UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TEXAS 76011-4005

November 5, 2004

EA-04-0192

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

SUBJECT: COLUMBIA GENERATING STATION - NRC INTEGRATED INSPECTION REPORT 05000397/2004004

Dear Mr. Parrish:

On September 23, 2004, 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 September 30, 2004, with Mr. Webring and other members of your staff.

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

This report documents one NRC identified finding, three self-revealing findings, and a finding with both an NRC and a self-revealing examples that were of very low safety significance (Green). Three of these findings were determined to involve violations of NRC requirements. However, because of the very low safety significance and because they are entered into your corrective action program, the NRC is treating these three findings as non-cited violations (NCVs) consistent with Section VI.A of the NRC Enforcement Policy. If you contest these NCVs, 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 Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at http://www.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

/RA/

William B. Jones, Chief
Project Branch E
Division of Reactor Projects

Docket: 50-397
License: NPF-21

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NRC Inspection Report
05000397/2004004

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ENCLOSURE

U.S. NUCLEAR REGULATORY COMMISSION

REGION IV

Docket:	50-397
License:	NPF-21
Report:	05000397/2004004
Licensee:	Energy Northwest
Facility:	Columbia Generating Station
Location:	Richland, Washington
Dates:	June 24 through September 23, 2004
Inspectors:	Z. Dunham, Senior Resident Inspector, Project Branch E, DRP G. Replogle, Senior Resident Inspector, Project Branch E, DRP R. Cohen, Resident Inspector, Project Branch E, DRP G. Larkin, Resident Inspector, Project Branch E, DRP R. Lantz, Senior Emergency Preparedness Inspector M. Sitek, Resident Inspector, Project Branch C, DRP T. McKernon, Senior Operations Engineer, Operations Branch D. Stearns, Project Engineer, Project Branch E, DRP P. Elkmann, Emergency Preparedness Inspector L. Ricketson, Senior Health Physicist, Plant Support Branch L. Ellershaw, Senior Engineering Inspector, Engineering Branch
Approved By:	W. B. Jones, Chief, Project Branch E, Division of Reactor Projects
ATTACHMENT:	Supplemental Information

CONTENTS

SUMMARY OF FINDINGS

IR05000397/2004004; 6/24/2004 - 9/23/2004; Columbia Generating Station. Surveillance Testing and Event Followup.

The report covered a 13-week period of inspection by the resident inspectors, emergency preparedness inspectors, a health physicist inspector, an operations inspector, and an engineering inspector. Three Green noncited violations, two Green findings, and two unresolved item were identified. The significance of most findings is indicated by their color (Green, White, Yellow, 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: Initiating Events

- Green. A self-revealing finding associated with control room operators failure to adequately monitor condenser hotwell level occurred when hotwell level was established high in the indicating range and above the hotwell level high level alarm. This condition resulted in the associated hotwell level high level annunciator being locked in and was effectively out of service. A manual reactor trip was initiated when the hotwell level excursion resulted in the loss of the only operating reactor feedwater pump.

  This finding is greater than minor because it was a human performance issue which impacted the initiating events cornerstone objective. Specifically, adequate compensatory actions were not put in place to address the hotwell level high level annunciator. This finding had crosscutting aspects in the area of human performance in that adequate monitoring of hotwell level was not implemented which contributed to the reactor scram. A Phase 2 evaluation was performed in accordance with Manual Chapter 0609, "Significance Determination Process," based on the finding contributing to both the likelihood of a reactor trip and that mitigation functions would not be available. The Phase 2 review was performed using the Columbia Generating Station site specific worksheets. A senior reactor analyst reviewed the Phase 2 results and performed a limited Phase 3 review. The senior reactor analyst considered the limited time the plant was at a low power level and adjusted the time in power operations to 3 hours. The finding was determined to be of low safety significance. Corrective actions included revising hotwell alarm response and operating procedures to preclude operation of the hotwell at levels above the high level alarm (Section 4OA3.2)

- Green. A self-revealing finding occurred when an equipment operator failed to follow a clearance order instruction when filling and venting a condensate heat exchanger. This action resulted in a low suction trip of a reactor feedwater pump, the loss of reactor feedwater and a subsequent manual reactor scram.

This finding is greater than minor because it was a human performance issue which impacted the initiating events cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions. This finding had crosscutting aspects in the area of human performance in that adequate pretask briefings were not performed for the the operator placing the feedheater back into service. A Phase 2 evaluation was performed in accordance with Manual Chapter 0609, "Significance Determination Process," based on the finding contributing to both the likelihood of a reactor trip and that mitigation functions would not be available. The Phase 2 review was performed using the Columbia Generating Station site specific worksheets. A senior reactor analyst reviewed the Phase 2 results and performed a limited Phase 3 review. The senior reactor analyst considered the limited time the plant was at a low power level and adjusted the time in power operations to 3 hours. The finding was determined to be of low safety significance. Corrective actions included temporary senior reactor operator oversight of all pretask briefings and remedial training for the individuals involved (Section 4OA3.3).

Cornerstone: Mitigating Systems

- Green. A self-revealing noncited violation of Technical Specification 5.4.1.a occurred when operators failed to return a nuclear power range instrument to service after bypassing the instrument for a gain adjustment in accordance with a surveillance procedure. This resulted in the instrument being left out of service for an additional seven hours after it was available for use. There were indications readily available to the control room staff to identify the out of service component earlier than when it was finally identified. This finding had cross cutting aspects in the area of human performance in that the nuclear power range instrument was not appropriately returned to service and several opportunities were available, including a shift turnover to identify the condition. Corrective actions included returning the instrument to service and revising the frequency of panel walkdowns in the control room to ensure a more thorough examination of plant indications.

  This finding is greater than minor because it involved a configuration control issue which impacted the mitigating systems cornerstone objective to ensure the reliability of systems that respond to initiating events to prevent undesirable consequences. The issue was of very low safety significance (Green) because the finding did not result in the loss of function of a safety system or represent an actual loss of a safety function of a single train for greater than its Technical Specification allowed outage time (Section 1R22).

Cornerstone: Emergency Preparedness

- Green. The inspectors identified a noncited violation for Energy Northwest's failure to activate the Emergency Response Data System within 60 minutes in accordance with 10 CFR 50.72(a)(4) after declaring an Alert on July 30, 2004. This finding had cross cutting aspects in the area of human performance in that Emergency Response Data System was not initiated as required within 1 hour.

  The finding is greater than minor because it was associated with an actual event response performance deficiency that affected the emergency preparedness cornerstone objective to ensure that Energy Northwest is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. By not activating Emergency Response Data System within the required time, Energy Northwest hindered the NRC's ability to verify plant conditions to ensure the appropriateness of any licensee recommended emergency response actions. The finding was of very low safety significance because although the finding was associated with an implementation problem during an actual Alert declaration, the failure to comply with the requirements of 10 CFR 50.72(a)(4) did not constitute a failure to implement a risk significant planning standard. Corrective actions included assigning additional on-shift personnel the responsibility of activating Emergency Response Data System to ensure that time requirements are met (Section 4OA3.1)

Cornerstone: Occupational Radiation Safety

- Green. The inspector reviewed two examples of a noncited violation of 10 CFR 20.1501(a) because Energy Northwest failed to evaluate radiological conditions. One example was self-revealing; one was NRC-identified. In the first example, Energy Northwest failed to evaluate the changing radiological conditions during gasket replacement on Reactor Water Clean Up Pump 1B. As a result, four workers were internally and externally contaminated. In the second example, also involving the reactor water clean up system, Energy Northwest failed to survey airborne radioactivity before or during work activities on a system pump despite the potential for steam leaks. The findings were entered into Energy Northwest's corrective action program as Condition Reports 2-04-01975 (PER 20400759) and 2-04-04966.

  The finding was more than minor because it was associated with one of the cornerstone attributes (exposure control) and affected the associated cornerstone objective because it resulted in decreased licensee awareness of possible radiological hazards. The occurrence involved individual workers unplanned, unintended doses or potential of such a dose resulting from actions contrary to NRC regulations that could have been significantly greater as a result of a single minor, reasonable alteration of the circumstances. Using the Occupational Radiation Safety Significance Determination Process, the inspector determined the finding was of very low safety significance because it was not (1)

an ALARA finding, (2) an overexposure, (3) a significant potential for overexposure, or (4) a loss of ability to assess dose. This finding also had crosscutting aspects associated with human performance (Section 2OS2).

B. Licensee Identified Violations

Violations of very low safety significance which were identified by Energy Northwest have been reviewed by the inspectors. Corrective actions taken or planned by Energy Northwest have been entered into their corrective action program. These violations and corrective action tracking numbers are 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 with the following exceptions: July 30, 2004, the plant automatically tripped on high reactor pressure vessel pressure due to a failed main turbine governor valve control circuit card. The plant remained shutdown and entered Forced Outage 04-01 to perform repairs on two main steam isolation valves; August 14, 2004, the plant was started up and entered the power range; August 15, 2004, the plant was manually tripped due to a loss of feedwater which occurred when the main condenser hotwell overflowed; August 16, 2004, the plant was started up and entered the power range; August 17, 2004, the plant was manually tripped due to a loss of feedwater which occurred when an equipment operator failed to properly fill and vent a condensate heater; August 20, 2004, the plant was started up and entered the power range and exited Forced Outage 04-01; August 24, 2004, the plant achieved 100 percent power. The plant was maintained at essentially 100 percent power for the rest of the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R04 Equipment Alignments (71111.04)

.1 Quarterly Partial Equipment Alignments

a. Inspection Scope

The inspectors completed three partial system walkdowns of safety-related systems during the inspection period. The inspectors reviewed system drawings, the Final Safety Analysis Report, Technical Specifications, and operating procedures to establish the proper equipment alignment to ensure system operability.

- Residual Heat Removal (RHR) System Train A: On August 12, 2004, the inspectors walked down the mechanical and electrical alignment of the RHR system Train A while Train B was inservice providing decay heat removal during a forced outage. The inspectors reviewed the alignment of critical system components using Procedure SOP-RHR-SDC, "RHR Shutdown Cooling," Revision 4.

- Emergency Diesel Generator (EDG) Train B: On September 8, 2004, the inspector walked down the mechanical and electrical alignments of the EDG Train B while the EDG Train A was out of service for planned surveillance testing. The inspectors reviewed the alignment of critical system components using Procedure SOP-DG2-STBY, Emergency Diesel Generator (Div 2) Standby Lineup," Revision 3, as criteria for this inspection.

- Reactor Core Isolation Cooling (RCIC): On September 13, 2004, the inspectors performed one partial walk down of accessible portions of the RCIC system to evaluate the correct alignment of mechanical components. The inspectors utilized facility drawings, procedures and alignment checklists to verify the correct system alignment. The inspectors then compared the as-found condition of the system to verify that it could perform it safety function. The inspectors also evaluated the material condition of the system.

b. Findings

No findings of significance were identified.

.2 Complete System Walkdown (Semiannual)

a. Inspection Scope

On August 31, 2004, the inspectors performed a walkdown of accessible portions of the Standby Service Water (SW) System Train A, while the system was in service to verify operational status and material condition of the system and its components. The inspectors reviewed system drawing M-524, "Flow Diagram Standby Service Water System," Revision 104, to verified proper electrical and mechanical system lineup. The inspectors also reviewed outstanding maintenance work orders and assessed operability and conformance with licensing requirements and commitments. The inspectors evaluated Energy Northwest's corrective measures to address related conditions adverse to quality to verify that corrective measures were timely and adequate. The inspectors reviewed the following documents during the inspection:

- Final Safety Analysis Report Chapter 9.2, Water Systems
- Technical Specification 3.7.1, SW System and Ultimate Heat Sink (UHS), Amendment No. 169
- Drawing M-524, "Flow Diagram Standby Service Water System" Revision 104
- PER [Proble Evaluation Request] Resolution 203-0234, potential adverse trend on SW flow indicators.
- PER Resolution 203-0589, SW-PI-40 (HPCS [High Pressure Core Stray] SW PAM instrumentation) is inoperable for greater than 30 days.
- PER Resolution 203-1202, UT inspection reveals two areas of small wall loss in the SW piping downstream of SW-RO-2B.
- PER Resolution 203-1616, several deficiencies noted on 18" SW (22)-2 SW A return Line between SWPH A and the SW B Spray Pond.
- PER Resolution 203-1348, UT inspection revealed several small areas with thickness below ASME Code requirements in an area where a pin hole leak was discovered, downstream of SW-RO-2A.
- PER Resolution 203-2983, during a check of SW flows per the values of OSP-SW-M 102, less than the minimum required flow was identified.

- PER Resolution 203-2989, current practice of aligning SW to CCH-CR-1B after performing OSP-SW-M 102 seems to affect SW B system flow balance more than previously thought.
- PER Resolution 203-3123, recent low flow PERS pose a question regarding SW system reliability.
- PER Resolution 203-3180, scheduled UT measurement of piping downstream of SW shows continued cavitation-induced wall loss.
- PER Resolution 203-3294, identified SW flow below the minimum for operability to CAC-HR-1B.
- PER Resolution 203-3427, SW-LI-1B and SW-LI-1BR are indicating approximately 1.5 feet higher than actual spray pond level.
- PER Resolution 203-4101, unplanned Technical Specification action statement entry due to low service water flow on CAC MCC room cooler.

b. Findings

No findings of significance were identified.

1R05 Fire Protection (71111.05)

.1 Quarterly Walkdowns

a. Inspection Scope

The inspectors performed walkdowns of eight fire protection areas to verify operational status and material condition of fire detection and mitigation systems, passive fire barriers and fire suppression equipment. The inspectors reviewed Energy Northwest's implementation of controls for combustible materials and ignition sources in selected fire protection zones. The inspectors compared observed plant conditions against descriptions and commitments described in the Final Safety Analysis Report, Section 9.5.1, "Fire Protection System," and Appendix F, "Fire Protection Evaluation." The fire areas inspected were:

- Fire Area RC-10; Main Control Room; July 15, 2004
- Remote Shutdown Room; July 15, 2004
- Fire Area DG-1; High Pressure Core Spray Diesel Generator; August 11, 2004
- Fire Area DG-2; Diesel Generator 1A; August 10, 2004
- Fire Area DG-3; Diesel Generator 1B; August 10, 2004
- Fire Area R-4; Residual Heat Removal Pump 2B Room; August 18, 2004
- Fire Area R-5; Residual Heat Removal Pump 2A Room; August 18, 2004
- Fire Area R-7; Residual Heat Removal Pump 2C Room; August 18, 2004

b. Findings

No findings of significance were identified.

1R07 Heat Sink Performance (71111.07)

a. Inspection Scope

On July 16, 2004, the inspectors analyzed one evaluation associated with the HPCS EDG cooling water heat exchanger thermal performance which was tested on June 23, 2004. The inspectors reviewed the test data to ensure that test acceptance criteria were appropriate and considered differences between test conditions and design conditions. The inspectors also considered Energy Northwest's incorporation of instrument inaccuracies into the test program. Lastly, the inspectors performed checks of selected test results through independent calculation to ensure that the heat exchanger was capable of removing it's design heat load. The inspectors referenced Procedure PPM 8.4.63, "Thermal Performance Monitoring of DCW-HX-1C," dated June 23, 2004.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification (71111.11)

a. Inspection Scope

On July 19, 2004, the inspectors observed one licensed operator requalification training exam as operators participated in an evaluated scenario on the plant simulator. The inspectors evaluated the crew's performance in terms of command, control, and communications and procedure usage. The inspectors also observed Energy Northwest's evaluation of crew performance to ensure that performance deficiencies were appropriately discussed and evaluated. Simulator fidelity was also reviewed by the inspectors.

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness (71111.12)

.1 Routine Maintenance Effectiveness Evaluations

a. Inspection Scope

The inspectors performed one in-office review of maintenance rule related issues and/or safety related systems to evaluate Energy Northwest's assessment of availability and reliability of risk-significant structures, systems and components.

- Performance Evaluation Report (PER) 204-0628; E-IN-3A was running, for testing, in parallel with E-IN-3B which could cause an overload condition of the Division 1 125 VDC system; March 10, 2004

The inspectors utilized the following documents for this inspection:

- TI 4.22, Maintenance Rule Program, June 19, 2001
- Columbia Generating Station Maintenance Rule Scoping Matrix, October 30, 2003
- NUMARC 93-01, "Industry Guideline for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants, Revision 2
- Procedure 1.5.11; Maintenance Rule Program, Revision 6

b. Findings

No findings of significance were identified.

.2 Biennial Maintenance Rule Implementation Inspection

a. Inspection Scope

Periodic Evaluation Reviews

The inspectors reviewed Energy Northwest's last four biannual periodic assessments, "Maintenance Rule Program Biannual Period Status Report," each covering a 6-month period beginning with the July through December 2002 report, and ending with the January through June 2004 report. These reports documented the results of Energy Northwest's assessment of the Maintenance Rule Program based on performance monitoring, condition monitoring, and preventive maintenance. In addition, the inspectors reviewed Energy Northwest's overall implementation of the Maintenance Rule, including their Maintenance Rule Scope, (a)(1) determinations, performance criteria, program definitions, use of industry operating experience, and Maintenance Rule related self assessments. With respect to those structures, systems, or components identified as being in an (a)(1) status, the inspectors verified the establishment of appropriate goals, corrective actions and the impact of risk monitoring. The inspectors reviewed the conclusions reached by Energy Northwest with regard to the balance of reliability and unavailability for specific maintenance rule functions. The inspectors selected the following systems that had either been placed in (a)(1) status, or had recently been returned to (a)(2) status for a detailed review:

- SW-SYS-A and -B [both in (a)(1)]
- DG-SYS-A [returned to (a)(2) from (a)(1)]
- RPS-MG-1 [returned to (a)(2) from (a)(1)]
- RHR-SYS-A [in (a)(1)]
- RCIC-SYS-1 [in (a)(1)]

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

a. Inspection Scope

The inspectors selected four samples of planned and emergent maintenance tasks for evaluation. The evaluation consisted of reviewing Energy Northwest's assessment of plant risk for the activity, risk management and review of compensatory measures, where appropriate, and reviewing plant status to ensure that other equipment deficiencies did not adversely impact the planned risk assessment. The inspectors sample included:

- Main steam leakage control Train A out of service coincident with EDG Train B diesel generator and Train B RHR system; June 30, 2004
- Main steam isolation Valve MS-V-28D and MS-V-22D repairs; August 9, 2004
- Feedwater containment isolation Valve RFW-V-65A emergent work; August 27, 2004
- RCIC maintenance outage coincident with standby gas treatment Train A maintenance; September 1, 2004

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15)

a. Inspection Scope

The inspectors reviewed three operability evaluations to evaluate Energy Northwest's assessment of operability for degraded or nonconforming equipment performance. The inspectors reviewed the Final Safety Analysis Report, Technical Specifications, applicable system drawings and design specifications, and associated corrective action documents to determine if Energy Northwest had appropriately evaluated operability.

- PER 204-0935, Several discrepancies noted on the positions of D/G room ventilation dampers; July 19, 2004
- CR 2-04-04511, Pressurization of Train B RHR Low Pressure Piping During Reactor Heat-up; August 16, 2004

- CR 2-04-01508, In 1995 an incorrect stem diameter was applied during diagnostic testing of Valve MSLC-V-1D. Actual thrust/torque is greater than recorded; identified by licensee on April 15, 2004; reviewed on September 21, 2004

b. Findings

No findings of significance were identified.

1R16 Operator Workarounds (71111.16)

a. Inspection Scope

The inspectors reviewed operator workarounds to ascertain the cumulative effects on reliability, availability, and potential for misoperation of a system. The review also included an assessment of the cumulative operator workarounds, operator burdens, and whether they could affect multiple mitigating systems and whether operators were able to respond in a correct and timely manner to accidents and plant transients.

b. Findings

No findings of significance were identified.

1R19 Postmaintenance Testing (71111.19)

a. Inspection Scope

The inspectors observed or completed an in-office review of six postmaintenance tests. The inspectors evaluated the scope of the maintenance activity, reviewed design basis information, and reviewed technical specifications to verify that each test adequately demonstrated equipment operability. The inspection samples included:

- Work Order 01082365; RHR-FIS-10B Replacement; June 30, 2004
- Work Order 01084406; MS-V-67D Valve Replacement; August 12, 2004; reviewed on August 16, 2004
- Work Order 01077279; MS-V-28D Disassemble and Reassemble; August 12, 2004
- Work Order 01060822; MS-V-22D Disassemble and Reassemble; August 13, 2004
- Work Order 01062381; Replace IRM-DET-2F; August 18, 2004

- Work Order 01079061; RCIC-P-1 Change Bearing Housing Oil; August 31, 2004

b. Findings

No findings of significance were identified.

1R20 Refueling and Outage Activities (71111.20)

a. Inspection Scope

Forced Outage 04-01 began on July 30, 2004, and ended on August 24, 2004. During the outage, the inspectors observed reactor scram recovery, cooldown, startup, and maintenance activities to verify that Energy Northwest maintained the plant capabilities within the applicable Technical Specification requirements and within the scope of the outage risk plan. Specific activities evaluated included:

- Reactor Water Inventory Controls - verified that flow paths, equipment configurations, and alternative means for inventory addition were appropriate to prevent inventory loss.

- Reactivity Controls - ensured compliance with Technical Specifications and verified that activities, which could affect reactivity, were reviewed for proper control within the outage risk plan.

- Monitored Shutdown Cooling System - verified that operating parameters were established and maintained within the required range.

- Reactor Coolant System Instrumentation Indication - verified that reactor coolant system pressure, level, and temperature instrumentation were installed and configured to provide accurate indication.

- Heatup and Startup Activities - ensured that Technical Specifications and administrative procedure prerequisites for mode changes were met prior to changing modes or plant configurations. Included an inspection of the drywell prior to drywell closeout.

- Electrical Power - verified that electrical power systems were available to ensure compliance with Technical Specifications and the outage risk plan.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors observed the performance and/or reviewed the results of the five surveillance tests listed below. Of the five surveillance tests, two were in-service tests of risk significant components. The inspectors reviewed Technical Specification, Final Safety Analysis Report, and applicable Energy Northwest procedures to determine if the surveillance tests demonstrated that the tested components were capable of performing their intended design functions. Additionally, the inspectors evaluated significant test attributes such as potential preconditioning, clear acceptance criteria, accuracy and range of test equipment, procedure adherence, and completion and acceptability of test data.

- Procedure OSP-RHR/IST-Q704; Emergency Core Cooling Systems; Revision 14; July 28, 2004
- Procedure TSP-MSIV-B801; Train D MSIV Leak Rate Testing; Revision 1; August 13, 2004
- Procedure ISP-LPCS/RHR-Q901; RHR A & LPCS Discharge Pressure - ADS Trip System A Permissive (By K10A Relay) - CFT/CC; Revision 7; July 28, 2004
- Procedure TSP-APRM-C301; APRM and Core Thermal Power Channel Calibration Check; Revision 4; August 24, 2004
- Procedure OSP-LPCS/IST-Q702; LPCS System Operability Test; Revision 12; August 29, 2004

b. Findings

Introduction. A Green self revealing NCV occurred as a result of Energy Northwest's failure to follow a surveillance test procedure and return Average Power Range Monitor (APRM) B to service. This was identified as a violation of Technical Specification 5.4.1.a.

Description. On August 24, 2004, control room operators performed Procedure TSP-APRM-C301, "APRM and Core Thermal Power Channel Calibration Check," Revision 4, to perform a gain adjustment on APRM B. The APRM was bypassed at 1600 per TSP-APRM-C301, Attachment 9.1, Step 3, to facilitate the gain adjustment. Following the gain adjustment, the operators failed to return APRM B to service by unbypassing the instrument per Step 8 of Attachment 9.1. Procedure TSP-APRM-C301 was subsequently reviewed by a senior reactor operator and was closed out at 1751. At 0100 the next day, during a control board walkdown in preparation for a gain adjustment on a different channel APRM, the reactor operator noted that APRM B was bypassed. APRM B was then returned to service. During the time that APRM B was inadvertently

bypassed, APRM D and APRM F were operable and would have performed the required Reactor Protection System (RPS) B trip functions associated with those instruments.

The inspectors noted the following two performance issues which had human performance crosscutting aspects:

1. Operators failed to identify the APRM was in bypass following the conduct of the surveillance activity and during the shift turnover. Specifically, while APRM B was out of service, Energy Northwest underwent a control room shift change at 6:00 p.m. PDT. None of the control room staff noted that APRM B was bypassed during the shift turnover. At 1:00 a.m. PDT (7 hours following the shift turnover) the bypassed instrument was identified. Means of having identified the APRM was bypassed were: an "APRM Bypass" control board indicator, an "APRM Bypass" indicator on the APRM B instrument drawer located in the control room, and the control board APRM bypass control switch out of its normal position.

2. A senior reactor operator signed Procedure TSP-APRM-C301 for closure indicating that he had reviewed the procedure. However, the initial block in Attachment 9.1, indicating return to service of APRM B, was not initialed for the period of time in question.

Analysis. Energy Northwest's failure to return APRM B to service following the gain adjustment was determined to be a performance deficiency and was more than minor because it was a configuration control issue which impacted the mitigating systems cornerstone objective to ensure the reliability of systems that respond to initiating events to prevent undesirable consequences. The issue was of very low safety significance (Green) because the finding did not result in the loss of function of a safety system and did not represent an actual loss of a safety function of a single train for greater than its Technical Specification allowed outage time.

Enforcement. Technical Specification 5.4.1.a required, in part, that written procedures shall be established, implemented, and maintained covering the applicable procedures recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978. Regulatory Guide 1.33, "Quality Assurance Program Requirements (Operation)," Appendix A, Section 8.b, required, in part, that specific procedures for calibrations should be written to include incore flux monitor calibrations. Contrary to this requirement on August 24, 2004, from 4:00 p.m. PDT, to August 25, 2004, at 1:00 a.m. PDT, the control room operators failed to return APRM B to service in accordance with Procedure TSP-APRM-C301, Attachment 9.1, Step 8, which required that the operator be requested to unbypass the APRM. This violation is being treated as a noncited violation, consistent with Section VI.A.1 of the NRC Enforcement Policy (NCV 50-397/04-04-01, Failure to Identify and Return to Service APRM B in a Timely Manner). Energy Northwest documented this issue in their corrective action program in PER 204-1056. Immediate corrective actions taken by Energy Northwest included verifying that APRM B was in fact operable and returning the instrument to service. Other corrective actions included changing the frequency of panel walkdowns in the control room to ensure a more thorough examination of plant indications.

1R23 Temporary Plant Modifications (71111.23)

a. Inspection Scope

On August 18 and 19, 2004, the inspectors evaluated Energy Northwest's use of temporary lead shielding in the residual heat removal pump rooms. The inspectors reviewed Energy Northwest's technical and licensing basis impact evaluations for the temporary shielding requests to ensure that the safety functions of the RHR system remained unaffected. The inspectors also reviewed Procedure GEN-RPP-14, "Control of Temporary Shielding," Revision 3, to ensure that the use of the temporary shielding was in accordance with Energy Northwest's procedural requirements.

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 2004 Biennial Emergency Preparedness Exercise to determine if the exercise would acceptably test major elements of the emergency plan. The scenario included seismic activity, which resulted in steam leaks, valve malfunctions, and other broken equipment. Additional seismic activity caused increased steam leakage and fuel damage, failure of isolation valves, and a subsequent release of radioactivity to the environment. Energy Northwest activated all of their emergency facilities to demonstrate their capability to implement the emergency plan.

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

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

The inspectors also assessed personnel recognition of abnormal plant conditions, the transfer of emergency responsibilities between facilities, communications, protection of emergency workers, emergency repair capabilities, and the overall implementation of the emergency plan to verify compliance with the requirements of 10 CFR 50.47(b), 10 CFR 50.54(q), and Appendix E to 10 CFR Part 50.

The inspectors attended the post-exercise critiques in each of the above emergency response facilities to evaluate the initial licensee self-assessment of exercise performance. The inspectors also attended the formal presentation of critique items to plant management. The inspectors completed one sample during the inspection.

b. Findings

No findings of significance were identified.

1EP6 Drill Evaluation (71114.06)

a. Inspection Scope

The inspectors observed one Energy Northwest simulator evaluation on August 16, 2004, in which the control room staff were required to make and report emergency classifications in response to a simulated accident. The inspectors reviewed the facility emergency plan implementing procedures (EPIPs) and Emergency Plan to establish the criteria for the simulated emergency classifications. Additionally, the inspectors reviewed the completed emergency action level declaration and notification forms to verify the accuracy of the forms. Lastly, the inspectors reviewed Energy Northwest's evaluation of the drill to ensure that any performance deficiencies associated with classification, notification, and PAR development were accurately characterized.

b. Findings

No findings of significance were identified.

2. RADIATION SAFETY

Cornerstone: Occupational Radiation Safety [OS]

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 Energy Northwest's procedures required by Technical Specifications as criteria for determining compliance. The inspector interviewed licensee personnel and reviewed:

- Current 3-year rolling average collective exposure
- An on-line maintenance work activity scheduled during the inspection period and associated work activity exposure estimates that were likely to result in the highest personnel collective exposures

- Three work activities from previous work history data that resulted in the highest personnel collective exposures
- Site specific trends in collective exposures, plant historical data, and source-term measurements
- Site specific ALARA procedures.
- ALARA work activity evaluations, exposure estimates, and exposure mitigation requirements
- Intended versus actual work activity doses and the reasons for any inconsistencies
- Assumptions and basis for the current annual collective exposure estimate, the methodology for estimating work activity exposures, the intended dose outcome, and the accuracy of dose rate and man-hour estimates
- Method for adjusting exposure estimates, or replanning work, when unexpected changes in scope or emergent work were encountered
- Source-term control strategy or justifications for not pursuing such exposure reduction initiatives
- Radiation worker and radiation protection technician performance during work activities in radiation areas, airborne radioactivity areas, or high radiation areas
- Self-assessments and audits 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 inspector completed 10 of the required 15 samples and 2 of the optional samples.

b. Findings

Introduction. The inspectors reviewed two examples of a noncited, Green violation of 10 CFR 20.1501(a) resulting from Energy Northwest's failure to evaluate radiological conditions in work areas. One example was self-revealing; the other was NRC-identified.

Description. On May 4, 2004, four individuals alarmed personnel contamination monitors after performing a gasket replacement on reactor water clean up Pump 1B. The workers were found to be internally and externally contaminated. Air samples analyzed after the occurrence indicated 3 derived air concentrations of Cobalt-60. Energy Northwest's review of the occurrence stated that the airborne radioactivity was likely caused by the drying of the upper pump cavity. It also stated that airborne precautions were not adequately reconsidered and that the use of an airborne

radioactivity monitor may have provided an early indication that airborne conditions existed. The inspector concluded that Energy Northwest had not adequately surveyed or evaluated the changing radiological conditions and potential hazards.

On September 1, 2004, Energy Northwest again worked on reactor water clean up Pump 1B. This time the tasks included postmaintenance testing and hot torquing. In addition, one worker was assigned to look for steam leaks in the pump room. The individual used a mirror to aid in the detection of a steam leak. At one point, unexpectedly high dose rates were encountered in the pump room, and the job was stopped by radiation protection personnel until further planning was completed. While reviewing the work documents, the inspector determined that no airborne radioactivity survey was conducted prior to or during the tasks conducted in the pump room.

The inspector concluded that this constituted a second example of a failure to survey based on the following items: Energy Northwest's search for steam leaks meant Energy Northwest believed there was a potential for leaks to exist. Steam leaks from the reactor water clean up system had the potential to cause unsafe airborne radioactivity levels. Energy Northwest's use of a mirror to find steam leaks meant that the leaks were hard to see, unaided. Therefore, high airborne activity could have existed without Energy Northwest knowing until a worker with a mirror identified a steam leak.

Analysis. A failure to survey was a performance deficiency. The finding was more than minor because it was associated with one of the cornerstone attributes (exposure control) and affected the associated cornerstone objective because it resulted in decreased licensee awareness of possible radiological hazards. The occurrence involved individual workers unplanned, unintended doses or potential of such a dose resulting from actions contrary to NRC regulations that could have been significantly greater as a result of a single minor, reasonable alteration of the circumstances, such as higher airborne radioactivity concentrations. Using the Occupational Radiation Safety Significance Determination Process, the inspector determined the finding was of very low safety significance because it was not (1) an ALARA finding, (2) an overexposure, (3) a significant potential for overexposure, or (4) a loss of ability to assess dose. This finding also had crosscutting aspects associated with human performance in that licensee personnel failed to implement the established survey requirements designed to prevent excess occupational radiation exposure.

Enforcement. Pursuant to 10 CFR 20.1003, survey means an evaluation of the radiological conditions and potential hazards incident to the production, use, transfer, release, disposal, or presence of radioactive material or other sources of radiation. 10 CFR 20.1501 requires that each licensee make or cause to be made surveys that may be necessary for Energy Northwest to comply with the regulations in 10 CFR Part 20 and that are reasonable under the circumstances to evaluate the extent of radiation levels, concentrations or quantities of radioactive materials, and the potential radiological hazards that could be present. Energy Northwest violated this requirement when it did not perform a survey to comply with the requirements of 10 CFR 20.1201. Because the failures to survey were determined to be of very low safety significance and have been entered into Energy Northwest's corrective action program as Condition Reports 2-04-01975 (PER 20400759) and 2-04-04966, this violation is being treated as a noncited violation, consistent with Section VI.A.1 of the NRC Enforcement Policy:

NCV 05000397/2004004-02, Two Examples of Failure to survey.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification (71151)

.1 Mitigating Systems Cornerstone

a. Inspection Scope

The inspectors assessed the accuracy of the two performance indicators listed below. The inspectors compared the data with operator logs, equipment out of service logs, and corrective action documents for the last four quarters. The inspectors verified that Energy Northwest calculated performance indicators in accordance with NEI 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 2.

- Safety System Unavailability - BWR High Pressure Coolant Injection System (High Pressure Core Spray)
- Safety System Unavailability - Residual Heat Removal System

b. Findings

No findings of significance were identified.

.2 Emergency Preparedness Cornerstone:

a. Inspection Scope

The inspectors sampled submittals for the performance indicators listed below for the period from October 1, 2003, through June 30, 2004. The definitions and guidance of Nuclear Engineering Institute NEI 99-02, "Regulatory Assessment Indicator Guideline," Revision 2, were used to verify Energy Northwest's basis for reporting each data element in order to verify the accuracy of performance indicator data reported during the assessment period.

- Drill and exercise performance
- Emergency response organization participation
- Alert and notification system reliability

The inspectors reviewed a 100 percent sample of drill and exercise scenarios, licensed operator simulator training sessions, notification forms, and attendance and critique records associated with training sessions, drills, and exercises conducted during the verification period. The inspectors reviewed the qualification, training, and drill participation records for a sample of 12 emergency responders. The inspectors reviewed alert and notification system maintenance records and procedures, and a 100 percent sample of siren test results. The inspectors also interviewed licensee personnel that were responsible for collecting and evaluating the performance indicator data. The inspectors completed three samples during this inspection.

b. Findings

No findings of significance were identified.

4OA2 Problem Identification and Resolution

.1 Annual Sample Review

a. Inspection Scope

The inspectors selected 6 condition records (corrective action program inputs) and 13 problem evaluation requests for detailed review based on their linkage with event classification, notification of offsite authorities, and processes for providing protective action recommendations. The records were reviewed to ensure that the full extent of the issues were identified, an appropriate evaluation was performed, and appropriate corrective actions were specified and prioritized.

b. Findings

No findings of significance were identified.

.2 Biennial Maintenance Rule Identification and Resolution of Problems

The inspectors reviewed selected corrective action documents associated with Maintenance Rule related findings. With one exception, the inspectors verified that Energy Northwest took, or planned, appropriate corrective measures for identified issues.

On December 10, 2002, Energy Northwest personnel initiated Problem Evaluation Request (PER) 202-3461. The PER, categorized as nonsignificant, was dispositioned and closed on February 4, 2003, based on actions to be taken as identified on the PER resolution form. There were three specific actions identified, all associated with some aspect of Maintenance Rule scoping review. Energy Northwest personnel closed the PER when they initiated an individual plant tracking log (PTL) for each of the three actions. The PTL was an additional corrective action document used to cause a review, evaluation, and implementation of specified actions.

The inspectors initiated a review of the three PTLs to verify that a resolution to each of the conditions had been effected since it was noted that all three PTLs had been closed. PTL H 194829 was appropriately closed on March 20, 2003. PTLs H 196658 and H 196664 were shown to be closed on April 15, 2003, and August 28, 2003, respectively. Closer review by the inspectors, however, revealed that the identified actions needed to resolve the individual conditions had been transferred to the “Mrule Open Scoping Issue” list. This list is a non-proceduralized and uncontrolled document created as an aide to the Maintenance Rule Coordinator in an attempt to keep track of Maintenance Rule scoping questions requiring resolution. Therefore, the conditions originally documented as deficiencies on a PER have still not been corrected, yet all of the associated corrective action documents have been closed out. This is a minor violation of Criterion XVI in Appendix B to 10 CFR Part 50.

Additionally, the Mrule Open Scoping Issue list contained 56 scoping issues, only 2 of which had been closed. Review of several of the open issues revealed that some had resolutions which appeared to close the item, but they were still shown as being open. The majority of the issues appeared to deal with the question of whether certain structures or components, or their functions, should be included in the scope of the Maintenance Rule. The inspectors were able to ascertain that the list contained open scoping issues that dated back to at least July 2002.

Energy Northwest personnel initiated on September 23, 2004, Condition Report (CR) CR 2-04-05341 to review and evaluate the two conditions discussed above.

.3 Cross-References to Problem Identification and Resolution Findings Documented Elsewhere

A problem identification and resolution crosscutting aspect was identified for actions needed to resolve individual conditions had been transferred to the “Mrule Open Scoping Issue” list. This list is a non-proceduralized and uncontrolled document created as an aide to the Maintenance Rule Coordinator in an attempt to keep track of Maintenance Rule scoping questions requiring resolution (1R12).

A problem identification and resolution crosscutting aspect was identified for the effectiveness of Energy Northwest's problem identification and resolution processes regarding exposure tracking, higher than planned exposure levels, and radiation worker practices (Section 2OS2).

4OA3 Event Followup (71153)

.1 July 30, 2004, Automatic Reactor Scram and Alert Declaration

a. Inspection Scope

On July 30, 2004, the inspectors observed and evaluated Energy Northwest’s response to an automatic reactor scram and Alert declaration which was made at 10:00 p.m. PDT. The inspectors responded to the control room and verified the status of plant conditions by observing key plant parameters, annunciator status, and observing the current status of safety related mitigating equipment. The inspectors also observed reactor operator actions in response to the plant scram and senior reactor operators evaluation of plant conditions and oversight of the reactor operators. Following the declaration of the Alert, the inspectors relocated to the technical support center to observe Energy Northwest’s response to the event to ensure that actions taken were commensurate with established emergency implementing procedures and that technical support center staff’s evaluation and assessment of plant conditions and emergency response was adequate. Energy Northwest subsequently terminated the Alert at 11:57 a.m. PDT after verifying that plant conditions were stable and that the initial criteria for which the Alert had been declared no longer were met. During a post event review, the inspectors reviewed operator logs, plant computer data, condition reports, and conducted interviews with plant employees to evaluate the appropriateness of operator actions and to verify plant response.

b. Findings

Operator Response to Automatic Scram and Alert Declaration

Introduction. An Unresolved Item was identified pending the NRC's determination of the regulatory aspects and evaluation of the safety significance of the performance issues associated with Energy Northwest's Alert declaration.

Description. On July 30, 2004, at 9:23 a.m. PDT, an automatic reactor scram occurred due to a high pressure condition. The high pressure condition occurred when the No. 1 Main Turbine Governor Valve drifted closed as a result of the associated control circuit card failure. Following the automatic scram, the reactor operators actuated alternate rod insertion (ARI) after noting that two control rods did not indicate fully inserted. Operators had been trained that with more that one control rod not fully inserted following a reactor scram that a control rod pattern did not exist which alone always assured a shutdown reactor under all conditions. Approximately two minutes after ARI was activated all control rods indicated fully inserted.

A prompt determination whether the reactor scram occurred because of a valid reactor protection system (RPS) actuation was not made. Energy Northwest noted that at 08:13 a.m. PDT a surveillance activity, Procedure, ISP-MS-Q909, "ATWS/ARI/RPT Trip Reactor Pressure," had been approved for performance. Conduct of this procedure had the potential for causing a reactor scram if not properly performed. The shift manager initially considered that the RPS trip may have been caused by the conduct of the surveillance activity and therefore the RPS trip may not have been valid. In fact, although procedure ISP-MS-Q909 had been approved for performance, it had not actually been started at the time of the scram. The shift manager's review of one of the reactor pressure chart recorders did not identify any increase in pressure which preceded the automatic scram. At 9:53 a.m. PDT, the shift manager determined that a valid RPS trip had occurred because of high reactor coolant system pressure. This determination was made following the review of plant computer data which indicated a reactor system pressure increase preceding the automatic scram.

The Emergency Plan Implementing Procedure (EPIP) 13.1.1, "Classifying the Emergency," Revision 32, described in Emergency Action Level 2.2.A.1 the following criteria for declaring an Alert: 1) any RPS setpoint (including manual) has been exceeded per Technical Specification 3.3.1.1; 2) RPS actuation failed to result in a control rod pattern which alone always assures reactor shutdown under all conditions, and; 3) manual actions (mode switch in shutdown, manual push buttons and ARI) result in reactor power less than or equal to five percent. After reviewing the EPIP and considering the initial rod indications and subsequent determination that a valid RPS actuation had occurred, the shift manager declared an Alert at 10:00 a.m. PDT.

Following the Alert declaration, Energy Northwest notified offsite local and state authorities, and activated its emergency response organization including activation of the technical support center, emergency operating facility, and joint information center. Additionally, Energy Northwest officially notified the NRC Headquarters Operations

Officer at 10:58 a.m. PDT, of the Alert declaration and activated the Emergency Response Data System (ERDS) at 11:03 a.m PDT. After determining that the plant conditions were stable and that the conditions for declaring the Alert no longer existed, Energy Northwest terminated the Alert at 11:57 a.m. PDT.

A subsequent review of plant computer data by Energy Northwest determined that all rods had fully inserted during the initial plant scram and that the position indications for the two indeterminate control rods had not registered the rods where fully inserted until approximately 2 minutes following the scram. Energy Northwest retracted the Alert declaration on July 31, 2004.

Energy Northwest determined that the operators had indications available at the time the scram occurred for determining that conditions for declaring an Alert had not been satisfied. Specifically, Energy Northwest determined that the operators had multiple indications available to demonstrate that all control rods had inserted during the scram. For the 185 total control rods in the core, 183 of the control rods initially indicated fully inserted (prior to ARI manual initiation). ARI causes a redundant scram by relieving the scram air header independent of an RPS actuation. Energy Northwest concluded that the operators should have realized that with 183 control rods indicating full in that the scram air header was already depressurized and that actuation of ARI did not result in any additional rod movement. Energy Northwest later determined that the two control rods had only experienced indication problems. The inspectors reviewed Energy Northwest's assessment and concluded that although information was available to determine that all rods had inserted, that at the time of the event the control room staff made the correct and prudent decision to initiate ARI given the training they had received to check the rod worth minimizer for all rods inserted indication.

The inspectors noted the following performance issues:

1. Immediately following the reactor scram, the reactor operator acknowledged and reset the alarming annunciators. This reset and cleared the annunciators which would have provided information to the shift manager in establishing the validity of the RPS trip. In addition, the operators failed to identify those annunciators which provide entry conditions into the emergency operating procedures. Operating Instruction OI-9, "Operations Expectations and Standards," Revision Z, Section 13.0, Annunciator Response, provides that during transient/EOP [emergency operating procedure] implementation that alarms are promptly evaluated and operationally significant alarms communicated by the operator to the control room supervisor. Those annunciators flagged as potential EOP entries are assessed by the operator and communicated to the control room supervisor as EOP entry conditions including parameter, value, units, and trends.

2. Prompt measures were not initiated to determine the cause of the reactor scram including review of the computer alarm logs and each of the reactor pressure chart recordings. The shift manager indicated that he had reviewed one of the reactor pressure chart recordings which did not indicate a pressure increase prior to the scram. However, the post event review clearly indicated a pressure increase on the three chart

recorders. Additionally, immediately prior to the scram, the control room received average power range monitor upscale alarms. These alarms provided indication of a plant anomaly which could include a reactor pressure increase.

3. The shift manager did not contact the personnel responsible for performing surveillance Procedure ISP-MS-Q909 and therefore was unable to rule out the potential for conduct of the surveillance procedure being the cause of the reactor scram.

4. The declaration of the Alert was not initiated until 37 minutes after the reactor scram. At the time of the event, the shift manager concluded that ARI was responsible for final insertion of the two control rods. The inspectors noted that the information needed for the shift manager to make the Alert declaration (based on the actions taken) was available within 15 minutes of the reactor scram.

5. At the time that the Alert declaration was made at 10:00 a.m. PDT, the conditions for declaring the Alert no longer existed since all rods indicated full in. Emergency Plan Implementing Procedure EPIP 13.1.1, step 3.7, "Transitory Event Classification," provided that a transitory event classification be made whenever it is discovered that a condition had existed which met the emergency classification criteria, but where no emergency had been declared and the basis for which no longer exists.

An Unresolved Item (URI) 50-397/04-04-03, was opened for the NRC review of the performance issues associated with the operators response to the reactor scram and the declaration of the Alert. The inspectors noted that Energy Northwest initiated immediate actions to provide control room staff training and briefings on evaluating plant conditions to verify full rod insertion and expectations of verifying all available plant indications when verifying the validity of RPS trips

Analysis. The issues associated with the reactor scram and declaration of the Alert classification are under review by the NRC staff. A determination of the safety significance associated with any performance deficiencies will be addressed in the resolution to the unresolved item.

Enforcement. The issues associated with the reactor scram and declaration of the Alert classification are under review by the NRC staff. A determination of the enforcement aspects associated with any performance deficiencies will be addressed in the resolution to the unresolved item.

Emergency Response Data System (ERDS)

Introduction. An NRC identified Green NCV was identified for Energy Northwest's failure to activate ERDS within one hour. This was identified as a violation of 10 CFR 50.72(a)(4).

Description

Energy Northwest activated ERDS 63 minutes after the Alert declaration. The NRC questioned the status of ERDS following the Alert declaration and noted that the system was not activated within one hour after declaring an Alert.

Analysis.

Energy Northwest's failure to activate ERDS within one hour as required by 10 CFR 50.72(a)(4) was determined to be a performance deficiency. The inspectors determined that the failure to activate ERDS within the prescribed time limit was of more than minor risk significance because it was associated with an actual event response performance deficiency that affected the emergency preparedness cornerstone objective to ensure that Energy Northwest is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. By not activating ERDS within the required time, Energy Northwest hindered the NRC's ability to verify plant conditions to ensure the appropriateness of any licensee recommended emergency response actions. Manual Chapter 0609, Appendix B, "Emergency Preparedness Significance Determination Process (EP SDP)," section 2.2(e), states that a failure to activate ERDS constitutes a failure to comply with the requirements of 10 CFR 50.72(a)(4) and should be considered a failure to implement under the EP SDP. Utilizing Sheet 2, "Actual Event Implementation Problem," of the EP SDP, the inspectors determined that the finding was of very low safety significance (Green). Although the finding was associated with an implementation problem during an actual Alert declaration, the failure to comply with the requirements of 10 CFR 50.72(a)(4) did not constitute a failure to implement a risk significant planning standard.

Enforcement.

10 CFR 50.72(a)(4) required, in part, that a licensee shall activate ERDS as soon as possible but not later than one hour after declaring an Alert. Contrary to this requirement, on July 30, 2004, Energy Northwest declared an Alert at 1000 but did not activate ERDS until 1103. This violation is being treated as an NCV, consistent with Section VI.A.1 of the NRC Enforcement Policy (NCV 50-397/04-04-04, Failure to Activate the Emergency Response Data System Within One Hour). Energy Northwest documented this issue in their corrective action program in Condition Report 2-04-04103. Corrective actions included assigning additional on-shift personnel the duty of activating ERDS to ensure timely activation.

.2 Reactor Scram due to Loss of Reactor Feedwater, August 15, 2004

a. Inspection Scope

On August 15, 2004, the reactor plant was manually scrammed due to lowering reactor vessel water level when the Reactor Feedwater Pump A (RFW-P-1A) unexpectedly tripped. RFW-P-1A was the only feedwater pump in service at the time. The inspectors observed plant conditions and operator response following the plant trip to ensure that the reactor plant was stable and that operators were adhering to plant procedures. The inspectors also verified alarm printouts and the status of mitigating equipment to determine if there was any unusual plant response to the loss of feedwater and subsequent plant scram.

b. Findings

Introduction. A Green self-revealing finding was identified for Energy Northwest's failure to adequately monitor condenser hotwell level after raising hotwell level above a high hotwell level alarm setpoint. This contributed to the operators not identifying a hotwell excursion in a timely manner which resulted in a loss of reactor feedwater and a subsequent manual reactor scram. No violations of NRC requirements were identified.

Description. On August 9, 2004, in anticipation of a reactor startup following a forced outage, reactor operators raised the in-service hotwell level controller COND-LIC-1 setpoint from it's nominal setpoint of zero inches to a higher control setpoint of +5.5 inches (the upper end of the control band and indicating range for COND-LIC-1 was +6.0 inches). The operators raised the setpoint to support a plant forced outage water management plan to accommodate additional water storage in the condenser hotwell during the reactor startup. As a consequence of operating the hotwell at a level of +5.5 inches, the hotwell high level annunciator which had a setpoint of +3 inches was locked in. The operators recognized this condition and implemented hourly logs of hotwell level while the high level annunciator was locked in. The reactor was subsequently brought critical on August 14, 2004. On August 15, 2004, while at 18 percent reactor power, operators raised reactor power which resulted in an increase in feedwater flow from the hotwell to the reactor and a subsequent lowering of hotwell inventory. Controller COND-LIC-1 responded per design to the lowering hotwell level and directed water from the condensate storage tanks to the hotwell via the make-up line and then the surge line. However, as hotwell level increased, controller COND-LIC-1 did not respond to close the make-up and surge line isolation valves. Level in the hotwell continued to rise above the indicating range and eventually overflowed to Main Drain Tank No. 1 (MD-TK-1). RFW-P-1A automatically tripped on a high level condition in MD-TK-1. With RFW-P-1A tripped, reactor vessel level lowered in response to the loss of feedwater. Operators manually scrammed the reactor prior to receiving an automatic scram on low reactor vessel level (level 3).

A post event review conducted by Energy Northwest determined that Controller COND-LIC-1 operated per design during the event and had not failed. It was determined that the cause of failure of the hotwell level control system to restore and maintain hotwell level at the automatic setpoint of +5.5 inches was due to operators selecting an automatic setpoint which was too close to the upper operating range of the controller. Once hotwell level increased beyond the top of the indicating and controlling range for Controller COND-LIC-1, the controller failed to detect any further increase in hotwell level as the detected level was fixed at +6.0 inches. The controller design was such that given enough time it would have detected the +0.5 inches difference between the sensed hotwell level of +6.0 inches and the setpoint of +5.5 inches and closed the make-up and surge line isolation valves. However, the hotwell overflowed causing the trip of the reactor feedwater pump and the plant was manually scrammed prior to this occurring.

The inspectors noted the following performance issues:

1. Hourly logs by the operators to monitor hotwell level while the high level alarm was locked in was not sufficient to monitor level in the event of a level transient. By

operating the Controller COND-LIC-1 at +5.5 inches, there was only a +0.5 inch margin to hotwell level being high out of sight. In the event of a failure of the controller, hotwell level would have exceeded the top of the indicating range in a matter of minutes.

2. At the time that the operators raised hotwell level to +5.5 inches and placed the automatic control setpoint of Controller COND-LIC-1 at +5.5 inches, the back-up Controller COND-LIC-2 was above the indicating range. This was due to differences in location of the two controllers which resulted in an approximate +0.5 inch difference in indicated level. The consequence of which was that the back-up controller was not available for use since it's indicated level was already above the indicating range.

3. Operating with the hotwell level above the hotwell level high alarm rendered that alarm out-of-service as it was locked in and provided no information on level change. Procedure PPM 1.3.1, "Operating Policies, Programs and Practices," Revision 66, Step 4.18.6.b, required, in part, that each out-of-service alarm should be reviewed by the control room supervisor to evaluate the need for compensatory measures and ensure adequate monitoring of the unavailable parameter. Contrary to this procedure, Energy Northwest's compensatory measure of logging condenser hotwell level on an hourly basis was not adequate to monitor hotwell level with hotwell level maintained at the top of the hotwell level controller indicating range.

Analysis. The inspectors determined that Energy Northwest's failure to adequately monitor condenser hotwell level in accordance with PPM 1.3.1 while operating with level high in the indicating range was a performance deficiency and was reasonably within Energy Northwest's ability to foresee and correct and could have been prevented. The finding was of more than minor safety significance because it was a human performance issue which impacted the initiating events cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions. A Phase 2 evaluation was performed in accordance with Manual Chapter 0609, "Significance Determination Process," based on the finding contributing to both the likelihood of a reactor trip and that mitigation functions would not be available. The Phase 2 review was performed using the Columbia Generating Station site specific worksheets. A senior reactor analyst reviewed the Phase 2 results and performed a limited Phase 3 review. The senior reactor analyst considered the limited time the plant was at a low power level and adjusted the time in power operations to 3 hours. The condition existed from criticality on August 14, 2004, at 2:56 p.m. PDT until the scram on August 15, 2004, at 1:03 p.m. PDT. Therefore, the exposure time window used was < 3 days. The initiating event likelihood credit for a transient loss of service water system was increased from four to three by the senior reactor analyst in accordance with Usage Rule 1.2 in Manual Chapter 0609, Appendix A, Attachment 2, "Site Specific Risk-Informed Inspection Notebook Usage Rules." This change reflects the fact that the finding increased the likelihood of the transient with loss of power conversion system, but the exact magnitude of the increase was not known. The configuration of the hotwell ensured that the feedwater system function would be lost following any transient. Therefore, the power conversion system was not given any mitigation system credit in the worksheets analyzed. Because the system was recoverable by two different means, the senior reactor analyst gave credit of 1 for the mitigating system function of the power conversion system. The finding was determined to be of low safety significance.

Enforcement. While Energy Northwest's failure to adequately maintain and monitor hotwell level contributed to the initiating event, the finding was not subject to enforcement actions. The condensate system was not safety related and no violations of regulatory requirements were identified. (FIN 50-397/04-04-05, Inadequate Monitoring of Hotwell Level Contributes to Loss of Reactor Feedwater). Energy Northwest documented this finding in their corrective action program in CR 2-04-04547. Corrective actions included revising an annunciator response and operating procedure to preclude operation of the condenser hotwell above the high hotwell level setpoint.

.3 Reactor Scram due to Loss of Reactor Feedwater, August 17, 2004

a. Inspection Scope

On August 17, 2004, the reactor plant was manually scrammed due to lowering reactor vessel water level when the Reactor Feedwater Pump A (RFW-P-1A) unexpectedly tripped due to low suction pressure. RFW-P-1A was the only feedwater pump in service at the time. The inspectors observed plant conditions and operator response following the plant trip to ensure that the reactor plant was stable and that operators were adhering to plant procedures. The inspectors also verified alarm printouts and the status of mitigating equipment to determine if there was any unusual plant response to the loss of feedwater and subsequent plant scram.

b. Findings

Introduction. A Green self-revealing finding was identified for Energy Northwest's failure to follow a clearance order instruction which resulted in a low suction trip of a reactor feedwater pump and a subsequent reactor scram. No violations of NRC requirements were identified.

Description. On August 17, 2004, an equipment operator failed to follow clearance order instruction D-COND-RV-177A which was used to isolate and then restore condensate heat exchangers 1A and 2A from service to facilitate replacement of relief valve COND-RV-177A. The equipment operator was to jog open COND-V-123A in order to slowly backfill and vent the heat exchangers following the maintenance activity. Contrary to the clearance order instruction, the equipment operator fully opened COND-V-123A which rapidly filled condensate heat exchangers 1A and 2A which resulted in a low suction trip of RFW-P-1A.

Analysis. The inspectors determined that the equipment operator's failure to fill and vent condensate heat exchangers 1A and 2A in accordance with clearance order D-COND-RV-177A was a performance deficiency and was reasonably within Energy Northwest's ability to foresee and correct and could have been prevented. The finding was of more than minor safety significance because it was a human performance issue which impacted the initiating events cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions. A Phase 2 evaluation was performed in accordance with Manual Chapter 0609, "Significance Determination Process," based on the finding contributing to both the likelihood of a reactor trip and that mitigation functions would not be available. The Phase 2 review was performed using the Columbia Generating Station site specific worksheets. A

senior reactor analyst reviewed the Phase 2 results and performed a limited Phase 3 review. The senior reactor analyst considered the limited time the plant was at a low power level and adjusted the time in power operations to 3 hours. The condition existed from criticality on August 14, 2004, at 2:56 p.m. PDT until the scram on August 15, 2004, at 1:03 p.m. PDT. Therefore, the exposure time window used was < 3 days. The initiating event likelihood credit for a transient loss of service water system was increased from four to threee by the senior reactor analyst in accordance with Usage Rule 1.2 in Manual Chapter 0609, Appendix A, Attachment 2, "Site Specific Risk-Informed Inspection Notebook Usage Rules." This change reflects the fact that the finding increased the likelihood of the transient with loss of power conversion system, but the exact magnitude of the increase was not known. The configuration of the hotwell ensured that the feedwater system function would be lost following any transient. Therefore, the power conversion system was not given any mitigation system credit in the worksheets analyzed. Because the system was recoverable by two different means, the senior reactor analyst gave credit of 1 for the mitigating system function of the power conversion system. The finding was determined to be of low safety significance.

Enforcement. While the equipment operator's failure to properly fill and vent condensate heat exchangers 1A and 2A in accordance with clearance order D-COND-RV-177A was the cause of the initiating event, the finding was not subject to enforcement actions. Operation of the condensate system was not a safety related activity and no violations of regulatory requirements were identified (FIN 50-397/04-04-06, Failure to Follow Clearance Order Instruction Results in Loss of Reactor Feedwater). Energy Northwest documented this finding in their corrective action program PER 204-1042. Corrective actions included temporary senior reactor operator oversight of all pretask briefings and remedial training for the individuals involved.

.4 Reactor Water Cleanup Relief Valve Failure

a. Inspection Scope

On September 10, 2004, control room operators received alarms and indications in the control room indicative of a Reactor Water Cleanup (RWCU) leak. Indications included a RWCU system differential flow alarm, heat exchanger room high temperature indications, reports from personnel in the reactor building that steam was issuing from floor drains outside of the RWCU heat exchanger room, and increased radioactive particulate concentration in the reactor building recirculation ventilation system. The leak was caused by RWCU heat exchanger relief valve RWCU-RV-3 inadvertently lifting and failing to close. The inspectors, who were present in the control room when the event occurred, observed operator response to the abnormal condition to verify that plant abnormal procedures were followed and to assess the adequacy of operator actions to isolate the leak. The inspectors also reviewed operator logs, applicable drawings, and corrective action documents to determine the history of previous similar relief valve failures. Energy Northwest repaired the relief valve and returned the RWCU system to service.

b. Findings

No findings of significance were identified.

.5 (Closed) LER 05000397/2002005-00: Main Steam Leakage Control Fan potentially inoperable during a design basis accident due to undersized thermal overloads.

The inspectors reviewed LER 2002005-00 to determine if there were any identified violations or aspects of human performance associated with the LER. See Section 4OA7.1 for an associated Energy Northwest identified violation.

.6 (Closed) LER 05000397/2003009-00: Reactor Core Isolation Cooling Rendered Inoperable due to a 250VDC Battery Cell not meeting TS Requirements.

The inspectors reviewed LER 2003009-00 to determine if there were any identified violations or aspects of human performance associated with the LER. See Section 4OA7.2 for an associated Energy Northwest identified violation.

.7 (Closed) LER 05000397/2003010-00: Unanticipated inoperability of the high pressure core spray system due to isolation valve leakage while the system was isolated.

The inspectors reviewed LER 2003010-00 to determine if there were any identified violations or aspects of human performance associated with the LER. This event did not constitute a violation of NRC requirements. Energy Northwest entered this condition into the corrective action program as Problem Evaluation Request 203-3684.

4OA4 Crosscutting Aspects of Findings

A human performance cross cutting aspect was identified when the control room staff failed to identify that APRM B was bypassed and out of service during a shift turnover and did not identify the condition until several hours later even though there were control board indications which clearly indicated the bypassed condition. Additionally, a senior reactor operator signed an associated surveillance procedure for closure when he failed to recognize that an initial block indicating the return to service of APRM B was not initialed (Section 1R22).

Two examples with human performance cross-cutting aspects were identified which involved failures to survey (Section 2OS2).

A human performance aspect was identified when reactor operators failed to adequately monitor hotwell level after raising hotwell level above the hotwell high alarm setpoint (Section 4OA3.2).

A human performance aspect was identified when an equipment operator failed to follow a clearance order which resulted in a low suction trip of the running reactor feedwater pump and a subsequent loss of reactor feedwater and manual trip of the reactor (Section 4OA3.3).

4OA5 OTHER

.1 Temporary Instruction (TI) 2515/154, "Spent Fuel Material Control and Accounting at Nuclear Power Plants"

The inspectors collected the data specified in Phases I and II of the TI. The data was forwarded to the individuals identified in the TI, for consolidation and assessment.

.2 Retraction of Two Safety System Functional Failure Performance Indicators

On May 26, 2004, Energy Northwest informed the NRC that the reporting basis for two LERs (LER 50-397/2003-003-00 and LER 50-397/2003-005-00) had been changed from reportable per 10 CFR 50.73(a)(2)(v) to "voluntary". Both LERs involved the interruption of flow in the residual heat removal system while in the shutdown cooling mode of operation. Additionally, both events were reported in 3rd quarter 2003 as mitigating systems performance indicator safety system function failures. 10 CFR 50.72(a)(2)(v)(B) required to report any event or condition that could have prevented the fulfillment of the safety function of structures or systems that are needed to remove residual heat. Following the reclassification of the LERs to "voluntary", Energy Northwest retracted both issues from the safety system functional failure performance indicator in the 3rd quarter, 2004. The NRC is evaluating the acceptability of Energy Northwest not reporting both loss of shutdown cooling events as failures to fulfill a safety function per 50.72(a)(V)(B) and the subsequent retraction of both events from the safety system function failure performance indicator. Pending completion of the NRC's evaluation, this issue will be characterized as an Unresolved Item (URI 50-397/04-04-07, Retraction of Two Loss of Shutdown Cooling Events from SSFF Performance Indicator).

4OA6 Meetings, Including Exit

Resident Inspector Routine Exit Summary

The inspectors presented the emergency preparedness exercise inspection results to Mr. V. Parrish, Chief Executive Officer, and members of his staff at the conclusion of the inspection on September 3, 2004. Energy Northwest acknowledged the findings presented.

On September 30, 2004, the resident inspectors presented the inspection results to Mr. D. K. Atkinson, Vice President, Technical Services, and other members of his staff who acknowledged the findings.

On October 2, 2004, the inspectors presented the inspection results to Mr. V. Parrish, Chief Executive Officer, and other members of his staff who acknowledged the findings. A subsequent discussion was conducted on October 4, 2004, by telephone with Mr. D. Coleman, Manager, Performance Assessment and Regulatory Programs and other members of the staff.

The inspectors telephonically presented the inspection results to Mr. Doug Coleman, Manager, Regulatory Programs, and other members of licensee staff on October 8, 2004.

The inspectors verified no proprietary information was discussed during any of the inspection exits.

4OA7 Energy Northwest Identified Violations

The following violations of very low risk significance (Green) were identified by Energy Northwest and are violations of NRC requirements which meet the criteria of Section VI of the NRC Enforcement Policy, NUREG-1600, for being dispositioned as noncited violations.

Cornerstone: Mitigating Systems

.1 Energy Northwest identified a violation of Technical Specifications 3.6.1.8, Main Steam Isolation Valve Leakage Control System (MSLC), which required that one MSLC subsystem may be inoperable for 30 days. If the MSLC train is not returned to service within that time, then to be in Mode 3 within 12 hours. Energy Northwest reported the problem to the NRC via Licensee Event Report 50-397/2002-005, Revision 0. Undersized thermal overload relays had been installed in the Train A main steam isolation valve leakage control fan motor. As a result of not installing the properly sized thermal overload relays for the fan, the motor was considered inoperable from May 1991 until December 29, 2002, when the properly sized relays were installed. Corrective actions included verifying the sizing of relays on other fan motors related to the system and revised appropriate program procedures and electrical drawings to preclude recurrence. This finding was of very low risk significance because although it did impact the barrier cornerstone objective, it did not represent a degradation of the radiological barrier function provided for the control room, auxiliary building, SFP, or SGT system, the finding did not represent a degradation of the barrier function of the control room against smoke or a toxic atmosphere, and the finding did not represent an actual open pathway in the physical integrity of reactor containment or an actual reduction of the atmospheric pressure control function of the reactor containment. Energy Northwest captured this issue in their corrective action program as Problem Evaluation Request 202-3581.

.2 Technical Specification 5.4.1.a required, in part, that written procedures shall be established, implemented, and maintained covering the applicable procedures recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978. Regulatory Guide 1.33, “Quality Assurance Program Requirements (Operation).” Regulatory Guide 1.33, Appendix A, Section 8.b, required, in part, that specific procedures for surveillance tests be written for emergency power tests. During a review of LER 2003-009, which documented an inoperable condition of battery E-B2-1 which affected battery operability, the inspectors noted that Energy Northwest identified a violation of Technical Specification 5.4.1.a for inadequate acceptance criteria for battery cell specific gravity in procedure ESP-B21-Q101. Procedure ESP-B21-Q101, “Quarterly Battery Testing 250 VDC E-B2-1,” Revision 5, step 8.14.1, stated that the acceptance

criteria for the difference in specific gravity for an individual battery cell and the average of all the connected cells' specific gravity be less than or equal to 0.20. However, Technical Specification 3.8.6, "Battery Cell Parameters," required that specific gravity for an individual cell be not more than 0.020 below the average of all connected cells. Procedure ESP-B21-Q101 was performed on August 20, 2003. On August 20, 2003, cell No. 166 specific gravity was measured as greater than 0.020 above the average cell specific gravity. However, because of the inaccurate acceptance criteria, the out of specification was not identified until August 22, 2003, during a subsequent review of the test data. Although the finding affected the mitigating systems cornerstone, it was of very low safety significance (Green) because the finding: (1) did not result in the loss of function of a safety system; (2) did not represent an actual loss of a safety function of a single train for greater than its technical specification allowed outage time; and (3) did not represent an actual loss of safety function of one or more non-technical specification trains of equipment designated as risk significant per 10 CFR 50.65 for greater than 24 hours. Energy Northwest documented this issue in their corrective action program in PER 203-3125. Corrective actions included revising Procedure ESP-B21-Q101 to include the correct acceptance criteria and a review of other battery surveillance procedures to correct any other identified discrepencies.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Energy Northwest

D. Atkinson, Vice President, Technical Services
I. Borland, Manager, Radiation Protection
D. Coleman, Manager, Performance Assessment and Regulatory Programs
D. Dinger, Radiation Protection Manager (Acting)
D. Feldman, System Engineering Manager
B. Gardes, Performance Manager
S. Grundhauser, Maintenance Training Supervisor
M. Humphries, Manager, Engineering
T. Lynch, Manager, Operations
C. Moore, Supervisor, Emergency Preparedness
S. Oxenford, Plant General Manager
V. Parrish, Chief Executive Officer
R. Webring, Vice President Nuclear Generation

NRC Personnel

L. Carson II, Senior Health Physicist
R. Cohen, Resident Inspector
Z. Dunham, Senior Resident Inspector
W. Jones, Chief, Project Branch E
M. Shannon, Chief, Plant Support Branch

ITEMS OPENED AND CLOSED

Items Opened, Closed, and Discussed During this Inspection

Opened

50-397/04-04-03	URI	NRC Review of Performance Issues Associated with the July 30, 2004, Reactor Scram and the Declaration of Alert (Section 4OA3.1)
50-397/04-04-07	URI	Retraction of Two Loss of Shutdown Cooling Events from SSFF Performance Indicator (Section 4OA5.2)

Opened and Closed

50-397/04-04-01	NCV	Failure to Identify and Return to Service APRM B in a Timely Manner (Section 1R22)
50-397/04-04-02	NCV	Two Examples of Failure to Survey (Section 2OS2)
50-397/04-04-04	NCV	Failure to Activate the Emergency Response Data System Within One Hour (Section 4OA3.1)

50-397/04-04-05	FIN	Inadequate Monitoring of Hotwell Level Contributes to Loss of Reactor Feedwater (Section 4OA3.2)
50-397/04-04-06	FIN	Failure to Follow Clearance Order Instruction Results in Loss of Reactor Feedwater (Section 4OA3.3)

Closed

50-397/2002005-00	LER	Main Steam Leakage Control Fan potentially inoperable during a design basis accident due to undersized thermal overloads. (Section 4OA3.5)
50-397/2003009-00	LER	Reactor Core Isolation Cooling Rendered Inoperable due to a 250VDC Battery Cell not meeting TS Requirements. (Section 4OA3.6)
50-397/2003010-00	LER	Unanticipated inoperability of the high pressure core spray system due to isolation valve leakage while the system was isolated. (Section 4OA3.7)

Discussed

None

PARTIAL LIST OF DOCUMENTS REVIEWED

Procedures

PPM 8.4.63; Thermal Performance Monitoring of DCW-HX-1C; June 23, 2004

PPM 1.5.14; Risk Assessment and Management for Maintenance/Surveillance Activities; Revision 13

ISP-RHR-X304; ECCS-LPCI (B&C) Pump Discharge Low (Min Flow) - CC; Revision 0

PPM 10.24.234; I&C Removal/Reinstallation of IRM/SRM Detectors

ISP-IRM-X306; Intermediate Range Monitor Channel F Calibration; Revision 8

ISP-IRM-W402; Intermediate Range Monitors - Channels B, D, F & H - CFT; Revision 8

OSP-RCIC/IST-Q701; RCIC Operability Test; Revision 28

ISP-LPCS/RHR-Q901; RHR A & LPCS Discharge Pressure - ADS Trip System A Permissive (By K10A Relay) - CFT/CC; Revision 7

TSP-APRM-C301; APRM and Core Thermal Power Channel Calibration Check; Revision 4

OSP-LPCS/IST-Q702; LPCS System Operability Test; Revision 12

ESP-MSIV-B301; MSIV Closure Limit Switches - CC; Revision 0

General Operating Procedure 3.1.1, "Plant Startup," Revision 32

Site-Wide Procedure SWP-OPS-05, “Restart Evaluation Process,” Revision 1

Operating Instruction OI-004-000, “Operation Shift Logs,” Revision 28

Administrative Procedure 1.5.14, “Risk Assessment and Management for Maintenance/Surveillance Activities,” Revision 13

Administrative Procedure 1.3.5, “Reactor Trip Report,” Revision 17

OSP-RHR/IST-Q704, “RHR Loop C Operability Test,” Revision 14

Calculations

Calculation 216-92-057; Weaklink Analysis for Valve No. MS-V-146 and RFW-V-65A,B (Velan 24" 900# Gate Valves); Revision 1

Drawing M551; Flow Diagram HVAC Circ. & M/U Water, S.W. & Diesel Generator Bldg.; Revision 55

Drawings

ME-02-02-43; Room Temperature Calculation for DG Building, Reactor Building, Radwaste Building and Service Water Pumphouse Under Design Basis Accident Conditions; Revision 7

Drawing M-519, "Flow Diagram Reactor Core Isolation Cooling System" Revision 86

Other

Technical Specification 3.5, ECCS and RCIC, Revision No. 38

Final Safety Analysis Report Chapter 5.4, Component and Subsystem Design

WO 0108554; RFW-V-65A Electrically Backseat Per System Engineer’s Direction; August 27, 2004

WO 01082365; RHR-FIS-10B Replacement; June 30, 2004

WO 01062381; Replace IRM-DET-2F; August 18, 2004

WO 01060822; MS-V-22D Disassemble and Reassemble

WO 01077279; MS-V-28D Disassemble and Reassemble

WO 01079061; RCIC-P-1 Change Bearing Housing Oil

FO-04-01 Shutdown Safety Plan

PMR-02-86-0305, “Rod Position Information System”

General Electric Services Information Letter Number 532, “Full in Control Rod Position Indication,” dated March 27,1991

Work Request 29032502

Work Order 01077952

PERs / Condition Reports

PER 204-0628; E-IN-3A was running, for testing, in parallel with E-IN-3B which could cause an overload condition o the Div 1 125 VDC system; March 10, 2004

PER 204-0935; During the performance of PPM 2.10.4 in response to high temps in the DG rooms, several discrepancies were found on the position of dampers; July 19, 2004

CR 2-04-01508; In 1995 an incorrect stem diameter was applied during diagnostic testing of MSLC-V-1D. Actual thrust/torque is greater than recorded; April 15, 2004

PER 204-1056; During Panel Walkdown to Perform TSP-APRM-C301 Discovered the APRM-CH-B Bypass Switch in Bypass; August 25, 2004

PER 202-3056

PER 204-0972

PER 203-3111

PER 202-3581

PER 203-3125

Condition Reports

CR-2-04-03321
CR-2-04-00739
CR-2-04-00783
CR-2-04-02214
CR-2-04-03884
CR-2-04-05341

Problem Evaluation Requests

202-3461
203-2370
203-3782
203-0316
203-4200
203-4174
203-4176
203-0950

203-3872

Plant Tracking Log

A 207409	A 206232	A 206370	H 194829
A 207162	A 206234	A 206371	H 196658
A 207166	A 206237	A 206372	H 196663
A 216273	A 206369	A 205042	H 196664

Procedures

PPM 1.5.11, “Maintenance Rule Program,” Revision 6
SWP-CAP-03, Operating Experience Program,” Revision 12
PPM 10.25.105, “Motor Control Center and Switch Gear Maintenance,’ Revision 21
TI 4.22, “Maintenance Rule Program,” Revision 8

Miscellaneous

SA-2003-0044, “Maintenance Rule 2003 Self-Assessment,” November 25, 2003
Maintenance Rule (a)(1) Systems, as of September 20, 2004
Maintenance Rule Biannual Period Report July-December 2002
Maintenance Rule Biannual Period Report January-June 2003
Maintenance Rule Biannual Period Report July-December 2003
Maintenance Rule Biannual Period Report January-June 2004
Maintenance Rule Open Scoping Issue List

1EP1 Exercise Evaluation (71114.01)

Columbia Generating Station Emergency Plan, Revision 38

Emergency Plan Implementing Procedures (EPIPs):
13.1.1, “Classifying the Emergency,” Revision 33
13.2.2, “Determining Protective Action Recommendations,” Revision 15
13.4.1, “Emergency Notifications,” Revision 30
13.10.2, “TSC Manager Duties,” Revision 25
13.10.4, “Radiological Protection Manager Duties,” Revision 28
13.10.9, “OSC Manager and Staff Duties,” Revision 35
13.11.1, “EOF Manger Duties,” Revision 33
13.11.7, “Radiological Emergency Manager Duties,” Revision 28
13.11.10, “Security Manager Duties,” Revision 25
13.12.19, “Joint Information Center Management,” Revision 10

August 4, 2004 Drill Report
ERO Team D 2004 Exercise Summary, August 31, 2004, Management Critique

4OA1 Performance Indicators Verification (71151)

Emergency Plan Implementing Procedures (EPIPs):
13.14.8, “Drill and Exercise Program,” Revision 16
13.14.9, “Emergency Program Maintenance,” Revision 24

Emergency Preparedness Group Instructions (EPIs):
EPI-11, “ERO Administration Program,” Revision 6
EPI-18, “EP NRC Performance Indicators,” Revision 8
EPI-21, “Drill and Exercise Performance,” Revision 6

Section 2OS2: ALARA Planning and Controls (71121.02)

Procedures

GEN-RPP-01	ALARA Program Description, Revision 4
GEN-RPP-02	ALARA Planning and Radiation Work Permits, Revision 8
GEN-RPP-13	ALARA Committee, Revision 3
SWP-RPP-01	Radiation Protection Program, Revision 5

Corrective Action Documents

CR# 2-04-00205, CR# 2-04-01183, CR# 2-04-01941, CR# 2-04-01942, CR# 2-04-02413, CR# 2-04-02995, CR# 2-04-03190, CR# 2-04-03283, CR# 2-04-03928, PER-203-2908, PER 203-2913

Audits and Self-Assessments

Quality’s Integrated Performance Assessment Report (July 1, 2003 through October 31, 2003)
SA-2003-0015 Annual Assessment of the Radiation Protection Program (2003)
Continuous Monitoring Reports - December 2003 through January 2004, February 2004, April 2004

ALARA Work Packages

30001231, 30001216, 30001227

4OA2 Problem Identification and Resolution

Condition Records:

CR 2-04-02187, “Timely and accurate notification to the NRC via ENS may be challenged...”

CR 2-04-04103, “... ERDS was activated three minutes beyond the one hour requirement ...”

CR 2-04-04292, “The ALERT declared during the scram event of July 30, 2004 was determined to be a failed NRC DEP PI...”

CR 2-04-04111, “An Alert was declared at 1000 on 30 Jul 04."

CR 2-04-04896, “SAE declaration untimely”

CR 2-04-04920, “Control Room failed to timely recognize entry conditions for SAE.”

Problem Evaluation Requests:

203-3712, 3786, 3921, 3922, 3926, 3971, 3983, 4424

204-0175, 0429, 0645, 0977, 0993