UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
612 EAST LAMAR BLVD, SUITE 400
ARLINGTON, TEXAS 76011-4125

August 10, 2009

Mr. J. V. Parrish
Chief Executive Officer
Energy Northwest
P.O. Box 968, Mail Drop 1023
Richland, WA 99352-0968

Subject: COLUMBIA GENERATING STATION - NRC INTEGRATED INSPECTION REPORT 05000397/2009003

Dear Mr. Parrish:

On June 27, 2009, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Columbia Generating Station. The enclosed integrated inspection report documents the inspection findings, which were discussed on July 7, 2009, with Mr. S. Oxenford, Vice President, Nuclear Generation and other members of your staff.

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

This report documents two self-revealing findings of very low safety significance (Green). One of these findings was determined to involve a violation of NRC requirements. However, because of the very low safety significance and because this is entered into your corrective action program, the NRC is treating this finding as a noncited violation, consistent with Section VI.A.1 of the NRC Enforcement Policy. If you contest the violation or the significance of the noncited violation, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D.C. 20555-0001, with copies to the Regional Administrator, U.S. Nuclear Regulatory Commission, Region IV, 612 E. Lamar Blvd, Suite 400, Arlington, Texas, 76011-4125; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555-0001; and the NRC Resident Inspector at the Columbia Generating Station facility. In addition, if you disagree with the characterization of any finding in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the Regional Administrator, Region IV, and the NRC Resident Inspector at the Columbia Generating Station. The information you provide will be considered in accordance with Inspection Manual Chapter 0305.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, and its enclosure, will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records component of NRC's document 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, Chief
Project Branch A
Division of Reactor Projects

Docket: 50-397
License: NPF-21

Enclosure:
NRC Inspection Report 05000397/2009003
w/Attachment: Supplemental Information

cc w/Enclosure:
Chairman
Energy Facility Site Evaluation Council
P.O. Box 43172
Olympia, WA 98504-3172

Gregory V. Cullen
Manager, Regulatory Programs
Energy Northwest
P.O. Box 968, Mail Drop PE20
Richland, WA 99352-0968

Chairman
Benton County Board of Commissioners
P.O. Box 190
Prosser, WA 99350-0190

William A. Horin, Esq.
Winston & Strawn
1700 K Street, NW
Washington, DC 20006-3817

Matt Steuerwalt
Executive Policy Division
Office of the Governor
P.O. Box 43113
Olympia, WA 98504-3113

Lynn Albin
Washington State Department of Health
P.O. Box 7827
Olympia, WA 98504-7827

Ken Niles
Assistant Director
Nuclear Safety and Energy Siting Division
Oregon Department of Energy
625 Marion Street NE
Salem, OR 97301-3737

Special Hazards Program Manager
Washington Emergency Management Division
127 W. Clark Street
Pasco, WA 99301

Chief, Technological Hazards Branch
FEMA Region X
Federal Regional Center
130 228th Street, SW
Bothell, WA 98021-9796

Electronic distribution by RIV:
Regional Administrator (Elmo.Collins@nrc.gov)
Deputy Regional Administrator (Chuck.Casto@nrc.gov)
DRP Director (Dwight.Chamberlain@nrc.gov)
DRP Deputy Director (Anton.Vegel@nrc.gov)
DRS Director (Roy.Caniano@nrc.gov)
DRS Deputy Director (Troy.Pruett@nrc.gov)
Senior Resident Inspector (Ron.Cohen@nrc.gov)
Resident Inspector (Mahdi.Hayes@nrc.gov)
Project Engineer, DRP/A (Nicholas.Hernandez@nrc.gov)
Branch Chief, DRP/A (Wayne.Walker@nrc.gov)
Senior Project Engineer, DRP/A (Clyde.Osterholtz@nrc.gov)
Senior Project Engineer, DRP/A (Bob.Hagar@nrc.gov)
Columbia Site Secretary (Crystal.Myers@nrc.gov)
Public Affairs Officer (Victor.Dricks@nrc.gov)
Team Leader, DRP/TSS (Chuck.Paulk@nrc.gov)
RITS Coordinator (Marisa.Herrera@nrc.gov)

Only inspection reports to the following:
DRS STA (Dale.Powers@nrc.gov)
OEDO RIV Coordinator (Leigh.Trocine@nrc.gov)
ROPreports

File located: R:_Reactors_CGS\2009\CGS 2009003 RP-RBC ADAMS.doc ML092220243

SUNSI Rev Compl.	☑ Yes ☐ No	ADAMS	☑ Yes ☐ No	Reviewer Initials	WCW
Publicly Avail	☑ Yes ☐ No	Sensitive	☐ Yes ☑ No	Sens. Type Initials	WCW

RI:DRP/A	SRI:DRP/A	C:DRS/PSB2	C:DRS/EB1	C:DRS/EB2
MOHayes	RBCohen	GEWerner	TRFanholtz	NFO'Keefe
E-WCWalker for	***E-WCWalker for***	***/RA/***	***/RA/***	***/RA/***
8/7/09	8/7/09	7/30/09	8/5/09	8/5/09
C:DRS/OB	C:DRS/PSB1	C:DRP/A		
RELantz	MPShannon	WCWalker		
/RA/	***/RA/***	***/RA/***		
7/20/09	7/6/09	8/7/09		

OFFICIAL RECORD COPY T=Telephone E=E-mail F=Fax

U.S. NUCLEAR REGULATORY COMMISSION

REGION IV

Docket:	50-397
License:	NPF-21
Report:	05000397/2009003
Licensee:	Energy Northwest
Facility:	Columbia Generating Station
Location:	Richland, Washington
Dates:	March 29, 2009 through June 27, 2009
Inspectors:	R. Cohen, Senior Resident Inspector M. Hayes, Resident Inspector N. Hernandez, Project Engineer E. Ruesch, Reactor Inspector C. Graves, Health Physicist B. Henderson, Reactor Inspector J. Adams, Reactor Inspector
Approved By:	W. Walker, Chief, Project Branch A Division of Reactor Projects

SUMMARY OF FINDINGS

IR 05000397/2009003; 03/29/2009–06/27/2009; Columbia Generating Station; Integrated Resident and Regional Report; Access Control to Radiologically Significant Areas; Identification and Resolution of Problems

The report covered a 3-month period of inspection by resident inspectors and announced baseline inspections by regional based inspectors. One Green noncited violation and one Green finding of significance were 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: Initiating Events

- Green. The inspectors reviewed a self-revealing finding for the failure of Energy Northwest to implement the standards and guidance provided in Site Wide Procedure SWP-CAP-01, "Corrective Action Program," Revision 17. Specifically, Energy Northwest failed to take prompt corrective action in response to Action Request 1485, dated September 2000, that identified the Cuno filter as a single point vulnerability, which could lead to a plant scram. Action Request 1485 recommended upgrading the type of filter in the seal oil system to a high efficiency duplex filter assembly. Due to a low priority ranking, corrective action was delayed several times. Action Request 1485-4, dated March 11, 2008, documented a scheduling error delaying the corrective action from fiscal year 2009 to fiscal year 2010 or 2011.

  The finding was more than minor because it affected the Initiating Events Cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Using Inspection Manual Chapter 0609.4, "Phase 1 – Initial Screening and Characterization of Findings," the finding was determined to be of very low safety significance (Green) because it did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions will not be available. The finding had a crosscutting aspect in the area of problem identification and resolution associated with operating experience because the licensee failed to implement operational experience through changes to station processes, procedures, equipment, and training programs [P.2.(b)](Section 4OA2).

Cornerstone: Occupational Radiation Safety

- Green. A self-revealing noncited violation of Technical Specification 5.7.1 was identified for failure to barricade and conspicuously post a high radiation area. On April 14, 2009, equipment drain radioactive tank 5 was completely drained which created an unposted high radiation area. Two workers near the tank area received dose rate alarms indicating that unexpected radiological conditions existed. Radiation protection personnel responded to the area, performed surveys, and found an unexpected high radiation area outside of the posted high radiation area boundary. The highest dose rate outside the existing boundary was approximately 200 millirem/hour. The licensee entered this item into their corrective action program as Action Request 195295.

  The failure to barricade and conspicuously post a high radiation area is a performance deficiency. The finding was greater than minor because it was associated with the Occupational Radiation Safety Cornerstone attribute (exposure control) of program and process and affected the cornerstone objective, in that, failure to post a high radiation area impacted the ability to adequately protect workers health and safety from exposure to radiation. Using Inspection Manual Chapter 0609, Appendix C, "Occupational Radiation Safety Significance Determination Process," the finding was determined to be of very low safety significance because it was not an as low as is reasonably achievable finding, there was no overexposure or substantial potential for an overexposure, and the ability to assess dose was not compromised. Additionally, this finding had human performance crosscutting aspects associated with work control in that the work planning did not appropriately plan work activities by incorporating risk insights and radiological safety [H.3(a)](Section 2OS1).

B. Licensee-Identified Violations

None

REPORT DETAILS

Summary of Plant Status

The inspection period began with Columbia Generating Station operating at 100 percent power. On April 2, 2009, the station began to coast down in power in preparation for Refueling Outage 19. On April 10, the station reduced power from 96 percent power to 85 percent power for economic dispatch and returned to 95 percent power on April 13. On April 16, the station reduced power from 94 percent power to 65 percent power to perform work on reactor feed water drive turbine 1B due to high bearing vibrations. Following this work, the station returned to 95 percent power on April 21, 2009. On May 8, the reactor was subsequently shutdown following a manual reactor scram from 88 percent reactor power and entered Forced Outage 09-02 due to maintenance leading to a loss of seal oil pressure and a subsequent loss of hydrogen in the main generator. The station then entered Refueling Outage 19 on May 9, 2009. The station completed Refueling Outage 19 on June 24, 2009 following reactor startup and closing of the main generator output breaker. On June 26, 2009, the station reached 75 percent power, as part of the planned power ascension, and initiated a manual reactor scram following a fire near the main turbine. The station entered Forced Outage 09-03 and remained in this outage until the end of the inspection period.

1. REACTOR SAFETY

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

1R01 Adverse Weather Protection (71111.01)

Summer Readiness for Offsite and Alternate ac Power

a. Inspection Scope

The inspectors performed a review of the licensee's preparations for summer weather for selected systems, including conditions that could lead to loss-of-offsite power and conditions that could result from high temperatures. The inspectors reviewed the licensee's procedures affecting these areas and the communications protocols between the transmission system operator and the plant to verify that the appropriate information was being exchanged when issues arose that could affect the offsite power system. Examples of aspects considered in the inspectors' review included:

- The coordination between the transmission system operator and the plant during off-normal or emergency events
- The explanations for the events
- The estimates of when the offsite power system would be returned to a normal state

- The notifications from the transmission system operator to the plant when the offsite power system was returned to normal

During the inspection, the inspectors focused on plant-specific design features and the licensee's procedures used to mitigate or respond to adverse weather conditions. Additionally, the inspectors reviewed the Final Safety Analysis Report and performance requirements for systems selected for inspection, and verified that operator actions were appropriate as specified by plant-specific procedures. Specific documents reviewed during this inspection are listed in the attachment. The inspectors also reviewed corrective action program items to verify that the licensee was identifying adverse weather issues at an appropriate threshold and entering them into their corrective action program in accordance with station corrective action procedures. The inspectors' reviews focused specifically on the following plant systems:

- Degraded Offsite Power Grid
- Loss of Offsite Power

These activities constitute completion of one readiness for summer weather affect on offsite and alternate ac power sample as defined in Inspection Procedure 71111.01-05.

b. Findings

No findings of significance were identified.

1R04 Equipment Alignments (71111.04)

Partial Walkdown

a. Inspection Scope

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

- High pressure core spray pump, April 5, 2009
- Diesel generator 3, following monthly surveillance testing, April 22, 2009
- Service water system B, June 3, 2009

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, Final Safety Analysis Report, 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 walked down accessible portions of the systems to verify system components and support equipment were aligned correctly and operable. The

inspectors examined the material condition of the components and observed operating parameters of equipment to verify that there were no obvious deficiencies. The inspectors also verified that the licensee had properly identified and resolved equipment alignment problems that could cause initiating events or impact the capability of mitigating systems or barriers and entered them into the 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 of significance were identified.

1R05 Fire Protection (71111.05AQ)

.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:

- Fire area RC-2, cable spreading room, March 31, 2009
- Fire area RC-14/1, Division 1 switchgear room, April 21, 2009
- Fire door W-DOOR-C216, April 22, 2009
- Fire area TG-7, hydrogen seal oil room, May 8, 2009
- Fire area R-1/1, reactor 522' NW quadrant, May 26, 2009

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 five quarterly fire-protection inspection samples as defined in Inspection Procedure 71111.05AQ-05.

b. Findings

No findings of significance were identified.

.2 Annual Fire Protection Drill Observation (71111.05AQ)

a. Inspection Scope

On April 16, 2009, the inspectors observed fire brigade activation for an unannounced backshift fire drill. The observation evaluated the readiness of the plant fire brigade to fight fires. The inspectors verified that the licensee staff identified deficiencies, openly discussed them in a self-critical manner at the drill debrief, and took appropriate corrective actions. Specific attributes evaluated were: (1) proper wearing of turnout gear and self-contained breathing apparatus; (2) proper use and layout of fire hoses; (3) employment of appropriate fire fighting techniques; (4) sufficient firefighting equipment brought to the scene; (5) effectiveness of fire brigade leader communications, command, and control; (6) search for victims and propagation of the fire into other plant areas; (7) smoke removal operations; (8) utilization of pre planned strategies; (9) adherence to the preplanned drill scenario; and (10) drill objectives.

These activities constitute completion of one annual fire-protection inspection sample as defined in Inspection Procedure 71111.05AQ-05.

b. Findings

No findings of significance were identified.

1R08 In-service Inspection Activities (71111.08)

From May 18-22, 2009, the inspectors performed Inspection Procedure 71111.08, "Inservice Inspection Activities." Inspection Procedure 71111.08 requires a minimum sample size, for boiling water reactors, of one for Section 02.01. The inspectors fulfilled the requirements of Inspection Procedure 71111.08-05.

.1 Inspection Activities Other Than Steam Generator Tube Inspection, Pressurized Water Reactor Vessel Upper Head Penetration Inspections, Boric Acid Corrosion Control (71111.08-02.01)

a. Inspection Scope

This inspection assesses the effectiveness of the licensee's program for monitoring degradation of vital system boundaries. The inspection includes a review of the licensee's nondestructive examination and welding programs. The inspectors are to verify that inservice inspection and welding activities are performed in accordance with ASME Code, other regulatory requirements, and licensee commitments.

The inspectors reviewed three volumetric examinations and 12 surface examinations. From these 15 examinations, the inspectors observed three ultrasonic examinations:

The inspectors directly observed the following examinations:

SYSTEM	WELD IDENTIFICATION	EXAMINATION TYPE
Main Feedwater	Nozzle N4-B; weld AB-9	UT
Main Feedwater	Nozzle N4-B: weld AB-10	UT
Reactor Pressure Vessel	Nozzle N4-C; Nozzle to vessel weld	UT
Reactor Pressure Vessel	Feedwater Sparger Pin at 305 degree location FSP-305	VT-1
Reactor Pressure Vessel	Feedwater Sparger Bracket at 295 deg. location FSB-295	VT-1
Reactor Pressure Vessel	Jet Pump Set Screw Shroud Side JP AS-1 SS	VT-1

The inspectors reviewed records for the following nondestructive examinations:

SYSTEM	WELD IDENTIFICATION	EXAMINATION TYPE
6-07-1-77	MS Weld XI-2-1	PT
6-07-1-78	MS Weld XI-1-1	PT
6-07-1-75	MS Weld XI-1-1, XI-2-1	PT
3RHM-006	RHR Heat Exchanger Support Welds	MT

SYSTEM	WELD IDENTIFICATION	EXAMINATION TYPE
3MSM-004	MS Welded Lugs	MT
3RHM-002	RHR-P-2BN-3, -2BC-4, and -2BC-5	MT
3RHM-003	RHR-P-2BN-1	MT
3RHM-004	RHR Inlet Nozzle/Top Head	MT
3RHM-005	RHR outlet nozzle to shell weld	MT

During the review and observation of each examination, the inspectors verified that activities were performed in accordance with ASME Boiler and Pressure Vessel Code requirements and applicable procedures. Indications were compared with previous examinations and dispositioned in accordance with ASME Code and approved procedures. The qualifications of all nondestructive examination technicians performing the inspections were verified to be current.

None of the above observed or reviewed nondestructive examinations identified any relevant indications and cognizant-licensee personnel stated that no relevant indications were accepted by the licensee for continued service.

The inspectors reviewed the following volumetric examinations from the previous outage, which identified relevant indications that were analytically evaluated and accepted by the licensee for continued service:

SYSTEM	WELD IDENTIFICATION	EXAMINATION TYPE
Reactor Pressure Vessel	RPV Head Weld AH	UT
RRC	4RRC(4)B-11	UT

The licensee's acceptance was in accordance with ASME Code or an NRC approved alternative, and the indications were examined for acceptability of continued service.

The inspectors examined the following welding that was performed on pressure boundary, risk significant systems:

SYSTEM	WELD IDENTIFICATION	EXAMINATION TYPE
Reactor Pressure Vessel	RPV Head Weld AH	UT
RRC	4RRC(4)B-11	UT

The inspectors verified, by review, that the welding procedure specifications and the welders had been properly qualified in accordance with ASME Code, Section IX, requirements. The inspectors also verified, through observation and record review, that essential variables for the welding process were identified, recorded in the procedure qualification record, and formed the bases for qualification of the welding procedure specifications. Specific documents reviewed during this inspection are listed in the attachment.

b. Findings

No findings of significance were identified.

.2 Identification and Resolution of Problems (71111.08-02.05)

a. Inspection Scope

The inspection procedure requires review of a sample of problems associated with inservice inspections documented by the licensee in the corrective action program for appropriateness of the corrective actions.

The inspectors reviewed 10 condition reports which dealt with inservice inspection activities and found the corrective actions were appropriate. The specific condition reports reviewed are listed in the documents reviewed section. From this review the inspectors concluded that the licensee has an appropriate threshold for entering issues into the corrective action program and has procedures that direct a root cause evaluation when necessary. The licensee also has an effective program for applying industry operating experience. Specific documents reviewed during this inspection are listed in the attachment.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification Program (71111.11)

a. Inspection Scope

On April 6, 2009, 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 training scenario involved a seismic event that caused a loss of reactor pressure vessel level indication that required reactor pressure vessel flooding to ensure adequate core cooling. 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 of significance were identified.

1R12 Maintenance Effectiveness (71111.12)

a. Inspection Scope

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

- Work Order 01160103, Replace seal drywell hatch, April 1, 2009
- Work Order 01141820, Replace SW-V-107, crane work around service water ponds, June 15, 2009

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 of significance 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:

- Work Order 01162218, heavy lift of REA-Fan-1B, March 31, 2009
- Test of reactor core isolation coolant with work on backup transformer, April 9, 2009
- Work Order 01138221, lower spent fuel pool level, April 20, 2009

- Tour of temporary scaffolding installed in the reactor building in preparation for Refueling Outage 19, April 29, 2009
- Action Report/Condition Report 198282, evaluation of 70 ton Grove crane, May 29, 2009
- Action Report/Condition Report 198269, 70 ton Grove crane, May 30, 2009
- Action Report/Condition Report 198607, evaluate generic operation of 70 ton Grove crane and boom truck, June 2, 2009
- Work Order 01141820, rebuild service water valve SW-V-170B, June 15, 2009

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 eight maintenance risk assessments and emergent work control inspection samples as defined in Inspection Procedure 71111.13-05.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15)

a. Inspection Scope

The inspectors reviewed the following issues:

- Action Report/Condition Report 194990, reactor building siding liner panels not continuous, April 9, 2009
- Action Report/Condition Report 194206, reactor building ventilation, April 27, 2009

- Action Report/Condition Report 196046, incomplete operability evaluation for Action Report/Condition Report 191584, and Action Report/Condition Report 191584, CCH-RV-2A is leaking by at 150 drops per minute, April 29, 2009

- Action Report/Condition Report 190083, RCIC-LS-10 shaking, April 29, 2009

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

No findings of significance were identified.

1R18 Plant Modifications (71111.18)

.1 Temporary Plant Modifications

a. Inspection Scope

The inspectors reviewed the following temporary modification to verify that the safety functions of important safety systems were not degraded:

- Temporary Modification Request 09-007, fuel pool cooling motor 1A, April 22, 2009

The inspectors reviewed the temporary modification and the associated safety evaluation screening against the system design bases documentation, including the Final Safety Analysis Report 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 of significance were identified.

.2 Permanent Plant Modifications

a. Inspection Scope

The inspectors reviewed key affected 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 listed below:

- Work Order 01172331, RRC-V-23A Repair, June 16, 2009

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; post modification 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 appropriateness of modification design assumptions, and 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 of significance 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:

- Work Order 01169535, postmaintenance testing, April 21, 2009
- Action Report/Condition Report 195935, reactor core isolation cooling turbine bearing oil level is slightly in yellow band, April 26, 2009
- RHR-V209 check valve repair and replacement parts, May 2009
- Work Order 01165944, OSP-RCIC/IST-Q701, reactor core isolation cooling operability test, June 22, 2009
- Main steam relief valve testing, June 23, 2009
- RRC-V-23A, leak test at 1000 pounds, June 23, 2009
- Work Order 01137764, inspection of RRC-V-24A gland packing leak-off at 1000 pounds, June 24, 2009
- Work Order 01139947, RFT-DT digital electro-hydraulic control system testing, June 25, 2009

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 Final Safety Analysis Report, 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 8 postmaintenance testing inspection sample(s) as defined in Inspection Procedure 71111.19-05.

b. Findings

No findings of significance were identified.

1R20 Refueling and Other Outage Activities (71111.20)

a. Inspection Scope

The inspectors reviewed the outage safety plan and contingency plans for the Columbia Generating Station Unit 2 refueling outage, conducted May 9 to June 24, 2009, to confirm that licensee personnel had appropriately considered risk, industry experience, and previous site-specific problems in developing and implementing a plan that assured maintenance of defense-in-depth. During the refueling outage, the inspectors observed portions of the shutdown and cooldown processes and monitored licensee controls over the outage activities listed below.

- Configuration management, including maintenance of defense-in-depth, is commensurate with the outage safety plan for key safety functions and compliance with the applicable technical specifications when taking equipment out of service.
- Clearance activities, including confirmation that tags were properly hung and equipment appropriately configured to safely support the work or testing.
- Installation and configuration of reactor coolant pressure, level, and temperature instruments to provide accurate indication, accounting for instrument error.
- Status and configuration of electrical systems to ensure that technical specifications and outage safety-plan requirements were met, and controls over switchyard activities.
- Monitoring of decay heat removal processes, systems, and components.
- Verification that outage work was not impacting the ability of the operators to operate the spent fuel pool cooling system.
- Reactor water inventory controls, including flow paths, configurations, and alternative means for inventory addition, and controls to prevent inventory loss.
- Controls over activities that could affect reactivity.
- Maintenance of secondary containment as required by the technical specifications.

- Refueling activities, including fuel handling and sipping to detect fuel assembly leakage.

- Startup and ascension to full power operation, tracking of startup prerequisites, walkdown of the drywell (primary containment) to verify that debris had not been left which could block emergency core cooling system suction strainers, and reactor physics testing.

- Licensee identification and resolution of problems related to refueling outage activities.

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

These activities constitute completion of one refueling outage and other outage inspection sample as defined in Inspection Procedure 71111.20-05.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors reviewed the Final Safety Analysis Report, 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.

- Work Order 01162402, stack monitor monthly source and channel check, April 1, 2009
- Work Order 01161145, TSP-DG2-X501 diesel generator shutdown logic checks, April 2, 2009
- CSP-SLC-M101, standby liquid control boron, April 7, 2009
- Valve inservice test - Work Order 01147789, RHR-V-209 repair and partial OSP, April 7, 2009
- Test of reactor core isolation cooling with work on backup transformer, April 9, 2009
- Work Order 01143605, E-CB01/7 H1 TOC switch replacement, April 14, 2009
- Containment isolation valve local leak rate test - Work Order 01138221, inspect FPC-V-107, April 20, 2009
- Reactor coolant system leakage detection surveillance - Work Order 01164057, ISP-LD-S901, leak detection monitor 1A surveillance, May 19, 2009

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

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

b. Findings

No findings of significance were identified.

2. RADIATION SAFETY

Cornerstone: Occupational and Public Radiation Safety

2OS1 Access Control to Radiologically Significant Areas (71121.01)

a. Inspection Scope

This area was inspected to assess licensee performance in implementing physical and administrative controls for airborne radioactivity areas, radiation areas, high radiation areas, and worker adherence to these controls. The inspector used the requirements in 10 CFR Part 20, the technical specifications, and the licensee's procedures required by technical specifications as criteria for determining compliance. During the inspection, the inspectors interviewed the radiation protection manager, radiation protection supervisors, and radiation workers. The inspectors performed independent radiation dose rate measurements and reviewed the following items:

- Performance indicator events and associated documentation packages reported by the licensee in the Occupational Radiation Safety Cornerstone
- Controls (surveys, posting, and barricades) of radiation, high radiation, or airborne radioactivity areas
- Radiation work permits, procedures, engineering controls, and air sampler locations
- Conformity of electronic personal dosimeter alarm set points with survey indications and plant policy; workers' knowledge of required actions when their electronic personnel dosimeter noticeably malfunctions or alarms
- Barrier integrity and performance of engineering controls in airborne radioactivity areas
- Adequacy of the licensee's internal dose assessment for any actual internal exposure greater than 50 millirem committed effective dose equivalent
- Physical and programmatic controls for highly activated or contaminated materials (non-fuel) stored within spent fuel and other storage pools
- Self-assessments, audits, licensee event reports, and special reports related to the access control program since the last inspection
- Corrective action documents related to access controls

- Licensee actions in cases of repetitive deficiencies or significant individual deficiencies
- Radiation work permit briefings and worker instructions
- Adequacy of radiological controls, such as required surveys, radiation protection job coverage, and contamination control during job performance
- Dosimetry placement in high radiation work areas with significant dose rate gradients
- Changes in licensee procedural controls of high dose rate - high radiation areas and very high radiation areas
- Controls for special areas that have the potential to become very high radiation areas during certain plant operations
- Posting and locking of entrances to all accessible high dose rate - high radiation areas and very high radiation areas
- Radiation worker and radiation protection technician performance with respect to radiation protection work requirements

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

These activities constitute completion of 21 of the required 21 samples as defined in Inspection Procedure 71121.01-05.

b. Findings

Introduction: The inspectors reviewed a Green, self-revealing noncited violation of Technical Specification 5.7.1 for failure to barricade and conspicuously post a high radiation area.

Description: On April 14, 2009, equipment drain radioactive tank 5 was partially drained in support of cleaning the tank. At approximately one percent capacity, radiation protection personnel surveyed the tank area to verify the dose rates at the existing high radiation area boundary. The highest dose rate at the boundary was approximately 60 millirem per hour. Operations personnel continued with the planned tagout of the tank without radiation protection personnel being aware that the tank would be completely drained of water. Approximately 2 hours after the draining of the tank, two workers near the tank area received dose rate alarms indicating that unexpected radiological conditions existed. Radiation protection personnel responded to the area, performed surveys, and found an unexpected high radiation area outside of the posted high radiation area boundary. The highest dose rate outside the existing boundary was approximately 200 millirem per hour. Therefore, the high radiation area boundary had to be extended out another 4 feet. Dose rates in the general work area of the tank were 50-60 millirem per hour as opposed to 5-8 millirem per hour prior to draining the tank.

Analysis: The failure to barricade and conspicuously post a high radiation area is a performance deficiency. The finding was greater than minor because it was associated with the Occupational Radiation Safety Cornerstone attribute of program and process and affected the cornerstone objective, in that, failure to post a high radiation area impacted the ability to adequately protect workers health and safety from exposure to radiation. Using Inspection Manual Chapter 0609, Appendix C, "Occupational Radiation Safety Significance Determination Process", the finding was determined to be of very low safety significance because it was not an ALARA finding, there was no overexposure or substantial potential for an overexposure, and the ability to assess dose was not compromised. The finding was self-revealing because the licensee was alerted to the situation when the workers received unexpected electronic dosimeter alarms. Additionally, this finding had human performance crosscutting aspects associated with work control in that work planning did not appropriately plan work activities by incorporating risk insights and radiological safety [H.3(a)].

Enforcement: Technical Specification 5.7.1 requires, in part, that for high radiation areas with dose rates not exceeding 1.0 rem per hour (at 30 centimeters from the radiation sources or from any surface penetrated by the radiation), each entryway to such an area shall be barricaded and conspicuously posted as a high radiation area. Pursuant to 10 CFR 20.1003, a "high radiation area" means an area, accessible to individuals, in which radiation levels from radiation sources external to the body could result in an individual receiving a dose equivalent in excess of 0.1 rem (1 mSv) in 1 hour at 30 centimeters from the radiation source or 30 centimeters from any surface that the radiation penetrates. Contrary to the above, on April 14, 2009, the licensee failed to barricade and conspicuously post a high radiation area, with dose rates as high as 200 millirem per hour. Specifically, equipment drain radioactive tank 5 was completely drained creating an unposted high radiation area. Because this failure to barricade and conspicuously post a high radiation area is of very low safety significance and has been entered into the licensee's corrective action program as action request 195295, this violation is being treated as a noncited violation, consistent with Section VI.A of the NRC Enforcement Policy: NCV 05000397/2009003-01, "Failure to Barricade and Conspicuously Post a High Radiation Area."

2OS2 ALARA Planning and Controls (71121.02)

a. Inspection Scope

The inspector assessed licensee performance with respect to maintaining individual and collective radiation exposures ALARA. The inspector used the requirements in 10 CFR 20 and the licensee's procedures required by technical specifications as criteria for determining compliance. The inspector interviewed licensee personnel and reviewed the following:

- Interfaces between operations, radiation protection, maintenance, maintenance planning, scheduling and engineering groups

- Integration of ALARA requirements into work procedure and radiation work permit (or radiation exposure permit) documents
- Dose rate reduction activities in work planning
- Use of engineering controls to achieve dose reductions and dose reduction benefits afforded by shielding
- Workers' use of the low dose waiting areas
- Radiation worker and radiation protection technician performance during work activities in radiation areas, airborne radioactivity areas, or high radiation areas

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

These activities constitute completion of 2 of the required 15 samples and 4 of the optional samples as defined in Inspection Procedure 71121.02-05.

b. Findings

No findings of significance 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 of 2009 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 of significance 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 2008 through the first quarter

2009. To determine the accuracy of the performance indicator data reported during those periods, performance indicator definitions and guidance contained in NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 5, and NUREG-1022, "Event Reporting Guidelines 10 CFR 50.72 and 50.73" definitions and guidance were used. 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 2008 through March 2009 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 of significance 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 2008 through first quarter 2009. To determine the accuracy of the performance indicator data reported during those periods, performance indicator definitions and guidance contained in NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 5, was used. 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 2008 through March 2009 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 of significance 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 2008 through first quarter 2009. To determine the accuracy of the performance indicator data reported during those periods, performance indicator definitions and guidance contained in NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 5, was used. 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 2008 through March 2009 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 of significance were identified.

.5 Occupational Exposure Control Effectiveness (OR01)

a. Inspection Scope

The inspectors sampled licensee submittals for the Occupational Radiological Occurrences performance indicator for the fourth quarter of 2008 and first quarter of 2009. To determine the accuracy of the performance indicator data reported during those periods, performance indicator definitions and guidance contained in NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 5, was used. The inspectors reviewed the licensee's assessment of the performance indicator for occupational radiation safety to determine if indicator related data was adequately assessed and reported. To assess the adequacy of the licensee's performance indicator data collection and analyses, the inspectors discussed with radiation protection staff, the scope and breadth of its data review, and the results of those reviews. The inspectors independently reviewed electronic dosimetry dose rate and accumulated dose alarm and dose reports and the dose assignments for any intakes that occurred during the time period reviewed to determine if there were potentially unrecognized occurrences. The inspectors also conducted walkdowns of numerous locked high and very high radiation area entrances to determine the adequacy of the controls in place for these areas.

These activities constitute completion of the occupational radiological occurrences sample as defined in Inspection Procedure 71151-05.

b. Findings

No findings of significance were identified.

.6 Radiological Effluent Technical Specifications/Offsite Dose Calculation Manual Radiological Effluent Occurrences (PR01)

a. Inspection Scope

The inspectors sampled licensee submittals for the Radiological Effluent Technical Specifications/Offsite Dose Calculation Manual Radiological Effluent Occurrences performance indicator for the fourth quarter of 2008 and first quarter of 2009. To determine the accuracy of the performance indicator data reported during those periods, performance indicator definitions and guidance contained in NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 5, was used. The inspectors reviewed the licensee's issue report database and selected individual reports generated since this indicator was last reviewed to identify any potential occurrences such as unmonitored, uncontrolled, or improperly calculated effluent releases that may have impacted offsite dose. The inspectors reviewed gaseous effluent summary data and the results of associated offsite dose calculations for selected dates during the fourth quarter of 2008 to determine if indicator results were accurately reported. The inspectors also reviewed the licensee's methods for quantifying gaseous and liquid effluents and determining effluent dose. Additionally, the inspectors reviewed the licensee's historical 10 CFR Part 50.75(g) file and selectively reviewed the licensee's analysis for discharge pathways resulting from a spill, leak, or unexpected liquid discharge focusing on those incidents which occurred over the last few years.

These activities constitute completion of the radiological effluent technical specifications/offsite dose calculation manual radiological effluent occurrences sample as defined in Inspection Procedure 71151-05.

b. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems (71152)

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

Introduction. The inspectors reviewed a Green self-revealing finding for the failure of Energy Northwest to implement the standards and guidance provided in Site Wide Procedure SWP-CAP-01, "Corrective Action Program," Revision 17. As a result, the licensee failed to implement interim corrective actions, for previously identified single point vulnerability in the main generator seal oil system, which resulted in a reactor scram while performing testing on the system.

Description. On May 8, 2009, during scheduled pre-outage generator seal oil system back-up testing, the generator air side seal oil system unexpectedly lost pressure due to an abruptly plugged Cuno filter, SO-F-1. This resulted in a loss of seal oil, which in turn caused a failure of the hydrogen seal to maintain generator gas pressure and hydrogen escaped through the shaft seals. Due to the release of hydrogen gas from the generator, generator pressure dropped from 72 psi to 30 psi, the station entered Procedure ABN-GENERATOR, "Main Generator Trouble," Revision 4, lowered power from 1000 MW to 925 MW, and then manually scrammed the reactor.

The Cuno filter plugging during maintenance is a known problem that was first identified in September 1989 as documented in PER 289-0544. An upgrade to the filtering system was approved in November 1990 but was subsequently cancelled in October 1996 due to budget constraints. Action Request 1485 was initiated in September 2000 recommending upgrading the system to a high efficiency duplex filter assembly. Several requests were made and Action Request 1485 was approved in March 2007 to be implemented in fiscal year 2009. An administrative error, as documented in Action Request 1485-4 on March 11, 2008, scheduled the filter upgrade for fiscal year 2010 or 2011. A known corrective action to prevent the Cuno filter from plugging is to have an operator manually rotate the filter.

Analysis. Energy Northwest's failure to implement the standards and guidance provided in Procedure SWP-CAP-01 is a performance deficiency. Specifically, delaying the corrective action of a single-point vulnerability and not implementing any interim corrective actions resulted in a plant scram. Procedure SW-CAP-01, Section 4.11.1.g states in part that, "Long term corrective actions are assigned a due date commensurate with the safety significance of the condition provided reasonable efforts are made to complete the corrective actions promptly or at the first available opportunity unless appropriate justification is provided for a longer completion schedule." Section 4.11.1.f of Procedure SWP-CAP-01 states in part that, "If the actions in a CAP cannot be implemented in a timely manner, the plan should include interim actions." Contrary to this procedure, inspectors found that timely action had not been taken to address a single-point vulnerability in the seal oil system.

The inspectors used NRC Inspection Manual Chapter 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening," to determine that the finding was more than minor because it was an equipment performance issue that affected the Initiating Events Cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Using Inspection Manual Chapter 0609.4, "Phase 1 – Initial Screening and Characterization of Findings," this finding was determined to be of very low safety significance (Green) because it did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available. The finding had a crosscutting aspect in the area of problem identification and resolution associated with operating experience [P.2.(b)], because the licensee failed to implement operational experience through changes to station processes, procedures, equipment, and training programs (Section 4OA2).

Enforcement. Because this finding does not involve a violation of regulatory requirements and has very low safety significance, it is identified as:
FIN 05000397/2009003-02, "Reactor Scram Due to Seal Oil Leak for Main Generator."

.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 of significance were identified.

.3 Semi-Annual Trend Review

a. Inspection Scope

The inspectors performed a review of the licensee's corrective action program and associated documents to identify trends that could indicate the existence of a more significant safety issue. The inspectors focused their review on repetitive equipment issues, but also considered the results of daily corrective action item screening discussed in Section 4OA2.2, above, licensee trending efforts, and licensee human performance results. The inspectors nominally considered the 6-month period of January through June 2009, although some examples expanded beyond those dates where the scope of the trend warranted.

The inspectors also included issues documented outside the normal corrective action program in major equipment problem lists, repetitive and/or rework maintenance lists, departmental problem/challenges lists, system health reports, quality assurance audit/surveillance reports, self-assessment reports, and maintenance rule assessments. The inspectors compared and contrasted their results with the results contained in the licensee's corrective action program trending reports. Corrective actions associated with a sample of the issues identified in the licensee's trending reports were reviewed for adequacy.

These activities constitute completion of one single semi-annual trend inspection sample as defined in Inspection Procedure 71152-05.

b. Findings

No findings of significance were identified.

4OA3 Event Follow-up (71153)

.1 May 8, 2009, Manual Reactor Scram

a. Inspection Scope

On May 8, 2009, the inspectors observed and evaluated Energy Northwest's response to a scram while the reactor was operating at 87 percent power. Specifically, Energy Northwest's failure to correct a known single-point vulnerability caused a loss of seal oil pressure and a resultant plant scram. The inspectors responded to the site and verified plant conditions by observing key plant parameters, annunciator status, and observing the current status of safety related mitigating equipment to ensure that the plant was stable. The inspectors also observed reactor operator actions in response to the reactor scram and senior reactor operator's evaluation of plant conditions and oversight of the reactor operators to ensure that operators were adhering to plant procedures. The inspectors also reviewed Energy Northwest's evaluation of the root cause of the scram.

b. Findings

One finding was identified, as documented in Section 4OA2.

.2 (Closed) Licensee Event Report 05000397/2009-001-00: Reactor Scram Due to Turbine Control System Trip Header Depressurization

This Licensee Event Report documents the automatic scram that occurred on February 8, 2009, due to a pressure transient following on-line maintenance of the digital electro-hydraulic system. Energy Northwest determined the cause of the event to be design deficiencies in the on-line serviceable assembly, which allowed system conditions that resulted in a reactor trip. See Inspection Report 05000397/2009002 for a discussion of a self-revealing finding associated with this issue. 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. Specific documents reviewed are described in the attachment to this report.

.3 June 26, 2009 Manual Reactor Scram

a. Inspection Scope

On June 26, 2009, the inspectors observed and evaluated Energy Northwest's response to a scram while the reactor was operating at 65 percent power. The inspectors responded to the site and verified plant conditions by observing key plant parameters, annunciator status, and observing the current status of safety related mitigating equipment to ensure that the plant was stable. The inspectors also observed reactor operator actions in response to the reactor scram and senior reactor operator's evaluation of plant conditions and oversight of the reactor operators to ensure that operators were adhering to plant procedures.

b. Findings

No findings of significance were identified. The inspectors will review the licensee's root cause analysis and corrective actions.

4OA5 Other Activities

.1 Quarterly Resident Inspector Observations of Security Personnel and Activities

a. Inspection Scope

During the inspection period, the inspectors performed observations of security force personnel and activities to ensure that the activities were consistent with Columbia Generating Station's security procedures and regulatory requirements relating to nuclear plant security. These observations took place during both normal and off-normal plant working hours. Specific documents reviewed are described in the attachment to this report.

These quarterly resident inspector observations of security force personnel and activities did not constitute any additional inspection samples. Rather, they were considered an integral part of the inspectors' normal plant status review and inspection activities.

b. Findings

No findings of significance were identified.

.2 Institute of Nuclear Power Operations (INPO) Plant Assessment Report Review

a. Inspection Scope

On May 5, 2009, the inspectors completed a review of the final report for the INPO plant assessment of Columbia Generating Station conducted in October 2008. The inspectors reviewed the report to ensure that issues identified were consistent with the NRC perspectives of licensee performance and to verify if any significant safety issues were identified that required further NRC follow-up.

b. Findings

No findings of significance were identified

4OA6 Meetings

Exit Meeting Summary

On May 21, 2009, the inspectors presented the results of this inservice inspection to Mr. S. Gambir, Vice President of Technical Services, and other members of licensee management. Licensee management acknowledged the inspection findings. The inspectors also confirmed that no proprietary material was reviewed during the inspection.

On May 22, 2009, the inspectors presented the occupational and public radiation safety inspection results to Mr. S. Oxenford, Vice President Nuclear Generation, 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 7, 2009, the inspectors presented the inspection results to Mr. S. Oxenford, Vice President, Nuclear Generation, 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.

On July 13, 2009, the senior resident inspector conducted a final exit meeting with Mr. M. Humphreys, Licensing Supervisor, and other members of the licensing 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.

SUPPLEMENTAL INFORMATION
KEY POINTS OF CONTACT

Licensee Personnel

D. Atkinson, Vice President, Operations Support
G. Cullen, Manager, Regulatory Programs
M. Davis, Manager, Radiation Protection
J. Frisco, General Manager, Engineering
S. Gambhir, Vice President, Technical Services
R. Garcia, Specialist, Licensing
W. LaFramboise, System Engineering Manager
T. Lynch, Plant General Manager
J. Parrish, Chief Executive Officer
F. Schill, Licensing
M. Shepherd, Supervisor, Radiation Protection
C. Tiemans, Supervisor, Radiation Protection
C. Whitcomb, Vice President, Organizational Performance and Staffing

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

None

Opened and Closed

05000397/2009003-01	NCV	Failure to Barricade and Conspicuously Post a High Radiation Area (Section 4OA2)
05000397/2009003-02	FIN	Reactor Scram Due to Seal Oil Leak for Main Generator (Section 2OS1)

Closed

05000397/2009-001-00	LER	Reactor Scram Due to Turbine Control System Trip Header Depressurization (Section 4OA3)

LIST OF DOCUMENTS REVIEWED

Section 1RO1: Adverse Weather Protection

DOCUMENT NUMBER	TITLE	REVISION / DATE
ABN-ELEC-GRID	Degraded Offsite Power Grid	3
ABN-ELEC-LOOP	Loss of Offsite Power	10
	Energy Northwest/BPA Agreement Number 04TX-11739, Agreement for Duties and Responsibilities for Integration of CGS Output	August 1, 2004

Section 1RO4: Equipment Alignment

DOCUMENT NUMBER	TITLE	REVISION / DATE
OSP-HPCS-M102	HPCS Valve Lineup	1
OSP-ELEC-M703	Diesel Generator Monthly Operability Test	38
M520	Flow Diagram – HPCS and LPCS Systems Reactor Building	95
SOP-SW-STBY	Placing Service Water in Standby Status	3
M524-1	Flow Diagram Standby Service Water System Reactor, Radwaste Diesel Generator Buildings and Yard	113
M524-2	Flow Diagram Standby Service Water System Reactor, Radwaste Diesel Generator Buildings and Yard	103
M524-3	Flow Diagram Standby Service Water System Reactor, Radwaste Diesel Generator Buildings and Yard	16
ABN-SW	Service Water Trouble	11

Section 1RO5: Fire Protection

DOCUMENT NUMBER	TITLE	REVISION / DATE
PPM 1.3.10C	Control of Transient Combustibles	11
WO 01159799	Transient Combustible Permit 09-0051	March 19, 2009
Fire Plan	CGS Pre-Fire Plan	7
USAR	USAR, Appenidix F	Amendment 57
AR 00195624	Fire Door W-DOOR-C216 is partially open	April 21, 2009
WR 29073354	W-DOOR-C216 is sprung, needs closed manually	April 21, 2009

NFPA-10	National Fire Protection Association	Dated 1984
EPI 21	Drill and Exercise Performance	11
PPM 13.14.8	Drill and Exercise Program	16
FSAR 13.3	Emergency Planning	Amendment 53
EP	Emergency Action Plan	50
Drill	Fire Brigade Drill	Dated 2009

Section 1RO8: Inservice Inspection Activities

DOCUMENT NUMBER	TITLE	REVISION / DATE
ASME-P1-GTAW-1	Gas Tungsten Arc Welding of Carbon Steels	2
SPS-7-5	In-Vessel Visual Inspection of the RPV Internals (IVVI)	1
SPS-4-3	Magnetic Particle Examination Columbia Generating Station – ISI	0
SPS-3-1	Liquid Penetrant Examination Instructions	0
R18-UT 2-06	UT Examination Report of 4RRC(4)B-11	June 2, 2007
	IVVI Pre-Job Training and Inspection Guide	Spring 2009
RVIP-41	BWR Vessel and Internals Project BWR Jet Pump Assembly Inspection and Flaw Evaluation Guidelines	1
	Letter from M. T. Markley (NRC) to J.V. Parrish (CGS), Columbia Generating Station-Request for Relief No. 31SI-09 for the Third 10-Year Inservice Inspection Program Interval 9TAC no. MD9850)	April 8, 2009

CORRECTIVE ACTION DOCUMENTS

AR 00057014	AR 00053330	AR 00054202	AR 00053841	AR 00054204
AR 00053704	AR 00053192	AR 00053938	AR 00053327	AR 00053697

Section 1R11: Licensed Operator Requalification Program

TITLE	DATE
Operations Requalification Training, Scenario LR001918	March 16, 2009
Crew Evaluation Summary, Scenario LR001918	April 6, 2009

Section 1R12: Maintenance Effectiveness

DOCUMENT NUMBER	TITLE	DATE
WO 01160103	Replace Seal Drywell Hatch	April 1, 2009

Section 1R13: Maintenance Risk Assessment and Emergent Work Controls

DOCUMENT NUMBER	TITLE	REVISION / DATE
WO 01162218	Heavy Lift of REA-Fan-1B	March 31, 2009
PPM 1.5.14	Risk Assessment and Management for Maintenance/Surveillance Activities	17
WO 01138221	SOP-FUELPOOL-DRAIN, FUEL POOL PARTIAL DRAIN	0
NE-01-82-12	Spent Fuel Heatup rate	2
PPM 1.3.68	Work Management Process	17
PPM 102.53	Seismic Requirements for Scaffolding, Ladders, Man-Lifts Tool Gang Boxes, Hoists, Metal Storage Cabinets, and Temporary Shielding Racks	29
WO 001141820	Rebuild Service Water Valve SW-V-170B	June 15, 2009
AR/CR 198269	70 Ton Grove Crane	May 30, 2009
AR/CR 198282	Evaluation of 70 Ton Grove Crane	May 29, 2009
AR/CR 198607	Evaluate Generic Operation of 70 Ton Grove Crane and Boom Truck	June 2, 2009

Section 1R15: Operability Evaluations

DOCUMENT NUMBER	TITLE	REVISION / DATE
PER 207-0470	Emergency Diesel Generator Demand and Run Failures 2002 through 2006	December 12, 2007
AR 196046	Incomplete Operability Evaluation for AR/CR 191584	April 28, 2009
AR 191584	CCH-RV-2A is leaking by at 150 drops per minute	January 23, 2009
AR 190083	RCIC-LS-10 Shaking	December 17, 2008
AR 191406	Evaluate Vibration Data to determine the need of hanger mod	January 19, 2009

Section 1R18: Plant Modifications

DOCUMENT NUMBER	TITLE	REVISION / DATE
TMR-09007	Temporary Modification Request 09-007, Fuel Pool Cooling Motor 1A	April 22, 2009
WO 01172331	RRC-V-23A Repair Bonnet Leak in Bonnet Leak Off	June 13, 2009
50.59 Screen 09-0167	RRC-V-23A Leak Repair	June 14, 2009

Section 1R19: Postmaintenance Testing

DOCUMENT NUMBER	TITLE	REVISION / DATE
WO 01169535	Post Maintenance Testing	April 21, 2009
FPC-M-P/1A	Perform post maintenance testing of replacement motor after installation and coupled to pump	April 22, 2009
WO 01165944	OSP-RCIC/IST-Q701 RCIC Operability Test	June 22, 2009
AR/CR 195935	RCIC Turbine Bearing Oil Level is Slightly in Yellow Band	April 26, 2009
AR/CR 200054	RCIC Turbine did not trip locally on first attempt	June 23, 2009
PPM Test Instructions	Reactor Digital Feedwater Control Power Ascension Test Program	1
WO 01137764	Inspection of RRC-V-24A Gland Packing Leak-off at 1000 lbs.	June 24, 2009
WO 01139947	RFT-DT DEH Testing	June 25, 2009
WO 01169481	FPC-M-P/1A Reterm Pump Motor	April 17, 2009

Section 1R20: Refueling and Other Outage Activities

DOCUMENT NUMBER	TITLE	REVISION/DATE
FSAR	FSAR Chapter 9	Amendment 57
NEI-08-05	Industry Initiative on Control of Heavy Loads	0
NUREG 0612	Control of Heavy Loads at Nuclear Power Plants	July 1980
GL 88-17	Loss of Decay Heat Removal	October 17, 1988
PPM 6.3.2	Fuel Shuffling and/or Offloading and Reloading	20
PPM 10.3.21	Reactor Pressure Vessel Disassembly	28
OSP-RCS-C101	RPV Heatup Surveillance	7

PPM 3.1.1	Master Startup Check List	40
GL80-113	Control Of Heavy Loads	December 22, 1980
0000-0098-0322-SRLR	Supplemental Reload Licensing Report for Columbia Reload 19 Cycle 20	0
	WNP-2 Final Reactor Core, Cycle 20 Loading	June 1, 2009
	50-59 EVAL POC Approval Pages 512-516	
	AD-SCREN, Applicability Determination for License Basis Changes, Pages 501-511	Revision 2
	Design Scope Summary, Pages 011-042	
	Design Safety Assessment, Pages 401-425	
	KK120, Supplemental Reload Licensing Report	Revision 0 March 2009
	TOC-PGM, Plant Design Change, Approval Pages 01-10	
	Reactivity Plan Cycle R-20	June 2009
	WO 01147789	
	AR/CR 00188736	
	WO 01106675	

Section 1R22: Surveillance Testing

DOCUMENT NUMBER	TITLE	REVISION / DATE
WO 01162402		
PPM CPS-STACK-201	Stack Monitor Monthly Source and Channel Checks	7
WO 01161145	TSP-DG2-X501	0
PPM TSP-DG2-X501	Diesel Generator 2 Shutdown Logic Checks	1
CSP-SLC-M101	Boron Concentration	April 7, 2009
WO 01162604		
PPM 12.14.2	Standby Liquid Control Chemical Addition	11
M522	Standby Liquid Control Flow Diagram	35
OPS-RHR/IST-R701	RHR A Check Valve Operability-Refueling Shutdown	7
WO 01138221	Inspect FPC-V-107	April 20, 2009
WO 01143605	Replace E-CB-1/7 TOC Switch	April 9, 2009
WO 01164057	Leak Detection Monitor 1A surveillance	May 19, 2009

AR/CR 2-07-07595	Breaker 3/8 Circuit Under Voltage Test Alarm Received in Main Control Room	August 8, 2007
WO 01147789	RHR-V-209 Repair and Partial OSP	May 14, 2009

Section 2OS1: Access Controls to Radiologically Significant Areas

PROCEDURES

NUMBER	TITLE	REVISION
SWP-RPP-01	Radiation Protection Program	7
GEN-RPP-04	Entry Into, Conduct in, and Exit from Radiologically Controlled Areas	20
PPM 11.2.13.1	Radiation and Contamination Surveys	23
PPM 11.2.7.3	High Radiation Area, Locked High Radiation Area, and Very High Radiation Area Controls	31
PPM 11.2.7.1	Area Posting	29

AUDITS, SELF-ASSESSMENTS, AND SURVEILLANCES

Self-Assessment 19170 High Radiation Controls

CORRECTIVE ACTION DOCUMENTS (ACTION REQUEST)

189792	191022	195295	195944	196776
196915	197195			

RADIATION WORK PERMITS

RWP#	RWP DESCRIPTION
2008-2-0296	2RE13-SG-Eddy Current Testing (LHRA)
2008-2-0293	2RE13-SG-Primary Side Generator Support and Equipment Setup/Teardown (HRA)
2008-2-0294	2RE13-SG- Generator Primary Side Manway/Diaphragm Work (LHRA)
2008-2-0265	2RE13-RMCT Routines and Various Decon Functions (HRA)
2008-2-0249	2RE13-Maintenance and Support Work (HRA)

Section 2OS2: ALARA Planning and Controls

PROCEDURES

NUMBER	TITLE	REVISION
HPI-0.13	Radiation Protection Standards and Expectations	1
GEN-RPP-02	ALARA Planning and Radiation Work Permits	17
PPM 11.2.13.8	Airborne Radioactivity Surveys	9

CORRECTIVE ACTION DOCUMENTS (Action Request)

190972	196372	196705	197105	197112

Section 4OA1: Performance Indicator Verification

DOCUMENT NUMBER	TITLE	DATE
NEI 99-02	Regulatory Assessment Indicator Guideline	4
OSP-INST-H101	Shift and Daily Instrument Checks (Modes 1, 2, 3)	65
CSP-I131-W101	Reactor Coolant Isotopic Analysis For I-131 Dose Equivalent	6
SOP-EDR-LU	Equipment Drain System Valve and Breaker Lineup	1
SOP-EDR-OPS	Equipment Drain System Operation	1
SOP-FDR-LU	Floor Drain System Valve and Breaker Lineup	0
SOP-FDR-OPS	Floor Drain System Operation	0
PPM 12.5.33	Reactor Coolant Sampling	10
CI 10.17	Iodine	7
ISP-FDR/EDR-M401	Drywell Sump Flow Monitors – CFT	5
ISP-FDR/EDR-X301	Drywell Sump Flow Monitors – CC	7
LCO Logs	Technical Specification Inoperable Equipment/LCO/RFO Status Sheet	0

Section 4OA2: Identification and Resolution of Problems

CORRECTIVE ACTION DOCUMENTS

AR/CR 00195217	AR/CR 00195244	AR/CR 00195246	AR/CR 00195275	AR/CR 00195287
AR/CR 00195294	AR/CR 00195295	AR/CR 00195372	AR/CR 00195375	AR/CR 00195380
AR/CR 00195382	AR/CR 00195385	AR/CR 00195388	AR/CR 00195287	AR/CR 00195246
AR/CR 00195217	AR/CR 00195192	AR/CR 00195184	AR/CR 00195070	AR/CR 00195115
AR/CR 00195117	AR/CR 00196053	AR/CR 00195067	AR/CR 00195031	AR/CR 00194928
AR/CR 00194854	AR/CR 00194959	AR/CR 00194874	AR/CR 00194878	AR/CR 00194880
AR/CR 00194881	AR/CR 00194883	AR/CR 00194887	AR/CR 00194888	AR/CR 00194890
AR/CR 00194892	AR/CR 00194895	AR/CR 00194898	AR/CR 00194809	AR/CR 00194813
AR/CR 00194815	AR/CR 00194825	AR/CR 00194827	AR/CR 00194828	AR/CR 00194835
AR/CR 00194848	AR/CR 00194852	AR/CR 00194781	AR/CR 00194789	AR/CR 00194760
AR/CR 00194766	AR/CR 00194774	AR/CR 00194608	AR/CR 00194611	AR/CR 00194692
AR/CR 00194695	AR/CR 00194704	AR/CR 00194706	AR/CR 00194734	AR/CR 00194737

AR/CR 00194738	AR/CR 00194654	AR/CR 00194668	AR/CR 00194683	AR/CR 00194688
AR/CR 00194462	AR/CR 00194482	AR/CR 00194521	AR/CR 00194527	AR/CR 00194543
AR/CR 00121976	AR/CR 00192240	AR/CR 00196047	AR/CR 00191584	AR/CR 00190083
AR/CR 00197142	AR/CR 00197077	AR/CR 00197016	AR/CR 00197019	AR/CR 00197024
AR/CR 00197026	AR/CR 00197033	AR/CR 00197035	AR/CR 00197044	AR/CR 00197049
AR/CR 00197052	AR/CR 00197053	AR/CR 00197054	AR/CR 00197061	AR/CR 00197102
AR/CR 00197105	AR/CR 00197115	AR/CR 00197116	AR/CR 00197122	AR/CR 00197132
AR/CR 00197133	AR/CR 00197135	AR/CR 00196645	AR/CR 00196646	AR/CR 00196656
AR/CR 00196662	AR/CR 00196663	AR/CR 00196666	AR/CR 00196669	AR/CR 00196676
AR/CR 00196679	AR/CR 00196691	AR/CR 00196696	AR/CR 00196701	AR/CR 00196584
AR/CR 00196585	AR/CR 00196446	AR/CR 00196451	AR/CR 00196465	AR/CR 00196474
AR/CR 00196503	AR/CR 00196509	AR/CR 00196516	AR/CR 00196517	AR/CR 00196528
AR/CR 00196376	AR/CR 00196372	AR/CR 00196325	AR/CR 00196375	AR/CR 00196298
AR/CR 00196291	AR/CR 00196307	AR/CR 00196759	AR/CR 00196762	AR/CR 00196776
AR/CR 00196777	AR/CR 00196812	AR/CR 00196812	AR/CR 00196823	AR/CR 00196835
AR/CR 00196836	AR/CR 00196837	AR/CR 00196842	AR/CR 00196847	AR/CR 00195935
AR/CR 00195957	AR/CR 00195962	AR/CR 00195978	AR/CR 00195982	AR/CR 00196008
AR/CR 00195851	AR/CR 00195897	AR/CR 00195928	AR/CR 00195930	AR/CR 00195943
AR/CR 00195940	AR/CR 00195939	AR/CR 00195935	AR/CR 00195752	AR/CR 00195761
AR/CR 00195762	AR/CR 00195805	AR/CR 00195825	AR/CR 00195826	AR/CR 00195827
AR/CR 00195828	AR/CR 00195829	AR/CR 00195728	AR/CR 00195661	AR/CR 00195673
AR/CR 00195677	AR/CR 00195680	AR/CR 00195684	AR/CR 00195686	AR/CR 00195691
AR/CR 00195699	AR/CR 00195701	AR/CR 00195702	AR/CR 00195706	AR/CR 00195707
AR/CR 00195709	AR/CR 00195712	AR/CR 00195714	AR/CR 00195716	AR/CR 00195725
AR/CR 00195729	AR/CR 00195733	AR/CR 00195619	AR/CR 00195623	AR/CR 00195624
AR/CR 00195628	AR/CR 00195637	AR/CR 00195640	AR/CR 00195654	AR/CR 00195605
AR/CR 00195573	AR/CR 00195579	AR/CR 00195590	AR/CR 00195593	AR/CR 00195510
AR/CR 00195551	AR/CR 00195512	AR/CR 00195514	AR/CR 00195517	AR/CR 00195524
AR/CR 00195530	AR/CR 00195531	AR/CR 00195533	AR/CR 00195537	AR/CR 00195539
AR/CR 00195541	AR/CR 00195543	AR/CR 00195457	AR/CR 00195461	AR/CR 00195471
AR/CR 00195483	AR/CR 00195484	AR/CR 00195486	AR/CR 00195624	AR/CR 00195725
AR/CR 00198706	AR/CR 00198708	AR/CR 00198726	AR/CR 00198728	AR/CR 00198701
AR/CR 00198699	AR/CR 00198695	AR/CR 00198694	AR/CR 00198676	AR/CR 00198660
AR/CR 00198655	AR/CR 00198648	AR/CR 00198645	AR/CR 00198643	AR/CR 00198641
AR/CR 00198640	AR/CR 00198636	AR/CR 00198472	AR/CR 00198501	AR/CR 00198510

AR/CR 00198511	AR/CR 00198543	AR/CR 00198544	AR/CR 00198550	AR/CR 00198553
AR/CR 00198554	AR/CR 00198558	AR/CR 00198562	AR/CR 00198563	AR/CR 00198565
AR/CR 00198570	AR/CR 00198588	AR/CR 00198624	AR/CR 00198627	AR/CR 00198628
AR/CR 00198118	AR/CR 00197975	AR/CR 00197981	AR/CR 00197985	AR/CR 00197995
AR/CR 00198011	AR/CR 00198017	AR/CR 00198026	AR/CR 00198029	AR/CR 00198030
AR/CR 00198040	AR/CR 00198044	AR/CR 00198085	AR/CR 00198104	AR/CR 00198123
AR/CR 00198127	AR/CR 00198132	AR/CR 00198136	AR/CR 00198138	AR/CR 00198140
AR/CR 00198144	AR/CR 00191406	AR/CR 00196099	AR/CR 00200054	AR/CR 00200142
AR/CR 00200169	AR/CR 00200174	AR/CR 00200179	AR/CR 00200043	AR/CR 00200079
AR/CR 00200112	AR/CR 00199985	AR/CR 00199988	AR/CR 00200001	AR/CR 00200043
AR/CR 00200044	AR/CR 00200048	AR/CR 00199929	AR/CR 00199916	AR/CR 00199923
AR/CR 00199940	AR/CR 00199974	AR/CR 00199969	AR/CR 00199840	AR/CR 00199900
AR/CR 00199657	AR/CR 00199664	AR/CR 00199711	AR/CR 00199657	AR/CR 00199723
AR/CR 00199741	AR/CR 00199743	AR/CR 00199756	AR/CR 00199764	AR/CR 00199783
AR/CR 00199817	AR/CR 00199821	AR/CR 00199825	AR/CR 00199833	AR/CR 00199839
AR/CR 00199189	AR/CR 00199255	AR/CR 00199113	AR/CR 00199151	AR/CR 00199165
AR/CR 00199169	AR/CR 00199180	AR/CR 00199189	AR/CR 00199212	AR/CR 00199226
AR/CR 00199228	AR/CR 00199229	AR/CR 00199230	AR/CR 00199240	AR/CR 00198732
AR/CR 00198739	AR/CR 00198742	AR/CR 00198745	AR/CR 00198751	AR/CR 00198768
AR/CR 00198774	AR/CR 00198785	AR/CR 00198790	AR/CR 00198791	AR/CR 00199019
AR/CR 00199020	AR/CR 00199025	AR/CR 00199050	AR/CR 00199053	AR/CR 00199061
AR/CR 00199065	AR/CR 00198094			

Section 4OA3: Event Follow-Up

DOCUMENT NUMBER	TITLE	REVISION / DATE
LER 05000397/2009001-00	Reactor Scram due to Turbine Control System Trip Header Depressurization	
AR 192240	Root Cause Analysis, Reactor Scram Following Maintenance on DEH-SV-TRIP/B (February 8, 2009)	April 28, 2009
AR 196662	Reactor Scram Due to Seal Oil Leak for Main Generator	June 26, 2009
SOP-SO-OPS	Generator Seal Oil System Operations	Revision 2
PPM 5.1.1	EOP RPV Level Control	Revision 17
PPM 3.3.1	Reactor Scram	Revision 53

Section 4OA5: Other Activities

DOCUMENT NUMBER	TITLE	REVISION / DATE
Memorandum	Interim Guidance for Security Inspections by Resident Inspectors	May 9, 2008
SPIP-SEC-35	Columbia Generating Station Security Plan	4
SPIP-SEC01	Sergeant and Lieutenant Duties	13
SPIP-SEC-02	Central and Secondary Alarms Stations	13
SPIP-SEC-03	Response Team Leader	12
10 CFR 73.55(g)	Requirements for Physical Protection	January 1, 2009