



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
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ARLINGTON, TEXAS 76011-4005

November 14, 2006

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SUBJECT: COLUMBIA GENERATING STATION - NRC INTEGRATED INSPECTION
REPORT 05000397/2006004

Dear Mr. Parrish:

On September 30, 2006, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Columbia Generating Station. The enclosed inspection report documents the inspection findings which were discussed on October 5, 2006, with Mr. W. Oxenford and other members of your staff, and re-exit with Mr. T. Lynch, Plant Manager on October 10, 2006.

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

This report documents one NRC-identified finding and one licensee identified finding of very low risk significance. One of these findings was determined to involve a violation of NRC requirements. However, because of the very low safety significance and because it is entered into your corrective action program, the NRC is treating this finding as a noncited violation (NCV) consistent with Section VI.A.1 of the NRC Enforcement Policy. If you contest any NCV in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC 20555-0001; with copies to the Regional Administrator, Region IV, 611 Ryan Plaza Drive, Suite 400, Arlington, Texas 76011-4005; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at the Columbia Generating Station.

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

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Sincerely,

/RA/

Claude E. Johnson, Chief
Project Branch A
Division of Reactor Projects

Docket: 50-397
License: NPF-21

Enclosure:
NRC Inspection Report
05000397/2006003

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U.S. NUCLEAR REGULATORY COMMISSION

REGION IV

Docket: 50-397
License: NPF-21
Report: 05000397/2006004
Licensee: Energy Northwest
Facility: Columbia Generating Station
Location: Richland, Washington
Dates: July 1 through September 30, 2006
Inspectors: Z. Dunham, Senior Resident Inspector, Project Branch A, DRP
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Approved By: C. E. Johnson, Chief, Project Branch A, Division of Reactor Projects
ATTACHMENT: SUPPLEMENTAL INFORMATION

Enclosure

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SUMMARY OF FINDINGS

IR 05000397/2006004; 7/1/2006 - 9/30/2006; Columbia Generating Station; Operability Evaluations; Other Activities

The report covered a 13-week period of inspection by resident inspectors, a senior health physicist, and emergency preparedness inspectors. One Green noncited violation 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 3, dated July 2000.

A. NRC Identified and Self-Revealing Findings

Cornerstone: Mitigating Systems

Green. The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," when Energy Northwest failed to perform adequate design reviews to maintain appropriate control of the design and qualification of the station's safety-related batteries. Specifically, the repetitive failure to provide adequate engineering analysis supporting the temporary installation of a non-Class 1E battery rail charger on a safety-related battery was not commensurate with ensuring the reliability of the station's safety-related batteries.

This finding was more than minor because the finding was a design control issue which affected the mitigating systems cornerstone objective to ensure the availability and reliability of systems that respond to initiating events to prevent undesirable consequences. Utilizing Manual Chapter 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," Phase 1 screening, the inspectors determined that the finding was of very low risk significance because it was a qualification issue confirmed not to result in loss of operability. Additionally, the finding did not represent a loss of safety function for a single train or for the system, and did not screen as potentially risk significant due to external events. This finding had crosscutting aspects in the area of problem identification and resolution associated with the corrective action program component in that the licensee did not thoroughly evaluate design issues with the nonqualified rail charger, as documented in Condition Report 2-05-01894. This resulted in additional examples of the failure to maintain adequate design control of the batteries. (Section 1R15)

B. Licensee Identified Violations

One violation of very low significance was identified by the licensee and reviewed by the inspectors. Corrective actions taken or planned by the licensee appeared to be reasonable. This violation is listed in Section 4OA7 of this report.

REPORT DETAILS

Summary of Plant Status:

The inspection period began with Columbia Generating Station at 100 percent power. The plant was maintained at essentially 100 percent power for the entire inspection period except for three unscheduled reductions in power due to two reactor recirculation pump power supply cooling system failures and a hydraulic leak on a low pressure turbine intercept valve.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather (71111.01)

a. Inspection Scope

The inspectors completed a review of the licensee's readiness of seasonal susceptibilities involving extreme high temperatures and high winds. The inspectors: (1) reviewed plant procedures, the Updated Safety Analysis Report, and Technical Specifications to ensure that operator actions defined in adverse weather procedures maintained the readiness of essential systems; (2) walked down portions of the system listed below to ensure that adverse weather protection features were sufficient to support operability, including the ability to perform safe shutdown functions; (3) evaluated operator staffing levels to ensure the licensee could maintain the readiness of essential systems required by plant procedures; and (4) reviewed the corrective action program to determine if the licensee identified and corrected problems related to adverse weather conditions.

- Reactor Recirculation Pump 1A and 1B Adjustable Speed Drives; August 22, 2006

The inspectors completed one sample.

b. Findings

No findings of significance were identified.

1R04 Equipment Alignments (71111.04)

.1 Partial Walkdown

a. Inspection Scope

The inspectors: (1) walked down portions of the risk important systems listed below and reviewed plant procedures and documents to verify that critical portions of the selected systems were correctly aligned; and (2) compared deficiencies identified during the walk down to the licensee's corrective action program to ensure problems were being identified and corrected.

- Fire Protection System; July 13, 2006
- Condensate System as an Emergency Source of Water to the Reactor; July 18, 2006
- Hydraulic Control Units; August 3, 2006

The inspectors completed three samples.

b. Findings

No findings of significance were identified.

.2 Complete Walkdown (71111.04S)

a. Inspection Scope

The inspectors: (1) reviewed plant procedures, drawings, the updated safety analysis report, technical specifications, and vendor manuals to determine the correct alignment of the system; (2) reviewed outstanding design issues, operator work arounds, and corrective action program documents to determine if open issues affected the functionality of the system; and (3) verified that the licensee was identifying and resolving equipment alignment problems.

- Standby Liquid Control (SLC); July through August, 2006

The inspectors completed one sample.

b. Findings

Introduction. An unresolved item (URI) was identified pending the NRC's review of Energy Northwest's evaluation to determine the impact of not venting the temporary hose during alternate boron injection and a potential performance issue associated with the use of alternate boron injection via the Reactor Core Isolation Cooling (RCIC) System.

Description. The inspectors reviewed and walked down the implementation of Emergency Support Procedure, ESP 5.5.8, "Alternate Boron Injection," Revision 8, to determine the adequacy of the procedure. Procedure ESP 5.5.8 provides for connecting a pre-staged hose between a SLC pump relief valve flange (approximate 548 foot elevation) and a suction drain (approximate 422 foot elevation) on the RCIC pump. This was done to allow the RCIC system to inject the contents of the SLC boron tank to the reactor coolant system to provide a diverse method of shutting down the reactor in the event that AC power was not available to operate the SLC pumps. The inspectors noted that, after the hose is connected, that the procedure does not provide for venting and filling the hose prior to opening valves in the RCIC and SLC systems to establish the alternate flow path. The inspectors were concerned that because of a high point in the configuration of the alternate flow path that the temporary hose may not vent completely prior to operators starting the RCIC pump to inject the SLC tank contents.

Without venting, the inspectors postulated that the RCIC pump may become air bound due to air in the temporary hose being pumped into the RCIC pump or may challenge RCIC pump operation in other unforeseen ways. The licensee was unable to provide any prior analysis or calculations which demonstrated that the temporary hose would "self" vent or if not vented that RCIC pump operations would not be challenged. The licensee documented the concerns in the corrective action program as CR 2-06-06510 and initiated an action request, AR 249460, to evaluate the condition. The licensee had not completed their evaluation of the concern at the end of the inspection period. An URI was opened pending a completion of the NRC's review of Energy Northwest's evaluation to determine the adequacy of not venting the temporary hose during alternate boron injection and the impact on RCIC pump operation (URI 05000397/2006004-01; Non-Venting of Alternate Boron Injection Hose).

Analysis. A determination of the safety significance associated with any performance deficiencies will be addressed in the resolution to the URI.

Enforcement. A determination of the enforcement aspects associated with any performance deficiencies will be addressed in the resolution to the URI.

1R05 Fire Protection (71111.05)

.1 Quarterly Inspection

a. Inspection Scope

The inspectors walked down the plant areas listed below to assess the material condition of active and passive fire protection features and their operational lineup and readiness. The inspectors: (1) verified when applicable that transient combustibles and hot work activities were controlled in accordance with plant procedures; (2) observed the condition of fire detection devices to verify they remained functional; (3) observed fire suppression systems to verify they remained functional; (4) verified that fire extinguishers and hose stations were provided at their designated locations and that they were in a satisfactory condition; (5) verified that passive fire protection features (electrical raceway barriers, fire doors, fire dampers, steel fire proofing, penetration seals, and oil collection systems) were in a satisfactory material condition; (6) verified when applicable that adequate compensatory measures were established for degraded or inoperable fire protection features; and (7) reviewed the corrective action program to determine if the licensee identified and corrected fire protection problems.

- Fire Area R-3; High Pressure Core Spray Pump Room; August 29, 2006
- Fire Area RC-2; Cable Spreading Room; August 29, 2006
- Fire Area R-4; Residual Heat Removal Pump 2B Room; August 28, 2006
- Fire Area ASD; Adjustable Speed Drive Building; August 21, 2006
- Fire Area TG-1; Main Transformer Yard, July 20, 2006

- Fire Area RC-18; Motor Control Center Room, July 19, 2006
- Fire Area R-5; Residual Heat Removal Pump 2A Room; July 16, 2006

The inspectors completed seven samples.

b. Findings

No findings of significance were identified.

1R06 Flood Protection Measures (71111.06)

.1 Annual External Flood Protection

a. Inspection Scope

The inspectors reviewed the Columbia Generating Station Final Safety Analysis Report (FSAR), Technical Specifications, and corrective action database to identify any external flood threats to the facility. Final Safety Analysis Report Sections 2.4.2 and 3.4.1.5.1, document that there are no external flood threats, either from ground water, local precipitation, or from the nearby Columbia River. The inspectors toured the external areas for any credible flood sources.

The inspectors completed one sample.

b. Findings

No findings of significance were identified.

.2 Internal Flood Protection

a. Inspection Scope

The inspectors performed the following: (1) reviewed the Updated Safety Analysis Report, the flooding analysis, and plant procedures to assess seasonal susceptibilities involving internal flooding; (2) reviewed the corrective action program to determine if the licensee identified and corrected flooding problems; (3) inspected underground bunkers/manholes to verify the adequacy of (a) sump pumps, (b) level alarm circuits, (c) cable splices subject to submergence, and (d) drainage for bunkers/manholes; (4) verified that operator actions for coping with flooding can reasonably achieve the desired outcomes; and (5) walked down the areas listed below to verify the adequacy of: (a) equipment seals located below the floodline, (b) floor and wall penetration seals, (c) watertight door seals, (d) common drain lines and sumps, (e) sump pumps, level alarms, and control circuits, and (f) temporary or removable flood barriers.

- Reactor Building Elevation 422 ft level which consisted of all the emergency core cooling systems pump rooms; September 25, 2006
- Division 1 Emergency Diesel Generator Room; September 26, 2006;

The inspectors completed two samples.

b. Findings

No findings of significance were identified.

1R07 Heat Sink Performance (71111.07)

a. Inspection Scope

During July and August, 2006, the inspectors reviewed the licensee's controls and methods for ensuring that the ultimate heat sink (service water spray ponds) was maintained in a condition to support the safety function of the ultimate heat sink. The inspectors assessed: (1) inspection results; (2) verified the adequacy of the licensee's bio-fouling control program; and (3) implementation of the station's in-service inspection plan.

The inspectors completed one sample.

Introduction. An URI was identified pending the NRC's determination of the regulatory aspects and evaluation of the safety significance of potential performance issues associated with inspection of the service water (SW) siphon line, an ASME Code Class 3 component, and the facility's Inservice Inspection Plan to perform required periodic testing and examination of the submerged SW siphon line in accordance with ASME Section XI.

Description. The station's SW spray ponds comprise the facility's ultimate heat sink. The design basis function of the ultimate heat sink is to provide a source of water for the SW system for 30 days without relying on makeup water, and to absorb the heat transferred to it from the plant via the SW system during that time period without exceeding its design temperature. The design of the spray ponds includes a non-isolable 30 inch siphon line connecting both spray ponds to automatically transfer water from one pond to the other. A majority of the siphon line is buried, however, sections of the line are not buried and are submerged in the spray pond after penetrating a spray pond wall. In each spray pond, the submerged siphon line includes a ninety degree elbow which then directs the siphon line downward terminating 18 inches from the bottom of the spray pond floor. The siphon line assures that the entire inventory of water in the ponds is available to either SW train and that makeup water added to one pond is available to the other. The siphon allows a single train of SW access to the full 30 day water supply provided by the two SW ponds as prescribed by NRC Regulatory Guide 1.27, "Ultimate Heat Sink for Nuclear Power Plants," Revision 2, and as required by 10 CFR 50, Appendix A, Criterion 44, "Cooling Water."

On July 20, 2006, the inspectors identified that Energy Northwest had not included the siphon line in the facility's Inservice Inspection Program Plan and therefore had not conducted specific periodic inspections of the siphon line to confirm the integrity of the line. The inspectors noted that the applicable edition of Section XI of the ASME Boiler and Pressure Vessel Code, for the third inservice inspection interval, as provided in the

facility's Inservice Inspection Program Plan, Interval 3, dated December 9, 2005, was the 2001 Edition, 2003 Addenda of Section XI. Article IWA-5244, "Buried Components," Section (b)(2), provided that system pressure test for nonisolable buried components shall consist of a test to confirm that flow during operation is not impaired. Contrary to this requirement, Energy Northwest had not included the spray pond siphon line in the inservice inspection plan and therefore never conducted an inspection or examination of the line specifically for ASME code testing requirements. Energy Northwest documented the issue in the corrective action program in CR 2-06-05951. The inspectors reviewed Energy Northwest's evaluation of CR 2-06-05951 and noted that the licensee determined that although the SW siphon line had not been examined historically for the purpose of ASME code inspection requirements, that past quarterly surveillance testing of the SW pumps demonstrated that the siphon line flow capability was not impaired. This demonstrated that flow through the buried portion of the siphon line was not impaired consistent with the testing requirements of IWA-5244, Section (b)(2).

Energy Northwest also stated that based on a Code interpretation that the siphon line was excluded from Section XI requirements because it was considered an open ended pipe. The inspectors disagree with the licensee's interpretation. Energy Northwest also stated that they were submitting this issue to ASME Code committee for review and determination of the Code requirements for this siphon piping.

The inspectors also noted that Energy Northwest had not conducted any specific examination or inspection of the submerged sections of the SW siphon line, nor had they performed any visual exams of the portion (siphon) that penetrates into the two spray ponds. A through wall flaw in the exposed sections of the siphon line that penetrates the spray pond, would jeopardize the ability of the line to complete its siphon function and would therefore impact the ability of the ultimate heat sink to complete its design safety function as discussed above. The inspectors noted that development of a through wall flaw through these portions of the siphon line would not reveal themselves during periodic quarterly SW system testing as discussed above for the buried and exposed portions of the siphon line. Energy Northwest documented this additional concern in CR 2-06-06306. An URI was opened pending the NRC's evaluation of the resolution to CR 2-06-06306 to determine if a violation of ASME code testing requirements occurred with Energy Northwest not examining or testing the submerged and exposed portions of the siphon line (URI 05000397/2006004-02; ASME Code Testing of Service Water Siphon Line).

Analysis. A determination of the safety significance associated with any performance deficiencies will be addressed in the resolution to the URI.

Enforcement. A determination of the enforcement aspects associated with any performance deficiencies will be addressed in the resolution to the URI.

1R11 Licensed Operator Requalification (71111.11)

a. Inspection Scope

On September 19, 2006, the inspectors observed testing and training of senior reactor operators and reactor operators to identify deficiencies and discrepancies in the training, to assess operator performance, and to assess the evaluator's critique. The inspectors also observed the ability of the operators to respond to events and verified that the licensee configured the simulator consistent with the control room and plant.

The inspectors completed one sample.

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness (71111.12)

a. Inspection Scope

The inspectors reviewed the maintenance activities listed below to verify:
(1) the appropriate handling of structure, system, and component (SSC) performance or condition problems; (2) the appropriate handling of degraded SSC functional performance; (3) evaluate the role of work practices and common cause problems; and (4) evaluate the handling of SSC issues reviewed under the requirements of the Maintenance Rule, 10 CFR Part 50 Appendix B, and the Technical Specifications.

- Adjustable Speed Drive failure; July 27, 2006
- Digital Electrical Hydraulic leak and closure of MS-V-164B; August 15, 2006
- Primary Containment Isolation Valve PI-VX-253 failed Surveillance; September 18, 2006
- Reactor Protection Motor Generator Set Bearing Lubrication; September 20, 2006

The inspectors completed four samples.

b. Findings

No findings of significance were identified.

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

.1 Risk Assessment and Management of Risk

a. Inspection Scope

The inspectors reviewed the risk assessment activities listed below to verify: (1) performance of risk assessments when required by 10 CFR 50.65 (a)(4) and licensee procedures prior to changes in plant configuration for maintenance activities and plant operations; (2) the accuracy, adequacy, and completeness of the information considered in the risk assessment; (3) that the licensee recognizes, and/or enters as applicable, the appropriate licensee-established risk category according to the risk assessment results and licensee procedures; and (4) the licensee identified and corrected problems related to maintenance risk assessments.

- Planned maintenance on RHR-V-6A, RHR-V-68A, RHR-V-27A; July 10, 2006
- Battery E-B2-1 250 VDC Battery On-line Replacement; August 17, 2006
- Planned maintenance on WMA-FN-53A; September 6, 2006
- Planned maintenance on WMA-FN-52A; September 5, 2006

The inspectors completed four samples.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15)

a. Inspection Scope

The inspectors: (1) reviewed plant status documents such as operator shift logs, emergent work documentation, deferred modifications, and standing orders to determine if an operability evaluation was warranted for degraded components; (2) referred to the Updated Safety Analysis Report and design basis documents to review the technical adequacy of licensee operability evaluations; (3) evaluated compensatory measures associated with operability evaluations; (4) determined degraded component impact on any Technical Specifications; (5) used the significance determination process to evaluate the risk significance of degraded or inoperable equipment; and (6) verified that the licensee has identified and implemented appropriate corrective actions associated with degraded components.

- CR 2-06-06581; LPRM detector 40/17B has reached its end-of-life per Revision 1 to GE SIL 501; September 5, 2006
- CR 2-06-06305; The qualification of equipment components used in the battery rail charger maintenance activity has been questioned; August 23, 2006

- CR 2-06-03036; While manipulating the valve to the closed position, the stem bushing pushed up and out of the yoke assembly; July 28, 2006
- CR 2-06-05506; Breaker E-CB-8/DG2 did not show adequate gap between the trip latch and the trip shaft during inspection under Work Order 01121474; July 25/2006

The inspectors completed four samples.

b. Findings

Introduction. The inspectors identified a Green non-cited violation of 10 CFR 50, Appendix B, Criterion III, "Design Control" for failure to implement adequate design control measures for the station's safety-related batteries in that Energy Northwest used a non-qualified battery charger. The finding had cross-cutting aspects in the area of problem identification and resolution due to a lack of engineering rigor associated with the resolution of a previously identified concern with qualification of a non safety-related battery charger used in safety-related applications.

Description. On August 16, 2006, during observation of the on-line replacement of the safety-related 250 VDC battery (E-B2-1), per procedure PPM 10.25.206, "Online Battery Replacement of 250 VDC E-B2-1", Revision 0, the inspectors noted that a non-class 1E qualified battery charger was installed on an alternate battery rack. The alternate battery rack was installed and bypassing a tier of battery cells on E-B2-1 which were being replaced. The alternate battery rack was therefore necessary to ensure that the safety-related function of E-B2-1 would be maintained. The inspectors were concerned that use of a non-qualified charger in this application may result in failure to ensure that the charger and E-B2-1 remain electrically separated and therefore could impact operability of E-B2-1. Energy Northwest documented the inspectors' concern in CR 2-06-06165. A followup assessment by Energy Northwest concluded that the battery was operable but non-conforming in the as-found condition. Energy Northwest also determined that the non-qualified battery charger had been installed previously on E-B2-1 during a replacement of a different tier of battery cells on August 15, 2006.

The inspectors reviewed Energy Northwest's corrective action program and noted the following condition reports which documented NRC identified examples of Energy Northwest's failure to maintain configuration control of the station's safety-related batteries. Examples include:

- CR 2-06-06165; Alternate battery charger connected to E-B2-1; August 17, 2006
- CR 2-06-05937; Rail charger installed on cell 230 of E-B2-1 battery had leads incorrectly tied to safety-related battery cables; August 8, 2006
- CR 2-05-08510; Rail (single cell) charger was placed on E-B2-1 without the concerns of CR 2-05-08194 being addressed; November 2, 2005

- CR 2-05-08194; Design engineering position needed to identify any formalized design requirements are applicable to the battery rail charger; October 24, 2005

The safety-related function of the associated battery in each example noted above was maintained. However, in each case an adequate engineering evaluation justifying installation of a non-Class 1E battery charger in a safety-related application was not performed prior to installing the charger. The inspectors considered these examples to represent a failure to implement adequate design controls for the station's safety-related batteries.

The inspectors also reviewed the qualification requirements of the installed electrical isolation components for the single cell rail charger that Energy Northwest had evaluated in CR 2-05-08194 as noted above. The inspectors concluded that Energy Northwest failed to identify that the electrical isolation components (fuses, diodes) which had been installed to ensure electrical separation between the charger and the battery were not Class 1E qualified. The inspectors noted that FSAR, Section 8.3.2.1, provided that "all non-Class 1E loads supplied by the Class 1E DC power systems are connected to Class 1E DC power supplies through Class 1E isolation devices." Although a battery charger, when operating normally would not be considered a load on a DC battery, under faulted conditions when electrical isolation devices would be needed, the charger could become a load. Energy Northwest failed to identify that the electrical isolation components between the charger and the battery were not Class 1E qualified as provided by the FSAR. Energy Northwest documented the inspectors' observation in CR 2-06-06305 on August 23, 2006.

Analysis. The performance deficiency associated with this finding is Energy Northwest's failure to implement adequate design controls regarding use of temporarily installed non-Class 1E battery rail chargers on the station's safety-related batteries. This finding was more than minor because the finding was a design control issue which affected the mitigating systems cornerstone objective to ensure the availability and reliability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the repetitive failure to provide adequate engineering analysis supporting the temporary installation of a non-qualified battery rail charger on a safety-related battery was not commensurate with ensuring the reliability of the station's safety-related batteries. Utilizing MC 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," Phase 1 screening, the inspectors determined that the finding was of very low risk significance (Green) because it was a qualification issue confirmed not to result in loss of operability. Additionally, the finding did not represent a loss of safety function for a single train or for the system, and did not screen as potentially risk significant due to external events. This finding had cross-cutting aspects in the area of problem identification and resolution associated with the corrective action program component in that the licensee did not thoroughly evaluate design issues with the nonqualified rail charger, as documented in CR 2-05-08194.

Enforcement. 10 CFR Part 50, Appendix B, Criterion III, "Design Control," requires in part that design control measures shall provide for verifying or checking the adequacy of design, such as by the performance of design reviews. Contrary to this requirement, since September 5, 2002, Energy Northwest failed to perform adequate design reviews to maintain appropriate control of the design and qualification of the station's

safety-related batteries with respect to temporary installation of a non-qualified battery charger as provided in PPM 10.25.181, "Single Cell Charging of Batteries," Revision 0. Because this finding was of very low safety significance and was entered into the licensee's corrective action program as PER 206-0522, this violation is being treated as an NCV, consistent with Section VI.A of the Enforcement Policy (NCV 05000397/2006004-03, Inadequate Design Control of Safety-Related Batteries). Energy Northwest took immediate action to stop use of the single cell rail charger until proper qualification of the electrical isolation components could be provided.

1R19 Postmaintenance Testing (71111.19)

a. Inspection Scope

The inspectors selected the postmaintenance test activities of risk significant systems or components listed below for review. For each item, the inspectors: (1) reviewed the applicable licensing basis and/or design-basis documents to determine the safety functions; (2) evaluated the safety functions that may have been affected by the maintenance activity; and (3) reviewed the test procedure to ensure it adequately tested the safety function that may have been affected. The inspectors either witnessed or reviewed test data to verify that acceptance criteria were met, plant impacts were evaluated, test equipment was calibrated, procedures were followed, jumpers were properly controlled, the test data results were complete and accurate, the test equipment was removed, the system was properly re-aligned, and deficiencies during testing were documented. The inspectors also reviewed the corrective action program to determine if the licensee identified and corrected problems related to postmaintenance testing.

- WO 01097263; Replace Kapton Diaphragm on MS-LS-61C; August 22, 2006
- WO 01116517; Replace DSA-V-34A; August 24, 2006
- WO 01121277; Diesel Cooling Water Leak Engine 1B2; July 1, 2006
- WO 01122403; GY-P-10A2 Discharge Hose Leak; July 27, 2006
- WO 01123082; Repair MS-V-164B Hydraulic Operator; Sept 21, 2006

The inspectors completed five samples.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors reviewed the Updated Final Safety Analysis Report, procedure requirements, and Technical Specifications to ensure that the surveillance activities listed below demonstrated that the SSC's tested were capable of performing their intended safety functions. The inspectors either witnessed or reviewed test data to verify that the following significant surveillance test attributes were adequate: (1) preconditioning; (2) evaluation of testing impact on the plant; (3) acceptance criteria; (4) test equipment; (5) procedures; (6) jumper/lifted lead controls; (7) test data; (8) testing frequency and method demonstrated Technical Specification operability; (9) test equipment removal; (10) restoration of plant systems; (11) fulfillment of ASME Code requirements; (12) updating of performance indicator data; (13) engineering evaluations, root causes, and bases for returning tested SSC's not meeting the test acceptance criteria were correct; (14) reference setting data; and (15) annunciators and alarms setpoints. The inspectors also verified that the licensee identified and implemented any needed corrective actions associated with the surveillance testing.

- PPM 8.3.449; Control Rod Settle Time Test; Revision 0; August 28, 2006
- ISP-MS-Q902; RPS and Isolation Reactor Vessel Level Low, Level 3; RCIC Isolation; Revision 4; July 26, 2006
- PPM 15.2.1; Monthly Fire Pump Battery Testing; Revision 8; August 17, 2006
- WO 01113082; Open and Inspect External Condition of HPCS-P-2; July 18, 2006
- PPM 2.11.3; Equipment Drain System; Revision 24; August 14, 2006
- OSP-RHR/IST-Q704; RHR Loop A Operability Test; Revision 17; September 7, 2006
- ESP-B21-Q101 Quarterly Battery Testing 250 VDC E-B2-1; Revision 7; September 24, 2006

The inspectors completed seven samples which included a review of an in-service pump and valve test.

1R23 Temporary Plant Modifications (71111.23)

a. Inspection Scope

The inspectors reviewed the Updated Final Safety Analysis Report, plant drawings, procedure requirements, and Technical Specifications to ensure that the below listed temporary modification were properly implemented. The inspectors: (1) verified that the modification did not have an affect on system operability/availability; (2) verified that the installation was consistent with the modification documents; (3) ensured that the post-installation test results were satisfactory and that the impact of the temporary

modification on permanently installed SSC's were supported by the test; (4) verified that the modifications were identified on control room drawings and that appropriate identification tags were placed on the affected drawings; and (5) verified that appropriate safety evaluations were completed. The inspectors verified that licensee identified and implemented any needed corrective actions associated with temporary modifications.

The inspectors completed one sample.

- TMR 05-026;MS-V-120A Level Switch MS-LS-24A Stuck in High Position;
September 18, 2006

b. Findings

No findings of significance were identified.

Cornerstone: Emergency Preparedness

1EP1 Exercise Evaluation (71114.01)

a. Inspection Scope

The inspectors reviewed the objectives and scenario for the 2006 biennial emergency plan exercise to determine if the exercise would acceptably test major elements of the emergency plan. The scenario simulated a large condensor tube leak, with a subsequent failure of the reactor protection system to complete a reactor scram. Multiple main steam isolation valve failures then resulted in initiation of a small release of radioactivity to the environment. An initially small reactor coolant leak in containment greatly increased, ultimately resulting in a loss of reactor vessel level, uncover and damage of reactor fuel, with a rapid increase in the offsite release of radioactivity to the environment. These simulated events enabled the licensee to demonstrate their capability to implement the emergency plan.

The inspectors evaluated exercise performance by focusing on the risk-significant activities of event classification, offsite notification, recognition of offsite dose consequences, and development of protective action recommendations, in the simulator control room and the following dedicated emergency response facilities:

- Technical Support Center
- Operations Support Center
- Emergency Operations Facility

The inspectors also assessed recognition of and response to abnormal and emergency plant conditions, the transfer of decision making authority and emergency function responsibilities between facilities, onsite and offsite communications, protection of emergency workers, emergency repair evaluation and capability, and the overall implementation of the emergency plan to protect public health and safety and the

environment. The inspectors reviewed the current revision of the facility emergency plan, and emergency plan implementing procedures associated with operation of the above facilities and performance of the associated emergency functions. These procedures are listed in the Attachment to this report.

The inspectors compared the observed exercise performance to the requirements in the facility emergency plan, 10 CFR 50.47(b), 10 CFR Part 50, Appendix E, and to the guidance in the emergency plan implementing procedures and other federal guidance.

The inspectors attended the post-exercise critiques in each of the above facilities to evaluate the initial licensee self-assessment of exercise performance. The inspectors also attended a subsequent formal presentation of critique items to plant management.

The inspectors completed one sample during this inspection.

b. Findings

No findings of significance were identified.

1EP6 Drill Evaluation (71114.06)

a. Inspection Scope

The inspectors evaluated the conduct of a routine licensee emergency drill on August 1, 2006, to identify any weaknesses and deficiencies in classification, notification, and protective action recommendation (PAR) development activities. The inspectors observed emergency response operations in the simulated control room to verify that event classification and notifications were done in accordance with Procedure PPM 13.1.1, "Classifying the Emergency," Revision 34. The inspectors also reviewed the licensee's evaluation of the drill to compare any inspector-observed weakness with those identified by the licensee in order to verify whether the licensee was properly identifying failures.

The inspectors completed one sample.

b. Findings

No findings of significance were identified.

2. RADIATION SAFETY

Cornerstone: Occupational Radiation Safety

2OS1 Access Control to Radiologically Significant Areas (71121.01)

a. Inspection Scope

This area was inspected to assess the licensee's performance in implementing physical and administrative controls for airborne radioactivity areas, radiation areas, high

radiation areas (HRAs), and worker adherence to these controls. The inspectors 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 inspector interviewed the radiation protection manager, radiation protection supervisors, and radiation workers. The inspectors performed independent radiation dose rate measurements and reviewed the following items:

- Controls (surveys, posting, and barricades) of three radiations, high radiation, or airborne radioactivity areas
- Radiation work permits, procedures, engineering controls, and air sampler locations
- Barrier integrity and performance of engineering controls in an airborne radioactivity area
- Corrective action documents related to access controls
- 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 rates - high radiation areas and very high radiation areas
- Posting and locking of entrances to all accessible high dose rates - high radiation areas and very high radiation areas
- Radiation worker and radiation protection technician performance with respect to radiation protection work requirements

Either because the conditions did not exist or an event had not occurred, no opportunities were available to review the following items:

- Adequacy of the licensee's internal dose assessment for any actual internal exposure greater than 50 millirem Committed Effective Dose Equivalent

The inspectors completed 14 of the required 21 samples.

b. Findings

No findings of significance were identified.

2OS2 ALARA Planning and Controls (71121.02)

a. Inspection Scope

The inspectors assessed licensee performance with respect to maintaining individual and collective radiation exposures as low as is reasonably achievable (ALARA). The inspectors used the requirements in 10 CFR Part 20 and the licensee's procedures required by technical specifications as criteria for determining compliance. The inspectors interviewed licensee personnel and reviewed:

- Current 3-year rolling average collective exposure
- Site specific ALARA procedures
- Integration of ALARA requirements into work procedure and radiation work permit documents
- Shielding requests and dose/benefit analyses
- 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
- First-line job supervisors' contribution to ensuring work activities are conducted in a dose efficient manner
- Radiation worker and radiation protection technician performance during work activities in radiation areas, airborne radioactivity areas, or high radiation areas
- Self-assessments, audits, and special reports related to the ALARA program since the last inspection
- Corrective action documents related to the ALARA program and follow-up activities such as initial problem identification, characterization, and tracking

The inspectors completed 5 of the required 15 samples and 6 of the optional samples.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification (71151)

.1 Cornerstone: Occupational Radiation Safety

a. Inspection Scope

The inspectors reviewed licensee documents from April 1 through June 30, 2006. The review included corrective action documentation that identified occurrences in locked high radiation areas (as defined in the licensee's technical specifications), very high radiation areas (as defined in 10 CFR Part 20.1003), and unplanned personnel exposures (as defined in NEI 99-02). Additional records reviewed included as low as reasonably achievable (ALARA) records and whole body counts of selected individual exposures. The inspectors interviewed licensee personnel that were accountable for collecting and evaluating the performance indicator (PI) data. In addition, the inspectors toured plant areas to verify that high radiation, locked high radiation, and very high radiation areas were properly controlled. PI definitions and guidance contained in NEI 99-02, "Regulatory Assessment Indicator Guideline," Revision 3, were used to verify the basis in reporting for each data element.

- Occupational Exposure Control Effectiveness

The inspector completed the required sample (1) in this cornerstone.

.2 Cornerstone: Public Radiation Safety

a. Inspection Scope

The inspectors reviewed licensee documents from April 1 through June 30, 2006. Licensee records reviewed included corrective action documentation that identified occurrences for liquid or gaseous effluent releases that exceeded PI thresholds and those reported to the NRC. The inspectors interviewed licensee personnel that were accountable for collecting and evaluating the PI data. PI definitions and guidance contained in NEI 99-02, "Regulatory Assessment Indicator Guideline," Revision 3, were used to verify the basis in reporting for each data element.

- Radiological Effluent Technical Specification/Offsite Dose Calculation Manual
Radiological Effluent Occurrences

The inspectors completed the required sample (1) in this cornerstone.

b. Findings

No findings of significance were identified.

.3 Cornerstone: Emergency Preparedness

a. Inspection Scope

The inspectors reviewed licensee evaluations for the three emergency preparedness cornerstone performance indicators of Drill and Exercise Performance, Emergency Response Organization Participation, and Alert and Notification System Reliability, for the period October 1, 2005, through June 30, 2006. The definitions and guidance of NEI 99-02, "Regulatory Assessment Indicator Guideline," Revisions 3 and 4, and the licensee Emergency Plan Instruction 18, "Emergency Preparedness NRC Performance Indicators," 6/15/2006, were used to verify the accuracy of the licensee's evaluations for each performance indicator reported during the assessment period.

- Drill and exercise scenarios and licensed operator simulator training sessions, notification forms, and attendance and critique records associated with training sessions, drills, and exercises conducted during the verification period.
- Emergency responder qualification, training, and drill participation records.
- Alert and notification system testing procedures, maintenance records, and a 100 percent sample of siren test records. The inspectors also reviewed other documents listed in the Attachment to this report.

The inspectors completed three samples during the inspection.

b. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems (71152)

.1 Cross-References to PI&R Findings Documented Elsewhere

Section 1R04 describes a finding for the failure to perform adequate design reviews to maintain appropriate control of the design and qualification of the station's safety-related batteries with respect to temporary installation of a non-qualified charger.

.2 Daily Corrective Action Document Review

a. Inspection Scope

The inspectors performed a review of all documented condition reports and problem evaluation reports to help identify repetitive equipment failures or specific human performance issues for followup inspection using other baseline inspection procedures. The review was accomplished by evaluating Energy Northwest's electronic condition report and problem evaluation report databases and attending periodic plant status meetings.

b. Findings

No findings of significance were identified.

.3 Review of Identification and Resolution of Problems Associated with Radiation Protection

a. Inspection Scope

The inspectors evaluated the effectiveness of the licensee's problem identification and resolution process with respect to the following inspection areas:

- Access Control to Radiologically Significant Areas (Section 2OS1)
- ALARA Planning and Controls (Section 2OS2)

The inspectors completed two samples.

b. Findings

No findings of significance were identified.

4OA3 Event Followup (71153)

a. Inspection Scope

.1 Adjustable Speed Drive Cooling Failure

On July 20, 2006, a leak in a adjustable speed drive (ASD) flexible coolant discharge hose forced one of two channels of ASD supplying a reactor recirculation pump (RRC) to be removed from service. Prior to the removal of the ASD channel 1A/2, reactor power was lowered to 90 percent to allow removal of the ASD channel. After the hose was replaced, a satisfactory test of the ASD channel was performed. Reactor power was lowered to 70 percent power to allow recovery of the ASD system. Reactor power was restored to 100 percent on July 21, 2006. The inspectors reviewed plant parameters, operator logs and operator response to the event including adherence to and quality of plant procedures used to address the failure.

b. Findings

No findings of significance were identified.

.2 Loss of Reactor Recirculation Pump

a. Inspection Scope

On July 27, 2006, one week after replacement, the discharge coolant hose on ASD channel 1A/2 ruptured during full power operations. As a result, electrical components of the ASD system channel 1A/2 supplying RRC-P-1A were sprayed with coolant. The electrical perturbation caused the other channel of ASD channel 1A/1 supplying RRC-P-1A to trip, resulting in the loss of RRC-P-1A and entering into single loop operation. Reactor power was stabilized at approximately 67 percent power. ASD channel 1A/1 was tested satisfactorily and RRC-P-1A was started. The plant was returned to two loop operation. Wetted electrical components and all flexible cooling hoses in the ASD system were replaced and tested satisfactorily. The replacement hose was of a different material type and was procured from a different manufacturer. The plant was returned to 100 percent power on July 29, 2006. An Energy Northwest analysis performed on both

hose failures indicated that a similar failure mechanism in both cases. Common to these failures was a defect found on the inside diameter surface of the hose which resulted in breaching the inner rubber sleeve and pressurizing the outer cover to failure. The inspectors reviewed plant parameters, operator logs and operator response to the event including adherence to and quality of plant procedures used to address the leak.

b. Findings

No findings of significance were identified.

.3 Hydraulic Leak on Low Pressure No. 2 Intercept Valve

a. Inspection Scope

On August 14, 2006, Energy Northwest reduced power to 60 percent in response to a hydraulic leak on an intercept valve on low pressure turbine No. 2. The inspectors reviewed plant parameters, operator logs and operator response to the event including adherence to and quality of plant procedures used to address the leak.

b. Findings

No findings of significance were identified.

.4 Battery Acid Spill in Vital Area

a. Inspection Scope

On August 29, 2006, a battery jar, which had been previously installed in a station battery, was inadvertently tipped over during movement of the jar onto a pallet located in the 467 foot vital island area of the radwaste building. As a result, approximately 12 gallons of sulfuric acid spilled on the floor. Electrical workers promptly contacted the control room and contained the spilled acid. The inspectors assessed the situation locally to determine the extent of the spill and any impact on operators to operate safety-related equipment located in the 467 foot vital area.

b. Findings

No findings of significance were identified.

4OA6 Meetings, Including Exit

On August 24, 2006, the inspector presented the occupational radiation safety inspection results to Mr. R. Hogue, Acting Vice President, Nuclear Generation, and other members of his staff who acknowledged the findings. The inspectors confirmed that proprietary information was not provided or examined during the inspection.

On August 24, 2006, the inspector conducted an exit meeting at the NRC Region IV offices to present the inspection results to Mr. M. Reis, Supervisor, Emergency Preparedness, and other members of his staff, who acknowledged the findings. The inspector confirmed that proprietary information was not provided or examined during the inspection.

On September 15, 2006, the lead inspector presented the results of the biennial emergency preparedness exercise inspection to Mr. D. Atkinson, Vice President, Nuclear Generation, and other members of his staff, who acknowledged the findings. The inspector confirmed that proprietary information was not provided or examined during the inspection.

On October 5, 2006, the resident inspectors presented the inspection results to Mr. Scott Oxenford, Vice President Technical Services, and other members of his staff who acknowledged the findings. The inspectors confirmed that proprietary information was not provided or examined during the inspection.

On October 10, 2006, the resident inspectors re-exited with Mr. T. Lynch, Plant General Manager.

4OA7 Licensee Identified Violations

The following finding of very low significance was identified by the licensee and is a violation of NRC requirements which meet the criteria of Section VI of the NRC Enforcement Policy, NUREG-1600 for being dispositioned as Non-Cited Violations (NCV).

Technical Specification 5.7.1 requires high radiation areas with dose rates not exceeding 1.0 rem per hour be barricaded and conspicuously posted. However, on August 3, 2006, the licensee identified that the septa decon tank on the 507-foot elevation of the radwaste building was not barricaded and conspicuously posted even though it contained areas accessible to a portion of the whole body with dose rates as high as 120 millirems per hour. The finding was documented in the licensee's corrective action program in Condition Report 2-06-05784 and 2-06-06339. This finding is of very low significance because it did not involve: (1) an ALARA finding, (2) an overexposure, (3) a substantial potential for overexposure, or (4) an impaired ability to assess doses.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Energy Northwest

D. Atkinson, Vice President, Nuclear Generation
S. Belcher, Manager, Operations
I. Borland, Manager, Radiation Protection
D. Coleman, Manager, Performance Assessment and Regulatory Programs
G. Cullen, Licensing Supervisor, Regulatory Programs
A. Khanpour, General Manager, Engineering
T. Lynch, Plant General Manager
W. Oxenford, Vice President, Technical Services
J. Parrish, Chief Executive Officer
R. Torres, Manager, Quality Assurance
C. Whitcomb, Vice President, Organizational Performance and Staffing
S. Boynton, Systems Engineering Manager
D. Holmes, Emergency Planner
R. Jorgensen, Emergency Planner
A. Mouncer, Vice President, Corporate Services
T. Powell, Emergency Planner
M. Reis, Supervisor, Emergency Preparedness
W. Sawyer, Emergency Planner
F. Schill, Licensing

NRC Personnel

R. Cohen, Resident Inspector and Acting Senior Resident Inspector
J. Drake, Acting Resident Inspector
Z. Dunham, Senior Resident Inspector

ITEMS OPENED AND CLOSED

Items Opened, Closed, and Discussed During this Inspection

Opened

05000397/2006004-01	URI	Potential performance issue associated with the use of alternate boron injection via the Reactor Core Isolation Cooling (RCIC) System (Section 1R04)
05000397/2006004-02	URI	Potential performance issues associated with inspection of the service water (SW) siphon line, an ASME Code Class 3 component, and the facility's Inservice Inspection Plan to perform required periodic testing and examination of the submerged SW siphon line in accordance with ASME Section XI. (Section 1R07)

Opened and Closed

05000397/2006004-03	NCV	Failure to implement adequate design control measures for the station's safety-related batteries in that Energy Northwest used a non-qualified battery charger (Section 1R15)
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Closed

None.

Discussed

None.

PARTIAL LIST OF DOCUMENTS REVIEWED

Section 1R04: Equipment Alignment

Procedures

PPM 5.5.8; Alternate Boron Injection; Revision 8

Calculation ME-02-99-16

SOP-SLC-Injection; SLC RPV Injection; Revision 1

SOP-SLC-Stby; Placing SLC in Standby Status; Revision 0

PPM 5.5.25; Alternate Injection Using the SLC System; Revision 2

Final Safety Analysis Report; Section F.5.2.3.3

PPM 15.2.1; Monthly Fire Pump Battery Testing; Revision 8

Drawings

M515; Fire Protection System; Revision 99

M504; Flow Diagram Condensate and Feed Water Systems; Revision 91

M528; Flow Diagram for CRD; Revision 73

Section 1R05: Fire Protection

CGS Pre-Fire Plan

Final Safety Analysis Report; Appendix F

National Fire Protection Association NFPA-10, 1984 Revision

Section 1R06: Flood Protection Measures

Final Safety Analysis Report; Sections 2.4.2 and 3.4.1.5.1

Section 1R07: Heat Sink Performance

Procedures

Generic Letter 89-13; Service Water System Problems Affecting Safety-Related Equipment

Letter G02-90-017; Nuclear Plant No. 2, Operating License NPF-21 Response to Generic Letter 89-13, Service Water System Problems Affecting Safety-Related Equipment; February 5, 1990

Design Basis Document 309; Standby Service Water; Revision 8

ABN-SW; Service Water Trouble; Revision 7

OSP-SW/IST-Q702; Standby Service Water Loop B Operability; Revision 12

Inservice Inspection Program Plan - Interval 3; December 9, 2005

TSP-SW/ISI-G801; SW Loop A System Leakage Test; Revision 1

ASME XI

Drawings

Drawing M782; Composite Piping Plan, Section and Details Spray Ponds; Revision 13

Section 1R11: Licensed Operator Requalification

Procedures

Lesson Plan EP000245LP; Quick Emergency Dose Projection

PowerPoint Presentation EP000245.PPT; Quick Emergency Dose Projection Slide Show

PPM 13.8.1; Emergency Plan Implementing Procedures

Simulator Guide LR001782; Low Power ATWS with Cooldown

Plant versus Simulator Differences; dated August 26, 2006

Section 1R12: Maintenance Effectiveness

Procedures

Columbia Generating Station Maintenance Rule Scoping Matrix; Revision 11

PPM 1.5.11; Maintenance Rule Program; Revision 7

PPM 1.5.14; Risk Assessment and Management for Maintenance/Surveillance Activities;
Revision 11

TI 4.22; Maintenance Rule Program; Revision 13

Code Program; Lab Number 06-3262

Action Request 06649

OSP-MS-Q701; Turbine Valve Surveillance; Revision 8

Final Safety Analysis Report; Section 8.3.1.1.6

Work Orders

WO 01122407

WO 01123082

WO 01113675

WO 01113676

WO 01113686

WO 01101157

WO 01116072

WO 01106242

WO 01123082

Section 1R13: Maintenance Risk Assessments and Emergent Work Control

PPM 1.3.76; Integrated Risk Management; Revision 5

OI-49; Protected Systems; Revision 4

PPM 1.5.14; Risk Assessment and Management for Maintenance/Surveillance Activities;
Revision 11

LCO Log No.10425

LCO Log No. 10365

LCO Log No. 10571

Section 1R15: Operability Evaluations

Action Request 00010859

Design Specification for Division 200; Section 201; Electrical Separation Design Requirements; Revision 9

IEEE 384-1992; IEEE Standard Criteria for Independence of Class 1E Equipment and Circuits

IEEE 308-1980; IEEE Standard Criteria for Class 1E Power Systems for Nuclear Power Generating Stations

SWP-DES-01; Plant Modifications & Configuration Control; Revision 9

PPM 10.25.181; Single Cell Charging of Batteries; Revision 0

DES-2-9; Columbia Generating Station Technical Evaluations; Revision 6

FSAR; Section 8.3.2.1

Section 1R19: Postmaintenance Testing

WO 01097263

WO 01116517

WO 01121277

WO 01122403

WO 01123082

LCO Log No. 10578

LCO Log No. 10197

LCO Log No. 10508

LCO Log No. 10467

Section 1R22: Surveillance Testing

PPM 8.3.449; Control Rod Settle Time Test; Revision 0

ISP-MS-Q902; RPS and Isolation Reactor Vessel Level Low, Level 3; RCIC Isolation; Revision 4

PPM 15.2.1; Monthly Fire Pump Battery Testing; Revision 8

WO 01113082; Open and Inspect External Condition of HPCS-P-2

PPM 2.11.3; Equipment Drain System; Revision 24

OSP-RHR/IST-Q704; RHR Loop A Operability Test; Revision 17

ESP-B21-Q101; Quarterly Battery Testing 250 VDC E-B2-1; Revision 7

PPM 8.3.449; Control Rod Settle Time Test; Revision 0; August 28, 2006

ISP-MS-Q902; RPS and Isolation Reactor Vessel Level Low, Level 3; RCIC Isolation; Revision 4; July 26, 2006

PPM 15.2.1; Monthly Fire Pump Battery Testing; Revision 8; August 17, 2006

WO 01113082; Open and Inspect External Condition of HPCS-P-2; July 18, 2006

PPM 2.11.3; Equipment Drain System; Revision 24; August 14, 2006

OSP-RHR/IST-Q704; RHR Loop A Operability Test; Revision 17; September 7, 2006

ESP-B21-Q101; Quarterly Battery Testing 250 VDC E-B2-1; Revision 7; September 24, 2006

Section 1R23: Temporary Plant Modifications

TMR 05-026; MS-V-120A Level Switch MS-LS-24A Stuck in High Position; September 18, 2006

Section 1EP1: Exercise Evaluation

Emergency Plan Implementing Procedures

PPM 13.1.1; Classifying the Emergency; Revision 35

PPM 13.1.1.A; Classifying the Emergency, Technical Basis; Revision 18

PPM 13.2.1; Emergency Exposure Levels/Protective Action Guides; Revision 17

PPM 13.2.2; Determining Protective Action Recommendations; Revision 15

PPM 13.4.1; Emergency Notifications; Revision 34

PPM 13.5.1; Evacuation; Revision 22

PPM 13.5.5; Personnel Accountability, Search and Rescue; Revision 18

PPM 13.8.1; Emergency Dose Projection System Operations; Revision 27

PPM 13.9.1; Environmental Field Monitoring Operations; Revision 39

PPM 13.10.1; Control Room Operations and Shift Manager Duties; Revision 30

PPM 13.10.2; Technical Support Center Manager Duties; Revision 30

PPM 13.10.3; Technical Manager and Staff Duties; Revision 22

PPM 13.10.4; Radiation Protection Manager Duties; Revision 31

PPM 13.10.5; Operations Manager Duties; Revision 11

PPM 13.10.9; Operations Support Center Manager; Revision 40

PPM 13.10.16; Chemistry/Effluent Manager Duties; Revision 2

PPM 13.11.1; Emergency Operations Facility Manager Duties; Revision 39

PPM 13.11.7; Radiological Emergency Manager Duties; Revision 31

PPM 13.13.1; Reentry Operations; Revision 9

Emergency Plan Instructions

21; Drill and Exercise Performance; May 24, 2006

13; Automated Notification System; January 30, 2006

16; Emergency Plan Change Processing; August 14, 2006

Exercise Evaluation Reports

Drill Reports for 2004 and 2002 Biennial NRC Evaluated Exercise
All full-scale Exercise reports conducted in 2005-2006

Summary List of Drill/Exercise Evaluation related Condition Reports; July 2004 through
August 2006
Emergency Plan; Revision 45

Section 1EP6: Drill Evaluation

Simulator Guide LR001782; Low Power ATWS with Cooldown

Section 2OS1: Access Controls to Radiologically Significant Areas (71121.01)

Corrective Action Documents

2-06-03149, 2-06-03150, 2-06-03767

Radiation Work Permits

01109901 01 01	RWCU-M-P/1A R 522' M7/4.3 Inspect filter
01109901 03 01	Hang clear for RWCU-P-1A
01109901 17 01	Install and remove shielding RWCU-P-1A discharge R 522 RWCU Pump Room A
01089522 01 01	MT-CRA-15, Perform crane inspection in CRD rebuild room
01114017 02 02	TG 501' entry to obtain measurements for DEH project

Section 2OS2: ALARA Planning and Controls (71121.02)

Corrective Action Documents

2-06-04240, 2-06-04802, 2-06-05682

Audits and Self-Assessments

SA-2006-0010 ALARA Planning and RWP Process
SA-2006-0011 Station Dose Reduction

Procedures

GEN-RPP-02	ALARA Planning and Radiation Work Permits, Revision 12
GEN-RPP-13	ALARA Committee, Revision 4

Senior Site ALARA Committee Meeting Minutes

06-01, 06-02, 06-03, 06-04, 06-05, 06-06, 06-07, 06-08

Section 4OA3: Event Followup

ABN-DEH-Leak; DEH System Leak; Revision 1

PPM 3.2.4; Fast Power Reduction; Revision 5

PPM 3.2.1; Normal Plant Shutdown; Revision 54

WO 01121277

WO 01123082

Corrective Action Documents:

CR 2-06-06546	CR 2-06-03036	CR 2-06-06092	CR 2-06-06062
CR 2-06-06994	CR 2-05-05186	CR 2-05-04995	CR 2-06-06254
CR 2-06-06365	CR 2-06-06581	CR 2-06-06305	CR 2-06-03036
CR 2-06-05506	CR 2-06-06165	CR 2-06-05937	CR 2-05-08510
CR 2-05-08194	CR 2-06-06893	CR 2-06-06060	CR 2-06-05982
CR 2-04-02212	CR 2-06-06816	CR 2-06-03322	CR 2-06-03217
CR 2-06-03187	CR 2-06-03057	CR 2-06-02956	CR 2-06-02933
CR 2-06-02805	CR 2-06-02741	CR 2-06-01926	CR 2-06-01537
CR 2-06-00900	CR 2-06-00648	CR 2-06-00489	CR 2-06-00488
CR 2-06-00233	CR 2-06-09997	CR 2-06-09971	CR 2-06-09904
CR 2-06-09774	CR 2-06-09291	CR 2-06-08899	CR 2-06-05734
CR 2-06-05531	CR 2-06-05114	CR 2-06-04736	CR 2-06-04529
CR 2-06-04402	CR 2-06-03212	CR 2-06-05330	CR 2-06-05547
CR 2-06-05526	CR 2-04-02212	CR 2-06-06581	CR 2-06-06305
CR 2-06-03036	CR 2-06-05506	CR 2-06-04835	CR 2-06-06816
CR 2-06-05951	CR 2-06-06306	CR 2-06-05987	CR 2-06-05888
PER 206-0451	PER 206-0409	PER 206-0392	PER 206-0451

ALARA Work Packages: Radiation Work Permits

RWP 30001434; RCA Routine Misc. Work

RWP 30001433; RCA General Access For Tours and Inspections

GEN-RP-04; Revision 13; Entry Into, Conduct In, and Exit From Radiologically Controlled Areas

Energy Facility Site Evaluation Council (EFSEC) Resolution 278; WNP-2 Onsite Disposal of Cooling Tower Sediments

EFSEC Resolution 299; Columbia Cooling System Sediment Disposal

Miscellaneous Documents

AR 00010859

Ignition Source Permit; ISP Number 06-0071

Inoperable Equipment/LCO/RFO/Summary Report; Dated September 14, 2006

Transient Combustible Permit; TCP Number 06-0058