service for Planned Maintenance

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 three 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:

- May 3, 2010, standby gas treatment train A and startup transformer maintenance during high winds
- May 12, 2010, crane lift over the adjustable speed drive building
- May 14, 2010, Work Order 1187638, Maintenance on Startup Transformer

- June 18, 2010, 500 kV Ashe Substation Remove from Service for Planned Maintenance

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 four 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 (71111.15)

a. Inspection Scope

The inspectors reviewed the following issues:

- April 5, 2010, Action Request/Condition Report 214706, Evidence of Plugging in Service Water Supply/Return for Low Pressure Core Spray System Motor LPCS-M-P/1
- April 6, 2010, Action Request/Condition Report 215445, WMA-FD-1 Actuated During TSP-CREF-Z801
- April 7, 2010, Action Request/Condition Report 215698, Standby Liquid Control Tank Low Level Alarm
- May 25, 2010, Action Request/Condition Report 218430, SLC-RV-29A Water Leak from Bonnet

The inspectors selected these potential operability issues based on the risk significance of the associated components and systems. The inspectors evaluated the technical adequacy of the evaluations to ensure that technical specification operability was properly justified and the subject component or system remained available such that no unrecognized increase in risk occurred. The inspectors compared the operability and

design criteria in the appropriate sections of the technical specifications and FSAR to the licensee personnel's evaluations to determine whether the components or systems were operable. Where compensatory measures were required to maintain operability, the inspectors determined whether the measures in place would function as intended and were properly controlled. The inspectors determined, where appropriate, compliance with bounding limitations associated with the evaluations. Additionally, the inspectors also reviewed a sampling of corrective action documents to verify that the licensee was identifying and correcting any deficiencies associated with operability evaluations. 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 71111.15-04

b. Findings

Introduction. The inspectors reviewed a Green self-revealing noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings" for the licensee's failure to include acceptance criteria appropriate to the circumstance in Surveillance Testing Procedure TSP-CREF-Z801, "Control Room Envelope Unfiltered In-leakage Tracer Gas Test," Revision 2. Specifically, licensee personnel incorrectly documented a design bases unfiltered air in-leakage value as an administrative limit in the surveillance testing procedure. This led to a delay in declaring the control room emergency filtration system inoperable and a delay in the implementation of mitigating actions to protect control room occupants in the event of an accident.

Description. On April 1, 2010, while performing procedure TSP-CREF-Z801, the A train of control room emergency filtration failed to limit unfiltered air leakage into the control room to less than 50 cfm. During surveillance testing, the A train of control room emergency filtration unfiltered air in-leakage was measured at 55 cfm. The single train pressurization acceptance criteria, as listed in TSP-CREF-Z801, states that, "Single train pressurization mode acceptance criteria for unfiltered in-leakage is LE 50 cfm (Administrative Limit)." As a result, operations personnel then requested assistance from engineering staff to determine the design bases limit for the unfiltered air in-leakage to the control room emergency filtration system. The "Control Room Envelope Habitability Program" documents the licensing/design basis of the system as being "50 cfm when the control room ventilation systems are aligned in the emergency filtration mode with only one train running." After being informed by engineering staff that the value listed in the surveillance testing procedure was the actual design basis value for unfiltered air in-leakage into the control room, operations personnel declared the system inoperable. This decision was made approximately twelve hours after initially failing the surveillance test. For one train of control room emergency filtration system being inoperable, the technical specification action statement directs the licensee to immediately implement mitigating actions in case of an emergency. These mitigating actions need to be taken to ensure control room occupants do not exceed the radiological limits calculated for a design bases accident. The licensee determined that the cause for the excessive in-leakage was that the test procedure did not adequately establish the conditions required to properly perform the test. The testing procedure did

not specify: the control room emergency filtration system fan flow with only one train in operation, the need for all test ports to be capped prior to testing, and the need for control room door guards to prevent both control room airlock doors from being open at the same time. Testing was again performed with the proper conditions established the following night. As a result, the control room emergency filtration system passed its surveillance test.

The 50 cfm unfiltered in-leakage was established as a design basis value when the licensee applied for and received a license amendment for alternative source term. The licensee performed an apparent cause analysis that determined license amendments have inadequate project management (oversight) and are not effectively identified and integrated into plant design change milestones and the overall project management process. In 2007 a self assessment of the license amendment process was performed. This assessment focused on the design change process and how the process affects the licensing organization and did not focus on the interactions between different organizations during the design change process.

Analysis. The failure to include appropriate quantitative and qualitative acceptance criteria appropriate to the circumstance in surveillance procedure is a performance deficiency. The performance deficiency is more than minor because it affects the procedure quality attribute of the barrier integrity cornerstone for maintaining the radiological barrier functionality of the control room. Using Inspection Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," due to the plant operating at power, the inspectors determined that this performance deficiency was of very low safety significance (Green) because the finding represented a degradation of only the radiological barrier function provided for the control room. Also, if left uncorrected, incorrectly documenting design bases acceptance criteria could lead to a more significant safety concern. Specifically, incorrectly documenting design bases acceptance criteria could lead personnel to rely on equipment to perform a specified safety function when it is incapable of doing so. During a review of an apparent cause evaluation, the inspectors determined that this finding had a crosscutting aspect in the area of problem identification and resolution, self and independent assessments, in that the licensee failed to conduct self assessments that are of sufficient depth. Specifically, the licensee focused too narrowly on the affect of licensing changes, in the 2007 self assessment, on the licensing organization instead of the impact of licensing changes to the organization as a whole [P.3.a].

Enforcement. Title 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," requires in part that activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances. Also, instructions, procedures, or drawings shall include appropriate quantitative or qualitative acceptance criteria for determining that important activities have been satisfactorily accomplished. Contrary to this, on March 10, 2010, the licensee failed to appropriately document the acceptance criteria for unfiltered air in leakage into surveillance Procedure TSP-CREF-Z801. While the correct number was translated into the surveillance procedure it was listed as an administrative limit and not as a design bases limit. On April 1, 2010, this caused operators to delay declaring one train of

control room emergency filtration inoperable when it failed a surveillance test. Operators subsequently declared the train inoperable and entered the appropriate action statement. The surveillance procedure is in the process of being revised. Because this finding was determined to be of very low safety significance (Green) and was entered into the licensee's corrective action program as Action Request/Condition Report 0215746, this violation is being treated as a noncited violation consistent with the NRC Enforcement Policy: NCV 05000397/2010003-01, "Failure to translate appropriate acceptance criteria."

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 TMR-10-004.

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.

.2 Permanent Modifications

The inspectors reviewed key parameters associated with energy needs, materials, replacement components, timing, heat removal, control signals, equipment protection from hazards, operations, flow paths, pressure boundary, ventilation boundary, structural, process medium properties, licensing basis, and failure modes for the permanent modification identified as TMR 10-003. This modification removed the automatic function of closing fire dampers in the presence of smoke in the control room emergency filtration system.

The inspectors verified that modification preparation, staging, and implementation did not impair emergency/abnormal operating procedure actions, key safety functions, or operator response to loss of key safety functions; postmodification testing will maintain

the plant in a safe configuration during testing by verifying that unintended system interactions will not occur; systems, structures and components' performance characteristics still meet the design basis; the modification design assumptions were appropriate; the modification test acceptance criteria will be met; and licensee personnel identified and implemented appropriate corrective actions associated with permanent plant modifications. Specific documents reviewed during this inspection are listed in the attachment.

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

b. Findings

No findings were identified.

1R19 Postmaintenance Testing (71111.19)

a. Inspection Scope

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

- May 3, 2010, Work Order 01181408, OSP-ELEC-M702, DG2 Monthly Operability Test Following Two Year Maintenance
- May 27, 2010 Work Order 01190059, SLC-RV-29A Replace Relief Valve
- June 18, 2010, Work Order 01191049, PMT CVB-V-1LM

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:

- 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 postmaintenance 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 three postmaintenance 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.

- April 15, 2010, Work Order 01180620, Quad Voter Solenoid Valve Test, OSP-MT-W701
- April 20, 2010, Work Order 01168890, TSP-DG1-B502, Diesel Generator 1 Load Testing
- May 9, 2010, Inservice test, Work Order 01182124, OSP-SLC/IST-Q701, Standby Liquid Control Pumps Operability Test
- May 19, 2010 Work Order 0118300201, ISP-RFW-Q401, Feedwater/Turbine Trip Actuation on Reactor High Level 8 - CFT
- June 1, 2010, ISP-RCIC-X301, Accident Monitoring Instrumentation RCIC Flow Indication Channel Calibration

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

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

b. Findings

No findings were identified.

Cornerstone: Emergency Preparedness

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

a. Inspection Scope

The inspectors performed an in-office review of Columbia Generating Station Procedure 13.1.1, "Classifying the Emergency," Revision 38. This revision updated the Emergency Director's responsibilities to provide authority to suspend or alter plant security measures as needed to protect the health and safety of employees or the public. The revision provided guidance on when and how to exercise this authority.

This revision was compared to its previous revision, to the criteria of NUREG-0654, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," Revision 1, and to the standards in 10 CFR 50.47(b) to determine if the revision adequately implemented the requirements of 10 CFR 50.54(q). This 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. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of one sample as defined in Inspection Procedure 71114.04-05.

b. Findings

No findings were identified.

1EP6 Drill Evaluation (71114.06)

Emergency Preparedness Drill Observation

a. Inspection Scope

The inspectors evaluated the conduct of a routine licensee emergency drill on May 11, 2010, to identify any weaknesses and deficiencies in classification, notification, and protective action recommendation development activities. The inspectors observed emergency response operations in the control room simulator, the Emergency Operations Facility and 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

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 first quarter 2010 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 Safety System Functional Failures (MS05)

a. Inspection Scope

The inspectors sampled licensee submittals for the safety system functional failures performance indicator for the period from the first quarter 2009 through the first quarter 2010. 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, and NUREG-1022, "Event Reporting Guidelines 10 CFR 50.72 and 50.73." The inspectors reviewed the licensee's operator narrative logs, operability assessments, maintenance rule records, maintenance work orders, issue reports, event reports, and NRC integrated inspection reports for the period of January 2009 through March 2010, 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 safety system functional failures sample as defined in Inspection Procedure 71151-05.

b. Findings

No findings were identified.

.3 Reactor Coolant System Specific Activity (BI01)

a. Inspection Scope

The inspectors sampled licensee submittals for the reactor coolant system specific activity performance indicator for the period from the first quarter 2009 through the first quarter 2010. 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 reactor coolant system chemistry samples, technical specification requirements, issue reports, event reports, and NRC integrated inspection reports for the period of January 2009 through March 2010, 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. In addition to record reviews, the inspectors observed a chemistry technician obtain and analyze a reactor coolant system sample. Specific documents reviewed are described in the attachment to this report.

These activities constitute completion of one reactor coolant system specific activity sample as defined in Inspection Procedure 71151-05.

b. Findings

No findings were identified.

.4 Reactor Coolant System Leakage (BI02)

a. Inspection Scope

The inspectors sampled licensee submittals for the reactor coolant system leakage performance indicator for the period from the first quarter 2009 through the first quarter 2010. 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 logs, reactor coolant system leakage tracking data, issue reports, event reports, and NRC integrated inspection reports for the period of January 2009 through March 2010, 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 reactor coolant system leakage sample as defined in Inspection Procedure 71151-05.

b. Findings

No findings were identified.

40A2 Identification and Resolution of Problems (71152)

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

.1 Routine Review of 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.

40A5 Other Activities

.1 (Closed) Licensee Event Report 0500397/2008-001-01

This licensee event report documents a reactor scram which occurred during postmaintenance testing on August 21, 2008. This licensee event report was updated due to a re-evaluation performed for the event in preparation for a supplemental inspection due to a white performance indicator in the area of unplanned scrams per 7000 hours. This licensee event report was updated to reflect the new direct cause, contributing causes, and the corrective actions taken for this event. See Inspection Report 05000397/2008004 for a discussion of a self-revealing finding associated with this issue. See Inspection Report 05000397/2010008 for a discussion of the results of the supplemental inspection. See licensee event report 2009-001-01 and Inspection Report 05000397/2009002 for details of a similar event. The inspectors completed a review of the licensee event report and did not identify any other violations of regulatory requirements or findings. This licensee event report is closed.

.2 (Closed) Licensee Event Report 0500397/2009-001-01

This licensee event report documents a reactor scram which occurred during postmaintenance test on February 8, 2009. This licensee event report was updated due to a re-evaluation performed for the event in preparation for a supplemental inspection due to a white performance indicator in the area of unplanned scrams per 7000 hours. This revision updates the direct and contributing causes for the event. See Inspection Report 05000397/2009002 for a discussion of a self-revealing finding associated with this issue. See Inspection Report 05000397/2010008 for a discussion of the results of the supplemental inspection. This event was similar to an event that occurred on August 21, 2008. See Inspection Report 05000397/2008004 and Licensee Event Report 2008-001-01 for details of the similar event. The inspectors completed a review of the licensee event report and did not identify any other violations of regulatory requirements or findings. This licensee event report is closed.

.3 (Closed) Licensee Event Report 0500397/2009-002-01

This licensee event report documents a reactor scram which occurred during testing on May 8, 2009. This licensee event report was updated due to a re-evaluation performed for the event in preparation for a supplemental inspection due to a white performance indicator in the area of unplanned scrams per 7000 hours. This revision updates the root cause for the event. See Inspection Report 05000397/2009003 for a discussion of a self-revealing finding associated with this issue. See Inspection Report 05000397/2010008 for a discussion of the results of the supplemental inspection. The inspectors completed a review of the licensee event report and did not identify any other violations of regulatory requirements or findings. This licensee event report is closed.

4 (Closed) Licensee Event Report 0500397/2009-003-01

This licensee event report documents a reactor scram which occurred while conducting startup activities from a refueling outage. This licensee event report was updated due to a re-evaluation performed for the event in preparation for a supplemental inspection due to a white performance indicator in the area of unplanned scrams per 7000 hours. This revision updates the root cause for the event. See Inspection Report 05000397/2009004 for a discussion of a self-revealing finding associated with this issue. See Inspection Report 05000397/2010008 for a discussion of the results of the supplemental inspection. The inspectors completed a review of the licensee event report and did not identify any other violations of regulatory requirements or findings. This licensee event report is closed.

40A6 Meetings

Exit Meeting Summary

On May 10, 2010, the inspectors conducted a telephonic exit meeting to present the results of the in-office inspection of changes to the licensee's emergency plan implementing procedure to Mr. D. Merhar, Manager, Emergency Preparedness, who acknowledged the issues presented. The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

On July 7, 2010, the inspectors presented the inspection results to Mr. S. Oxenford, Vice President Nuclear Generation, Chief Nuclear Officer, and other members of the licensee staff. The licensee acknowledged the issues presented. The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

On July 19, 2010, the inspectors conducted a final exit meeting with Mr. D. Gregoire, Licensing Supervisor. The licensee acknowledged the issues presented. The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

SUPPLEMENTAL INFORMATION
KEY POINTS OF CONTACT

Licensee Personnel

D. Atkinson, Vice President, Operational Support
J. Bekhazi, Plant General Manager
K. Christianson, Licensing Engineer
D. Coleman, Manager, Regulatory Programs
G. Cullen, Recovery Manager
S. Gambhir, Vice President, Technical Services
D. Gregoire, Licensing Supervisor, Regulatory Programs
D. Merhar, Manager, Emergency Preparedness
S. Oxenford, Vice President, Nuclear Generation, Chief Nuclear Officer
D. Swank, General Manager, Engineering

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed

05000397/2010003-001 NCV Failure to Translate Appropriate Acceptance Criteria

Closed

05000397/2008-001-01 LER Reactor Scram due to Failed Compression Fittings

05000397/2009-001-01 LER Reactor Scram due to Turbine Control System Trip Header
Depressurization

05000397/2009-002-01 LER Manual Reactor Scram due to Loss of Hydrogen pressure in the
Main Generator

05000397/2009-003-01 LER Manual Reactor Scram due to a Fire Stemming from a Turbine
Lube Oil Leak

LIST OF DOCUMENTS REVIEWED

Section 1RO4: Equipment Alignment

MISCELLANEOUS DOCUMENTS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
M512-2	Flow Diagram Diesel Oil and Miscellaneous Systems	35
SOP-DG2-STBY	Emergency Diesel Generator (Division 2) Standby Lineup	12
Flow Diagram M-539	Floor Drain System Reactor Building	83
Drawing 35E001	Radioactive Drains and Sump System Pump FDR-P-1A	2
M620-518-8	Equipment Floor Drains, Radwaste Building	2
SOP-SGT-STBY	Placing Standby Gas Treatment in Standby Status	2

Section 1RO5: Fire Protection

MISCELLANEOUS DOCUMENTS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION / DATE</u>
Fire Plans	Columbia Generating Station Pre-Fire Plans	7
FSAR	Columbia Generating Station Final Safety Analysis Report, Appendix F	57
NFPA-10	National Fire Protection Association	1984

Section 1R11: Licensed Operator Requalification Program

MISCELLANEOUS DOCUMENTS

<u>NUMBER</u>	<u>TITLE</u>	<u>DATE</u>
LR001966	Cycle 10-2 Evaluated Scenario	March 23, 2010

Section 1R12: Maintenance Effectiveness

ACTION REQUEST/CONDITION REPORTS

213800 219465

WORK ORDERS

213800 219465

Section 1R13: Maintenance Risk Assessment and Emergent Work Controls

ACTION REQUEST/CONDITION REPORTS

01177392 01187638

Section 1R15: Operability Evaluations

ACTION REQUEST/CONDITION REPORTS

215445 214706 215698

Section 1R18: Plant Modifications

MISCELLEANOUS DOCUMENTS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION / DATE</u>
	Control Room Envelope Habitability Program	November 20, 2008
TSP-CREF-Z801	Control Room Envelope Unfiltered In-Leakage Tracer Gas Test	2
TMR-10-004	Installs DEH-SV-TRIP/A quad voter valve cooling unit	April 29, 2010

ACTION REQUEST/CONDITION REPORTS

215853 215755 215663

Section 1R19: Postmaintenance Testing

MISCELLANEOUS DOCUMENTS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
TSP-RV/IST-R701	Testing of IST Program Safety/Relief Valves	9
OSP-CVB/IST-M701	Vacuum Breaker Operability	10

WORK ORDERS

01181408 01164186 01190059 01191049

Section 1R22: Surveillance Testing

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
ISP-RFW-Q401	Feedwater/Turbine Trip Actuation on Reactor High Level 8 – CFT	10
ISP-RCIC-X301	Accident Monitoring Instrumentation RCIC Glow Indication Channel Calibration	6
ISP-MS-Q904	RPS, Reactor Vessel Steam Dome Pressure – High Div 2 (B& D)-CFT/CC	9

WORK ORDERS

01180620 01168890 01183002 01183483 01184413

Section 1EP4: Emergency Action Level and Emergency Plan Changes

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
PPM 13.1.1	Classifying the Emergency	38

Section 1EP6: Drill Evaluation

MISCELLENEOUS DOCUMENTS

<u>NUMBER</u>	<u>TITLE</u>	<u>DATE</u>
	Columbia Generating Station 2010 ERO Team C Training Drill Controller Manual	May 11, 2010

Section 40A1: Performance Indicator Verification

MISCELLANEOUS DOCUMENTS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
NEI 99-02	Regulatory Assessment Indicator Guideline	6
LCO Logs	Technical Specification Inoperable Equipment/LCO/RFO Status Sheet	0

Section 40A2: Identification and Resolution of Problems

ACTION REQUEST/CONDITION REPORTS

00216458	00216422	00216428	00216431	00216443
00216475	00216337	00216349	00216372	00216376
00216387	00216390	00216394	00216099	00216135
00216170	00216187	00216198	00216200	00216204
00216206	00216208	00216210	00216212	00216213
00216222	00216225	00216227	00216230	00216231
00216236	00216239	00216242	00216254	00216256
00216258	00216260	00216261	00216273	00216099
00216197	00215731	00215859	00215877	00215891
00215902	00215853	00215766	00215836	00215849
00215732	00215755	00215760	00215760	00215766
00215773	00215599	00215663	00215674	00215676
00215695	00215698	00214810	00214818	00216556
00216559	00216560	00216561	00216581	00216601
00216603	00216624	00216626	00216627	00216643
00216645	00216657	00216659	00216660	00216672
00216678	00216695	00216832	00216843	00216886
00216887	00216899	00216932	00216943	00216950
00216958	00216959	00216961	00216966	00216972
00216975	00216977	00209274	00216496	00216470
00216395	00216902	00216988	00216991	00217001
00217003	00217042	00217044	00217046	00217049
00217063	00217202	00217227	00217236	00217227
00217238	00217239	00217253	00217265	00217266
00217272	00217275	00217277	00217279	00217292
00217295	00217298	00217300	00217302	00217307

00217001	00217003	00217055	00217146	00217148
00217152	00217166	00217171	00217201	00217202
00217501	00217499	00217502	00217512	00217518
00217519	00217520	00217521	00217522	00217526
00217527	00217528	00217533	00217568	00217397
00217434	00217444	00217449	00217473	00217395
00217349	00217418	00217421	00217561	00217593
00217636	00217759	00217769	00217778	00217804
00217814	00217817	00217820	00217756	00217662
00217669	00217676	00217685	00217718	00217718
00217728	00217729	00217978	00217994	00217998
00218041	00218064	00218082	00218667	00218663
00218665	00218546	00218564	00218590	00218647
00218189	00218190	00218210	00218230	00218236
00218261	00218273	00218275	00218654	00218655
00218658	00218776	00218648	00218709	00218732
00218735	00218752	00218755	00218760	00218764
00218774	00218776	00218776	00218799	00218804
00218805	00218807	00218829	00218876	00218890
00218916	00218923	00218964	00218973	00218989
00218996	00218997	00219001	00219002	00219006
00219009	00219010	00219011	00219016	00219057
00219063	00219066	00219100	00219112	00219116
00219122	00219123	00219124	00218912	00219170
00218957	00219057	00219063	00219066	00219108
00219116	00219117	00219123	00219124	00219147
00219167	00219170	00219187	00219203	00219208
00219209	00219212	00219165	00219361	00219380
00219388	00219394	00219401	00219403	00219410
00219430	00219432	00219435	00219436	00219439
00219445	00219451	00219453	00219459	00219522
00219797	00219812	00219855	00219873	00219877
00219890	00219891	00219896	00219914	00219938