



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

May 23, 2007

J. V. Parrish (Mail Drop 1023)
Chief Executive Officer
Energy Northwest
P.O. Box 968
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SUBJECT: COLUMBIA GENERATING STATION - NRC PROBLEM IDENTIFICATION AND
RESOLUTION INSPECTION REPORT 05000397/2007006

Dear Mr. Parrish:

On April 12, 2007, the U. S. Nuclear Regulatory Commission completed the onsite portion of a team inspection at your Columbia Generating Station. The enclosed report documents the assessments and conclusions, which were discussed on May 2, 2007, with you and other members of your staff during an exit meeting.

This inspection was an examination of activities conducted under your license as they relate to the identification and resolution of problems, compliance with the Commission's rules and regulations and the conditions of your operating license. Within these areas, the inspection involved examination of selected procedures and representative records, observations of activities, and interviews with personnel. The team reviewed 330 condition reports and problem evaluation requests, several job orders, associated root and apparent cause evaluations, and other supporting documents. The team reviewed crosscutting aspects of NRC and licensee-identified findings and interviewed personnel regarding the condition of your safety conscious work environment at the Columbia Generating Station.

Based on the sample selected for review, there were no findings of significance identified during this inspection. The team concluded that problems were properly identified, evaluated, and resolved within the problem identification and resolution programs. However, several examples of minor problems were identified, including conditions adverse to quality, which were not identified and entered into the corrective action program and corrective actions that were ineffectively tracked or had not occurred.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records component of NRC's document system (ADAMS). ADAMS is accessible from the NRC web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

Linda J. Smith, Chief
Engineering Branch 2
Division of Reactor Safety

Docket: 50-397
License: NPF-21

Enclosure:
NRC Inspection Report 05000397/2007006
w/Attachment: Supplemental Information

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SUNSI Review Completed: LJS ADAMS: Yes No Initials: LJS
 Publicly Available Non-Publicly Available Sensitive Non-Sensitive

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JDHanna	RBCohen	MEMurphy	JHBashore	LJSmith
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C:PBA	C:EB2			
CEJohnson	LJSmith			
/RA/	/RA/			
5/23/07	5/23/07			

ENCLOSURE

U. S. NUCLEAR REGULATORY COMMISSION
REGION IV

Docket: 05000397
License: NPF-21
Report: 05000397/2007006
Licensee: Energy Northwest
Facility: Columbia Generating Station
Location: Richland, Washington
Dates: March 26 through April 12, 2007
Team Leader: J. Hanna, Senior Resident Inspector, Projects Branch E
Inspectors: M. Murphy, Senior Operations Engineer, Operations Branch
R. Cohen, Resident Inspector, Projects Branch A
J. Bashore, Project Engineer, Projects Branch B
Approved By: Linda Smith, Chief
Engineering Branch 2
Division of Reactor Safety

SUMMARY OF ISSUES

IR 05000397/2007006; 3/26/2007 - 4/12/2007; Columbia Generating Station; Biennial Inspection of the Identification and Resolution of Problems.

The inspection was conducted by one senior resident inspector, one resident inspector, one senior operations engineer and a project engineer. 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.

Identification and Resolution of Problems

The team reviewed 330 condition reports and problem evaluation requests, several job orders, engineering evaluations, associated root and apparent cause evaluations, and other supporting documentation to assess problem identification and resolution activities. The team concluded that, generally, the licensee effectively identified, evaluated and prioritized, and implemented effective corrective actions for conditions adverse to quality. However, the team identified that additional effort is needed in the area of problem identification. The team identified numerous instances of failure to identify adverse conditions and initiate corrective action documents. However, the team determined that quality and documentation for operability assessments has improved significantly over the course of the evaluation period. The team concluded that the licensee, generally, implemented timely, effective corrective actions, with only a limited number of examples indicating weakness in this area.

The team determined that the licensee had increased efforts to evaluate existing industry operating experience for relevance to the facility, and had entered identified items in the corrective action program.

The team determined that the licensee audits and assessments became more detailed, probing and self-critical with better assessments at the end of the assessment period. The licensee used benchmarking of industry best practices and third party evaluations, which improved the corrective action program during this assessment period. While some of the changes were too recent to evaluate, the team concluded that improvements in the significant root cause process, Corrective Action Review Board graded approach, and scope and timing of corrective actions had improved.

Based on NRC formal and informal interviews conducted during this inspection and review of the licensee's safety culture assessment, the team determined that employees would raise issues to their supervision, use the corrective action program, and if necessary, bring concerns to the employee concerns program. The team concluded that the licensee established an acceptable and improving safety-conscious work environment. However, some indication exists that additional effort is needed to encourage the free flow of information to ensure safety issues are resolved promptly.

A. Inspector-Identified and Self-Revealing Findings

None.

B. Licensee-Identified Violations

None.

REPORT DETAILS

4 OTHER ACTIVITIES (OA)

4OA2 Identification and Resolution of Problems

The team based the following conclusions, in part, on examples of issues that were identified in the assessment period, which ranged from April 27, 2005, to the end of the inspection on April 12, 2007. The issues are divided into two groups. The first group (current issues) included problems identified during the assessment period, where at least one performance deficiency occurred during the assessment period. The second group (historical issues) included issues that were identified during the assessment period but had performance deficiencies that occurred outside the assessment period.

a. Assessment of the Corrective Action Program Effectiveness

(1) Inspection Scope

The team reviewed items selected across the seven cornerstones to verify that the licensee: (1) identified problems at the proper threshold and entered them into the corrective action system, (2) adequately prioritized and evaluated issues, and (3) established effective and timely corrective actions to prevent recurrence. The team observed control room operations and performed field walkdowns of the emergency diesel generator and other front-line safety systems to inspect for deficiencies that should have been entered into the corrective action program. The team reviewed operator logs, plant-tracking logs, and station job orders to ensure conditions adverse to quality were being entered into the corrective action program. Additionally, the team reviewed a sample of self-assessments, trending reports, system health reports, and various other documents related to the corrective action program.

The team interviewed station personnel, attended screening committee and Corrective Action Review Board meetings, and evaluated corrective action documentation to determine the threshold for entering problems into their corrective action program. The meetings assisted the team with their assessment of the threshold of prioritization and evaluation of identified issues. The team performed a historical review of Columbia Generating Station condition reports (CRs) and problem evaluation requests (PERs) written over the last 5 years that addressed the standby service water and residual heat removal systems.

The team reviewed plant records, primarily CRs/PERs and job orders, to verify that the licensee developed and implemented corrective actions for identified problems, including corrective actions to address common cause or generic concerns. The team sampled specific technical issues to evaluate the adequacy of operability determinations.

Additionally, the team reviewed documents that addressed past NRC identified violations to ensure that the corrective actions addressed the issues as described in the inspection reports. The team reviewed a sample of corrective actions closed to other CRs/PERs, job orders, or tracking programs to ensure that corrective actions were still appropriate and timely.

(2) Assessments

(a) Assessment - Effectiveness of Problem Identification

Usually, the licensee identified deficiencies as conditions adverse to quality and entered them into the corrective action program. However, several incidences occurred that indicate additional effort is needed. Specifically, the licensee had not always adequately recognized, identified, and entered conditions adverse to quality into the corrective action program. This was evident based on the number of findings in NRC Inspection Reports with a problem identification aspect (Examples 1-9). In addition, the team identified other examples of poor problem identification, though the safety significance of those items were not greater than minor (Examples 10-12).

Current Issues

Example 1: The NRC identified that the licensee failed to promptly identify conditions adverse to quality associated with loss of full environmental qualification of plant components due to degraded flexible electrical conduit jackets. Specifically the licensee failed to assess and trend information in the corrective action program in the aggregate (NRC Inspection Report 05000397/2006005-03).

Example 2: The licensee failed to promptly identify conditions adverse to quality associated with the Standby Service Water pumps 1A and 1B. Energy Northwest's failure to implement actions specified in 1994 external operating experience (NRC Information Notice 93-68) led to a failure to promptly identify a Service Water Pump 1A shaft failure prior to the failure revealing itself. Subsequent inspections on Service Water pump 1B revealed that its shaft had also failed even though the pump continued to demonstrate acceptable performance (NRC Inspection Report 05000397/2006011-01).

Example 3: The NRC identified that the licensee failed to take prompt action to acquire vibration data on the low pressure core spray pump which was subsequently found to have excessive stress levels. This was considered a missed opportunity by Energy Northwest to promptly identify a nonconforming condition following a design modification (NRC Inspection Report 05000397/2006003-01).

Example 4: The NRC identified a failure to promptly identify a condition adverse to quality associated with metal-to-metal contact of subcomponents in 4160Vac breakers. Specifically, the extent of condition inspection of other risk significant breakers were not prioritized properly or promptly inspected until prompted by the inspectors (NRC Inspection Report 05000397/2006002-01).

Example 5: The NRC identified inadequate compensatory measures in response to an inoperable primary containment isolation valve, which would have prevented emergency ventilation of the drywell during postaccident conditions. The licensee did not identify that the compensatory action prevented implementation of the affected procedure (NRC Inspection Report 05000397/2005003-02).

Example 6: A self-revealing Green noncited violation for the failure of Energy Northwest to promptly identify that the emergency core cooling system (ECCS) pump motor oil drain plug o-rings had become hardened. Following drain plug and o-ring replacements, a failure analysis report, dated March 4, 2005, indicated evidence of aging and reduced sealing capability. The reduced sealing capability was foreseeable based upon the history of ECCS motor drain plugs leaking and information contained in General Electric Service Information Letter (SIL) 484. Failure to fully evaluate and implement the recommendations of General Electric SIL 484 in conjunction with the ECCS motor drain plugs leakage history represents a missed opportunity to promptly identify conditions adverse to quality (NRC Inspection Report 05000397/2005002-02).

Example 7: A self-revealing Green noncited violation for the failure of Energy Northwest to promptly identify cracked ECCS pump motor oil drain plugs. The initial condition was identified by the licensee and entered into the corrective action program. However, the subsequent findings were not documented and the extent of condition to other safety related equipment was not determined (NRC Inspection Report 05000397/2005002-01).

Example 8: The NRC identified a failure of Energy Northwest to evaluate and perform an amendment for change to the Final Safety Analysis Report (FSAR). Specifically, the licensee did not identify that a change to the Emergency Diesel Generator Division 1 and 2 bus voltages required an evaluation per 10 CFR 50.59 and prior NRC approval (NRC Inspection Report 05000397/2005009-01).

Example 9: The NRC identified a failure to label radioactive material. Specifically, a canister stored in the equipment storage section of the refueling pool containing spent vacuum filters was tied off by a rope to the handrail surrounding the pool. No labels on the rope indicating what was connected on the other end. The failure of licensee personnel to identify this issue, though there were multiple opportunities to do so, is being considered an example in the area of problem identification (NRC Inspection Report 05000397/2005003-03).

Example 10: The licensee initiated CR 2-05-02134 in response to NRC Information Notice 2005-08, "Cracked Rotor in General Electric Reactor Recirculation Pump (RRC)." However, the licensee did not use the RRC vibration monitoring equipment installed in 1991 to its full extent. This issue was determined to be minor by the team because there had been no adverse effects on the equipment resulting from the inadequate use. Current corrective actions proposed are adequate to monitor RRC shafts for signs of shaft cracking.

Example 11: The licensee initiated CR 2-06-00304 in response to inadequate compensatory measures established when seismic instrumentation was taken out-of-service. This was the subject of a NRC identified violation (NRC Inspection Report 05000397/2006002-03). Currently, the licensee has documented in PER 207-0174 that corrective actions to close CR 2-06-00304 were incomplete. Please refer to Section 4OA2.d of this report for a description of an Unresolved Item.

Example 12: The team reviewed PER 205-0096 associated with emergency diesel generator room ventilation damper motor shaft and crank arm linkage separation issue. The team concluded that inadequate periodic maintenance led to premature failures of linkages and swivels in the air damper systems. However, failures of air dampers occurred in the open position and did not cause equipment, such as emergency diesel generators, to become inoperable.

Historical Issues

None.

(b) Assessment - Effectiveness of Prioritization and Evaluation of Issues

The team concluded that the licensee appropriately prioritized and evaluated conditions adverse to quality in accordance with the licensee's corrective action program guidance and NRC requirements. The team found that for the sample of root cause analyses reviewed, that the licensee was self-critical and thorough in evaluating the causes of significant conditions adverse to quality. The team determined from attending Condition Review Group screening meetings and Condition Review Group meetings that management remained involved in assigning the appropriate priority and significance to identified deficiencies.

Although the licensee had difficulty performing detailed electrical evaluations during the prior assessment period (see NRC Inspection Report 05000397/2005008), the team determined that the ability to evaluate operability and degraded and nonconforming conditions had improved. Examples of both good and poor performance are as described below:

Current Issues

Example 1: The NRC identified a failure of the licensee to implement adequate design control measures for the station safety related batteries. This failure to thoroughly evaluate design issues associated with the use of a nonqualified rail charger resulted in the station's safety related batteries being in a nonconforming condition (NRC Integrated Inspection Report 05000397/2006004).

Example 2: Problem Evaluation Report 205-0502 Resolution documents a comprehensive review of the extent of condition, root cause, contributing causes, and programmatic weaknesses associated with fuse replacements at Columbia Generating Station. The extensive and thorough evaluation resulted in timely and effective corrective actions. This issue was identified as an example of positive and improved performance.

Example 3: Condition Reports 2-05-00731, 2-05-00564, and PER 205-0179 Resolution document a comprehensive and thorough review of NRC Part 21 Report 2005-11 for applicability and impact at Columbia Generating Station. This issue was identified as an example of positive and improved performance.

Historical Issues

None.

(c) Assessment - Effectiveness of Corrective Actions

The team reviewed plant records, primarily CRs/PERs, to verify that corrective actions related to the issues were identified and implemented, including corrective actions to address common cause or generic concerns. This included samples of specific technical issues to evaluate the adequacy of the licensee's operability determinations. In addition, the team reviewed a sample of CRs, which addressed past NRC identified violations to assess whether the corrective actions adequately addressed the issues as described in the inspection reports. The team also reviewed a sample of corrective actions closed to the work management processes to ensure that corrective actions were still appropriate and timely.

The team concluded that corrective actions to address adverse conditions were generally effective. This was particularly true for the more significant problems, where management was involved in addressing the problems. However, the team identified a few examples of ineffective corrective actions indicating that additional effort may be needed in this area:

Current Issues

Example 1: Condition Report 2-06-08136 and PER 206-0608 describe circumstances in which the licensee failed to fully implement corrective actions to mitigate the potential adverse effects of nitrogen gas accumulation in the control rod drive hydraulics system. Specifically, on November 5, 2006, during a reactor startup, Control Rod 34-23 double notched from position 10 to position 14 during withdraw. The cause of the event was attributed to gas binding in the control rod drive mechanism due to nitrogen accumulation in the control rod drive hydraulics system. Station personnel had previously identified this phenomenon. The previous corrective actions had included actions in the startup procedure to vent groups 1, 2, and 3 control rods. Prior to the startup, a management oversight decision was made to abbreviate venting the control rod drive mechanisms. Approximately 50 percent of the recommended control rod drive mechanisms were vented. This percentage was not an "across the core" representative

sample of control rods. Consequently, insufficient venting resulted in gas accumulation and subsequent difficulty moving Control Rod 34-23. This issue was determined to be minor by the team because there had been no adverse safety impacts on the equipment resulting from the inadequate venting.

Example 2: The licensee initiated PER 205-0122 in response for failure to identify and document the requirement to provide plant service water and potable water with seismically qualified secondary containment boundary. The problem was first identified in February 25, 2005, and the alternate source term (AST) came out in March 2007. The licensee waited two years for the AST and ultimately did not address the technical concern. No long-term plan was identified in the PER resolution. Consequently, the team concluded that the licensee had not established a rigorous, long-term corrective action plan. The immediate corrective actions, as specified in PER 205-0122, to isolate Plant Service Water Air Vent Valve TSW-AV-1B were sufficient in the interim. This issue was determined to be minor by the team because there had been no adverse effects on the equipment resulting from the inadequate long term corrective action plan. The licensee is currently developing a long-term resolution to the issue.

Example 3: Problem Evaluation Request 205-0502 resolution and corrective action plan document timely, comprehensive, and effective corrective actions to address incorrect fuse replacements at the facility. The corrective actions extended to all fuse replacements performed at the station. The corrective actions include programmatic and procedure changes as well as training for site personnel. A corrective action effectiveness review plan was put into place to gauge the adequacy of the corrective actions. There have been no instances of incorrect fuses installed since the implementation of these corrective actions. This issue was identified as an example of positive and improved performance.

Historic Issues

None.

b. Assessment of the Use of Operating Experience

(1) Inspection Scope

The team examined licensee programs for reviewing industry-operating experience. The team selected a number of operating experience notification documents (NRC bulletins, information notices, generic letters, 10 CFR Part 21 reports, licensee event reports, vendor notifications, et cetera), which had been issued during the assessment period, to verify whether the licensee had appropriately evaluated each notification for relevance to the facility. The team then examined whether the licensee had entered those items, which had been deemed relevant, into their corrective action program. Finally, the team reviewed a number of significant conditions adverse to quality and conditions adverse to quality to verify if the licensee had appropriately evaluated them for industry operating experience.

(2) Assessment

Overall, the licensee had increased efforts to evaluate existing industry operating experience for relevance to the facility and had entered identified items in the corrective action program. The team identified a limited number of examples in this area indicating a healthy program. Generally, the licensee improved in their ability to assess industry operating experience during root cause and apparent cause evaluations of significant conditions adverse to quality and conditions adverse to quality, respectively.

Current Issues

Example 1: Condition Report 2-05-08988 and PER 205-0690 describe a licensee identified weakness in Columbia Generating Station's use of operating experience. The documents refer to ten select instances where missed opportunities to effectively incorporate operating experience contributed to a station event. These examples are related to station training and maintenance programs, the safety program, plant operating events, equipment deficiencies, and management oversight issues. These missed opportunities resulted from Columbia Generating Station's review of operating experience and either missing, dismissing, or forgetting its relevance.

Example 2: The licensee initiated Plant Tracking Log A 225819 in response to General Electric SIL 459 in October 1991, however, vibration data recorded from 1991 was not kept for historical reference. The inspectors determined that the current corrective action proposed were adequate to monitor RRC shafts for signs of shaft cracking.

Historical Issues

None.

c. **Assessment of Self-Assessments and Audits**

(1) Inspection Scope

The team reviewed numerous audits, self-assessments, quality surveillances, and site performance indicators. The team reviewed program procedures and interviewed process managers related to the performance improvement group, the corrective action program, and the quality assurance department. The team evaluated the use of third party and self-assessments; the role of quality assurance; and the role of the performance improvement group related to licensee performance.

(2) Assessment

Overall, the licensee demonstrated their ability to perform self-critical assessments, audits and evaluations. Quality assurance audits and surveillances were penetrating and provided detailed assessments of the reviewed organizations performance. The team verified that the licensee had implemented performance indicators and trended data that should allow the managers to evaluate the progress of their actions to improve performance related to human performance and corrective action program deficiencies.

The team concluded that the licensee continued to have a strong self-assessment program. The number of self-assessments performed and the variety of ways used to assess site performance provided a broad perspective on site performance. The team concluded that the assessments were of good depth and effective in identifying problems and trends.

d. **Assessment of Safety Conscious Work Environment**

(1) Inspection Scope

The team reviewed the 2007 Nuclear Safety Culture Assessment results, including the redacted comments, and met with the Superintendent, Employee Concerns, to discuss the plans for addressing the issues revealed by the survey. In addition, the team conducted formal interviews with an organizational cross-section of 38 site personnel and informal interviews with other members of your staff to assess their willingness to raise safety issues and use the corrective action program. These interviews assessed whether conditions existed that would challenge the establishment of a safety-conscience work environment.

(2) Assessment

The team concluded that the licensee established an acceptable and improving safety-conscious work environment. However, some indication exists that additional effort is needed to address the perceptions of licensee staff and contractors to ensure safety issues are freely raised.

The 2007 nuclear safety culture assessment concluded that the licensee, generally, has a solid safety culture and that site personnel have nuclear safety as a core value. An overwhelming majority of respondents rated the work culture as supportive of raising nuclear safety and quality concerns. The percentage of personnel who agreed with the statement "I can raise a safety concern without fear of retaliation" increased slightly. However, the safety culture assessment also identified a statistically significant increase in the percentage of personnel who disagreed with this statement. The team verified that the licensee had implemented actions to resolve the identified areas.

Upon review of Attachment 2 from the 2007 Nuclear Safety Culture Assessment, the team found several isolated instances where individuals believed there might be adverse consequences to raising safety issues (i.e., perception of a chilled work environment). However, the informal interviews conducted during this inspection were very positive. All of the interviewees stated that they would not hesitate to raise a safety concern. Nearly all personnel interviewed indicated they had regular team meetings on safety-conscious work environment and understood and agreed with its purpose. The team determined that the licensee implemented several initiatives to improve the safety-conscious work environment. The team assessed the visibility of the methods used to advertise the employee concerns program and found them to be acceptable.

e. **Specific Issues Identified During This Inspection**

(1) **Inspection Scope**

During the reviews described in Sections 4OA2.a(2)(a), 4OA2.a(2)(b), 4OA2.a(2)(c), and 4OA2.a(2)(d) the team identified the following issue:

(2) **Findings and Observations**

Introduction. An unresolved item (URI) was identified associated with potential inadequate compensatory actions related to an out-of-service seismic monitoring instrument.

Description. The team conducted a review of the corrective actions as a result of a Green NCV of 10 CFR 50.54(q), as documented in NRC Inspection Report 05000-397/2006-002-03. This violation described Energy Northwest's failure to establish adequate compensatory actions in response to a planned calibration of a seismic monitoring system, which rendered a key control room annunciator inoperable. The annunciator was used in the site emergency plan to provide an input for the declaration Notice of an Unusual Event following a seismic event. Condition Report 2-05-06739 was initiated to provide enhancements to procedure, "ABN Earthquake," Revision 1, to assure that the Emergency Director would be able to promptly declare an unusual event in accordance with the Emergency Plan. This was necessary given the potential untimeliness of the updated recorded earthquake information and the terms in which the recorded information is provided (i.e., Richter vs. local ground acceleration that the Minimum Seismic Earthquake Exceeded annunciator used). The Emergency Director would take the following actions for an Unusual Event as described in section 4.4.1 of the Columbia Generating Station Emergency Plan, Revision 19, " (1) Promptly inform states and/or local offsite authorities of the nature of the unusual condition as soon as discovered; (2) Augment on shift resources as needed; (3) Assess and respond; (4) Escalate to a higher classification, if appropriate; or (5) Close out with verbal summary to offsite authorities, followed by written summary within 24 hours." The basis behind the Usual Event classification as defined by the Columbia Generating Emergency Plan, Revision 19, in part, is to provide early notification of minor events which could lead to more serious consequences given operator error or equipment failure or which might be indicative of more serious conditions which are not yet fully realized. Any delay in the Emergency Director's ability in declaring an Unusual Event could inhibit the required actions as described above.

The team questioned Energy Northwest's staff on the completeness of actions to close CR 2-05-06739 since the compensatory measures in place to adequately assure that the Emergency Director would be able to promptly declare an Unusual Event in accordance with the Emergency Plan may be inadequate. Given the terms in which the United States Geological Survey (USGS) web site information would be provided (i.e., Richter vs. local ground acceleration that the Minimum Seismic Earthquake Exceeded annunciator is based) and unclear compensatory actions to timely and correctly access the USGS web site local vicinity earthquake data. Compensatory measures were later enhanced in Night Order 842, dated April 19, 2007, since seismic instrumentation which

provide an input to the Columbia Generating Station Emergency Plan, has been taken out-of-service for regularly scheduled maintenance without adequate compensatory measures in place since February 7, 2006. The decision to close CR 2-05-06739 before the corrective actions were complete was documented in PER 207-0174. A URI was opened pending a completion of the NRC's review of Energy Northwest's ability to effectively implement the Emergency Plan and declare an Unusual Event in a timely manner given the current direction. (URI 05000397/2007006-01, Potential Inadequate Compensatory Actions Related to an Out-of-Service Seismic Monitoring Instrument).

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

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

40A6 Exit Meeting

On April 12, 2007, the team presented their inspection results, in a debrief, to Cheryl Whitcomb, Vice President Organizational Performance and Staffing, and other members of her staff. The team presented the results at the exit meeting on May 2, 2007, to Mr. Paul Inserra, Manager, Performance Improvement Program, who acknowledged the findings. The inspectors returned all proprietary and confidential information provided during the inspection.

Attachment: Supplemental Information

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee

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G. Cullen, Supervisor, Regulatory Programs
Y. Derrer, Coordinator, Operating Experience Group
K. Engbarth, Supervisor, Corrective Action Program
D. Gregoire, Engineer, Licensing Department
S. Heath, Telecom Designer
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D. Schumann, Support Specialist, Operations
A. Torres, insert title here, Self Assessment and Trending
N. Wockle, Manager, Information Technology Architecture

NRC

Z. Dunham, Senior Resident Inspector, Columbia Generating Station

LIST OF ITEMS OPENED AND CLOSED

Opened

05000397/2007006-01 URI Potential Inadequate Compensatory Actions Related to an
Out-of-Service Seismic Monitoring Instrument
(Section 40A2.e(2)(a))

LIST OF DOCUMENTS REVIEWED

Procedures

PPM 1.3.47, "Fuse Replacement Control," Revision 10

Operations Instruction OI-9, "Operations Standards and Expectations," Revision 9

Operations Instruction OI-14, "Operational Challenges Program," Revision 2

ABN Leakage Procedure, Revision 2

Site-Wide Procedure SWP-CAP-01, "Corrective Action Program," Revision 11

SOP-RPS-BYPASS, Revision 0

Desk Top Instruction for Industry and Energy Northwest Search Guidance, Revision 1

Technical Instruction TI-2.19, Reactor Coolant System Leakage Best Practice Technical Instruction

OSP-RHR/IST-Q703 (5 years of RHR Pump Discharge Pressure Data)

PPM 2.7.6, "Reactor Protection System," Revision 24

PPM EGM-1-8, "Technical Issue Resolution Process," Revision 1

PPM 10.1.13, "Foreign Materials Controls for Systems and Components," Revision 20

PPM ABN-CR-EVAC, "Control Room Evacuation and Remote Cooldown," Revision 10

PPM 11.2.14.9, "Control and Labeling of Radioactive Material," Revision 12

Drawings

Drawing M-508-1, "Flow Diagram Plant Service Water System All Buildings," Revision 119

Condition Reports

2-02-07939	2-05-02304	2-05-06339	2-05-08978	2-06-04836	2-06-08691
2-04-00834	2-05-02474	2-05-06365	2-05-08979	2-06-04939	2-06-08839
2-04-05326	2-05-02476	2-05-06385	2-05-08982	2-06-05147	2-06-08859
2-04-05823	2-05-02528	2-05-06538	2-05-09052	2-06-05362	2-06-08990
2-04-06144	2-05-02742	2-05-06599	2-05-09181	2-06-05454	2-06-09020
2-04-06343	2-05-02747	2-05-06604	2-05-09201	2-06-05506	2-06-09145
2-04-06753	2-05-02869	2-05-06806	2-05-09377	2-06-05599	2-06-09354
2-04-07027	2-05-02907	2-05-06826	2-05-09352	2-06-05937	2-06-09464
2-05-00153	2-05-03082	2-05-07353	2-05-09598	2-06-06060	2-06-09468
2-05-00163	2-05-03089	2-05-07354	2-05-09802	2-06-06062	2-07-00054
2-05-00183	2-05-03121	2-05-07355	2-06-00015	2-06-06165	2-07-00089
2-05-00306	2-05-03127	2-05-07357	2-06-00304	2-06-06305	2-07-00125
2-05-00340	2-05-03233	2-05-07358	2-06-00476	2-06-06509	2-07-00312
2-05-00564	2-05-03384	2-05-07515	2-06-01038	2-06-06510	2-07-00476
2-05-00696	2-05-03402	2-05-07685	2-06-01333	2-06-06685	2-07-00744
2-05-00731	2-05-03415	2-05-07769	2-06-01646	2-06-06774	2-07-00980
2-05-00974	2-05-03466	2-05-07816	2-06-01684	2-06-07020	2-07-01035
2-05-01032	2-05-03480	2-05-08057	2-06-01692	2-06-07028	2-07-01037
2-05-01079	2-05-04272	2-05-08060	2-06-01857	2-06-07119	2-07-01038
2-05-01081	2-05-04505	2-05-08126	2-06-01993	2-06-07154	2-07-01266
2-05-01118	2-05-05012	2-05-08128	2-06-02347	2-05-07167	2-07-01315
2-05-01548	2-05-05031	2-05-08146	2-06-02360	2-06-07269	2-07-01318
2-05-01555	2-05-05193	2-05-08194	2-06-02520	2-06-07624	2-07-01988
2-05-01704	2-05-05349	2-05-08510	2-06-02558	2-06-07680	2-07-02610
2-05-01716	2-05-05474	2-05-08529	2-06-02560	2-06-07939	2-07-02410
2-05-01824	2-05-05821	2-05-08604	2-06-02750	2-06-08067	2-07-03285
2-05-01854	2-05-06154	2-05-08798	2-06-02758	2-06-08136	2-07-03332
2-05-01870	2-05-06255	2-05-08841	2-06-02770	2-06-08138	2-07-03480
2-05-02134	2-05-06336	2-05-08852	2-06-03544	2-06-08308	
2-05-02259	2-05-06337	2-05-08907	2-06-04484		

Requests for Resolution

202-0302	203-1265	203-4101	205-0086	205-0515	206-0571
202-0848	203-1608	203-4384	205-0122	205-0530	206-0579
202-1305	203-1779	203-4372	205-0128	205-0536	206-0584
202-1365	203-1803	204-0141	205-0148	205-0555	206-0596
202-1408	203-1866	204-0210	205-0175	205-0591	206-0602
202-1522	203-2122	204-0217	205-0179	205-0596	206-0608
202-1977	203-2389	204-0234	205-0199	205-0603	206-0609
202-1979	203-2411	204-0249	205-0203	205-0741	206-0622
202-1991	203-2481	204-0339	205-0213	206-0039	206-0645
202-2008	203-2513	204-0389	205-0235	206-0042	206-0664
202-2063	203-2898	204-0493	205-0243	206-0096	206-0678
202-2388	203-2966	204-0589	205-0254	206-0107	206-1246
202-2401	203-3239	204-0775	205-0271	206-0121	207-0019
202-2482	203-3294	204-0820	205-0322	206-0186	207-0020
202-2562	203-3310	204-0858	205-0379	206-0259	207-0036
202-2593	203-3323	204-1042	205-0405	206-0302	207-0079
202-2594	203-3330	204-1103	205-0412	206-0357	207-0098
202-2693	203-3488	204-1189	205-0413	206-0362	207-0107
202-2984	203-3535	204-1220	205-0417	206-0409	207-0122
202-3256	203-3544	204-1228	205-0424	206-0494	299-1142
202-3450	203-3566	204-1246	205-0428	206-0502	
203-0075	203-3733	204-1269	205-0429	206-0515	
203-0121	203-3775	205-0013	205-0452	206-0522	
203-1049	203-4002	205-0045	205-0459	206-0530	
203-1096	203-4010	205-0080	205-0502	206-0557	

Calculations

E/I-02-91-1076, Revision 2

Audits, Self-Assessments and Surveillances

SA-2006-0102, "Station Trend Program Self Assessment"

SA-2004-0050, "Engineering Rigor"

SA-2005-0109, "Engineering Human Performance"

SA-2006-0116, "Effectiveness Review on the Corrective Action to Prevent Recurrence for Enhancements to PPM 1.3.76 from PER 205-0665"

AU-CA-07, "Audit Report," dated February 16, 2007

AU-CA-05, "Audit Report," dated October 7, 2005

Root Cause Analysis "NRC Cross Cutting Issue in Problem Identification and Resolution. Inadequate Extent of Condition Evaluation of Equipment Issues" dated April 20, 2006

Safety Conscious Work Environment

NRC Regulatory Issue Summary 2005-18, "Guidance for Establishing and Maintaining a Safety Conscious Work Environment," dated August 25, 2005

NRC Regulatory Issue Summary 2006-13, "Information on the Changes Made to the Reactor Oversight Process to More Fully Address Safety Culture," dated July 31, 2006

Understanding SCWE - A Handbook on Safety Conscious Work Environment

Lesson Plan T51.0092.S, "Avoiding 'Whistleblower Claims' 10 CFR 50.7 Employee Protection and Update Policies," dated April 19, 2006

NRC 2006 Allegation Trends Report evaluation related to the Columbia Generating Station

Reports

System Health Report Columbia Generating Station SW October through December 2006

Continuous Monitoring Report December 2003 through January 2004 SR-04-01

Continuous Monitoring Report March 2004 SR-04-03

Continuous Monitoring Report May 2004 SR-04-05

Continuous Monitoring Report April, May, June, and July 2005, Including the R17 Maintenance and Refueling Outage SR-05-04

Continuous Monitoring Report August 2005 SR-05-05

Continuous Monitoring Report November 2005 - January 2006, SR-06-01

Continuous Monitoring Report June/July 2006 SR-06-05

Quality Services Audit Summary Audit Report AU-CA-05

Performance Assessment and Regulatory Programs Corrective Action Program Audit Report AU-CA-02

Self Assessment/Benchmark Planning Report SA-2006-0025

Self Assessment/Benchmark Planning Report SA-2006-0095

Surveillance Report Number 06-VS-01, HOLTEC Manufacturing Division, Pittsburgh, PA

Personnel Contamination Event Reports 05-0163, 05-0164, and 05-0165

Residual Heat Removal System Health Report

“Corrective Action Excellence Continuous Improvement Plan,” dated February 2007

Miscellaneous

Licensing Document Change Notice LDCN-FSAR-05-035

Action Requests

00010479 00013706 00013163 00013706 00005444

Columbia Generating Station License Event Reports

2006-001-00 2005-003-000 2005-005-00 2006-001-00 2005-006-00

Work Orders

01123766 01103988 01099111 01059902 01059901 01096877
01089501 01081416 00JTV9 01034311

Plant Tracking Log Numbers

H242340 H242342 A250330 A254784 A248646 H237014
H223544 246630 A225819 A252425 203336 203536
208162 252842 252550

Final Safety Analysis Report Sections

3.6 6.0 Appendix F

Decision Resolution, Reference CR-2-06-02558

Decision Resolution, Reference CR-2-06-06060

Procurement Specification Deviation Revision 0, Independent Spent Fuel Storage Installation

Training Advisory Group Meeting Minutes, March 29, 2007

Lesson Plan MX000149LP, “Maintenance Work Practices,” Revision 6

Simulator Guide LO000014, RPV-2, Revision 6

Simulator Guide LO000110, "Station Blackout," Revision 7

Simulator Guide LR001651 Rev. 0, High Pressure SCRAM

NRC Information Notice 2006-26, "Failure of Magnesium Rotors in Motor-Operated Valve Actuators"

NRC Information Notice 2006-09, "Performance of NRC-Licensed Individuals While On-Duty with Respect to Control Room Attentiveness"

Technical Memorandum TM-2077, "SGT Excess Capacity," Revision 3

Technical Specification Inoperable Equipment/LCO/RFO Status Sheet; Log Number 9178

Technical Specification Inoperable Equipment/LCO/RFO Status Sheet; Log Number 98876

Technical Specification Inoperable Equipment/LCO/RFO Status Sheet; Log Number 8987

Technical Specification Inoperable Equipment/LCO/RFO Status Sheet dated 02/15/2002 through 04/03/2007

Design Control 50.59 Screening 05-0042, dated February 24, 2005

Performance Indicators, Unplanned Power Changes per 7,000 Critical Hours; 2006

List of Control Room Deficiencies, date March 22, 2007

Backlog of Station Work, dated March 21, 2007

Corrective Action Program Performance Indicators, dated March 22, 2007

Employee Concerns Program Log for 2005 through 2007

Information Request
February 16, 2007
CGS Problem Identification and Resolution Inspection
(IP 71152; Inspection Report 05000397/2007-06)

The inspection will cover the period of January 2005 to February 2007. All requested information should be limited to this period unless otherwise specified. As agreed when announcing the inspection, please provide the information on two CDs, or other electronic media to David Proulx (DLP@NRC.gov) at the Region IV office by February 23, 2007.

Some information, depending on the size of the file, may be provided by e-mail. Information provided in electronic media may be in the form of e-mail attachment(s), CDs, or thumb drives. The agency's text editing software is Corel WordPerfect 10, Presentations, and Quattro Pro; however, we have document viewing capability for MS Word, Excel, Power Point, and Adobe Acrobat (.pdf) text files.

The team will get updated lists et cetera during the first day onsite (March 26, 2007).

Note: On summary lists please include a description of problem, status, initiating date, and owner organization.

1. Summary list of all Problem Evaluation Requests (PERs) of significant conditions adverse to quality opened or closed since 1/1/2005.
2. Summary list of all PERs that were generated since 1/1/2005.
3. A list of all corrective action documents that aggregate or "roll-up" one or more smaller issues for the period.
4. Summary list of all condition reports that were down-graded or up-graded in significance since 1/1/2005.
5. List of all root cause analyses completed since 1/1/2005.
6. List of root cause analyses planned, but not complete at end of the period.
7. List of all apparent cause analyses completed since 1/1/2005.
8. List of plant safety issues raised or addressed by the employee concerns program since 1/1/2005.
9. List of action items generated or addressed by the plant safety review committees since 1/1/2005.
10. All quality assurance audits and surveillances and/or assessments of corrective action activities completed since 1/1/2005.
11. A list of all quality assurance audits and surveillances completed since 1/1/2005, include any audits or surveillances scheduled but which were not completed.

12. All corrective action activity reports, functional area self-assessments, and non-NRC third party assessments completed since 1/1/2005.
13. Corrective action performance trending/tracking information generated since 1/1/2005 and broken down by functional organization.
14. Current revisions of corrective action program procedures for: PERs, Corrective Action Program, Root Cause Evaluation/Determination, Operator Work Arounds, Work Requests, Requests for Engineering Assistance, Temporary Modifications, Procedure Change Requests, Deficiency Reporting and Resolution, Operating Experience Evaluation, Operational Decision Making Process.
15. A listing of all external events (OE) evaluated for applicability at Columbia Generating Station since 1/1/2005.
16. Condition reports or other actions generated since 1/1/2005 for each of the items below:
 - (1) Part 21 Reports:
 - (2) [Applicable] NRC Information Notices:
 - (3) All LERs issued by CGS
 - (4) NCVs and Violations issued to CGS (including licensee identified)
- (17) Safeguards event logs for the period.
- (18) Radiation protection event logs.
- (19) Current system health reports or similar information for the standby service water and residual heat removal systems.
- (20) Current predictive performance summary reports or similar information.
- (21) Corrective action effectiveness review reports generated since 1/1/2005.
- (22) Summary list of PERs separated by systems, for the standby service water and residual heat removal systems generated since 1/1/2002 (five year trend review).
- (23) Information relative to any efforts related to a plant improvement program or human performance/problem identification and resolution improvement program since the last PIR inspection.