

Columbia Generating Station

2Q/2011 Plant Inspection Findings

Initiating Events

Significance:  Jun 25, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Loss of Reactor Coolant System Inventory during Reactor Pressure Vessel Flood-up

Green. The inspectors identified a noncited violation of Technical Specification 5.4.1.a for the licensee's failure to provide procedures appropriate to the circumstances to perform flood-up. Specifically, operators inadvertently drained 4000 gallons water from the reactor pressure vessel during reactor cavity fill operations using Plant Procedure Manual SOP-CAVITY-FILL, "Reactor Cavity and Dryer Separator Pit Fill," Revision 14, because of inadequate procedure guidance. This issue was placed in the licensee's corrective action program as Action Request 237779 and Action Request 238032.

The performance deficiency was more than minor because it affected the procedure quality attribute of the Initiating Events Cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown operations. The inspectors used Inspection Manual Chapter 0609, Appendix G, "Shutdown Operations - Significance Determination Process" to evaluate the significance of the finding. The finding did not require a quantitative assessment because adequate mitigating equipment remained available and because the event did not result in a loss of more than 2 feet of inventory. Therefore, the finding screened as green. The inspectors determined that this finding did not have a cross cutting aspect because the inadequate corrective actions from a similar event that would have prevented recurrence occurred greater than two years previously; and thus, was not representative of current licensee performance. (Section 1R20).

Inspection Report# : [2011003](#) (*pdf*)

Significance:  Dec 31, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Risk Assessment During Lifting Activities

Green. The inspectors identified a noncited violation of 10 CFR 50.65(a)(4) for the licensee's failure to perform a risk assessment during lifting activities in the circulating water pump house. Specifically, licensee personnel failed to assess the increase in risk during movement of a circulating water pump motor over operating equipment. Licensee personnel performed a risk assessment and determined the correct risk profile for the movement of the circulating water pump motor. This issue was placed in the licensee's corrective action program as Action Request/Condition Report 228710.

The performance deficiency was more than minor because it involved a failure to assess risk during a maintenance activity. The performance deficiency affected the equipment performance attribute of the Initiating Events Cornerstone objective to limit the likelihood of events that upset plant stability. The inspectors evaluated the performance deficiency using Inspection Manual Chapter 0609, Appendix K, "Maintenance Risk Assessment and Risk Management Significance Determination Process," and determined the performance deficiency to be of very low safety significance because the risk deficit during the time the motor was being moved was less than 1.0E-6. The inspectors determined the violation had a cross-cutting aspect in the area of human performance, resources component, for the failure to provide up to date procedures in the work order planning process that would incorporate risk insights during lifting operations around operating plant equipment [H.2.c] (Section 1R13).

Inspection Report# : [2010005](#) (*pdf*)

Mitigating Systems

Significance:  Mar 26, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Ensure Unacceptable Preconditioning is Considered During the Work Management Process

Green. The inspectors identified a noncited violation of 10 CFR Part 50 Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the licensee's failure to consider the impact of preconditioning on the emergency core cooling systems during maintenance. Specifically, licensee personnel failed to consider the impact of scheduling keep fill pump maintenance prior to technical specification required surveillance testing. Licensee personnel reviewed three years worth of data on the emergency core cooling systems to ensure there was no degrading performance trend. This issue was placed in the licensee's corrective action program as Action Request/Condition Report 236880.

The performance deficiency was more than minor because it affected the equipment performance attribute of the Mitigating Systems Cornerstone objective of ensuring the reliability of systems that respond to initiating events. Using Inspection Manual Chapter 0609.04, Phase 1 – "Initial Screening and Characterization of Findings," the inspectors determined that this performance deficiency was of very low safety significance because this finding was confirmed to not result in a loss of operability for the emergency core cooling systems. The inspectors identified a cross-cutting issue in the area of human performance, work practices, because the licensee failed to effectively communicate expectations regarding procedural compliance [H.4.b] (Section 1R19).

Inspection Report# : [2011002](#) (*pdf*)

Significance:  Dec 31, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Include Appropriate Acceptance Criteria

Green. The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the licensee's failure to include acceptance criteria appropriate to the circumstance in surveillance testing procedures for the 125Vdc battery system. Specifically, licensee personnel listed a non-conservative inter-tier resistance value as acceptance criteria which led to a degraded condition being unanalyzed for 3 years. The licensee has revised the procedure to include the appropriate acceptance criteria for the 125Vdc battery system. This issue has been placed in the licensee's corrective action program as Action Request/Condition Report 231971.

The performance deficiency is more than minor because it affects the equipment performance attribute of the mitigating systems cornerstone for ensuring the reliability of systems that respond to initiating events. Using Inspection Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the inspectors determined that this performance deficiency was of very low safety significance because the finding was confirmed to not result in a loss of operability for the 125Vdc batteries. The inspectors determined a cross cutting aspect was not applicable to the finding due to the procedure change which implemented the new acceptance criteria occurring in 2007, and determined this not to be representative of current licensee performance (Section 1R19).

Inspection Report# : [2010005](#) (*pdf*)

Significance:  Dec 31, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Promptly Identify and Correct a Condition Adverse to Quality Associated with both Trains of Control Room Emergency Chillers

Green. The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for the failure to promptly identify and correct a condition adverse to quality involving both trains of control room emergency chillers. The hot gas bypass valves for each train of chillers were installed incorrectly. The inspectors identified that actions to correct the deficient condition were not timely. Procedure SWP MAI 01, "Work Maintenance Process Overview," Revision 20, Paragraph 8.0 stated in part that tests are conducted to verify that

maintenance is effective and is correctly implemented, the equipment will function as required and desired improvements were achieved. Contrary to this, the inspectors identified that post maintenance testing conducted on the chiller was not adequate in that adjustments were allowed to be made by procedure throughout the post maintenance testing process which could have masked problems with the chillers, specifically, that the hot gas bypass valves were installed incorrectly. The hot gas bypass valves were installed correctly in both A and B trains of the control room emergency chiller systems and a satisfactory operability test was performed on chiller CCH-CR-1A on October 13, 2010.

The finding was greater than minor because it was associated with the configuration control attribute of the Mitigating Systems Cornerstone, and it affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors conducted a Phase 1 screening of the finding in accordance with IMC 0609, Attachment 0609.04, "Initial Screening and Characterization of Findings," and determined the finding to be of very low safety significance because it was not a design or qualification deficiency; it did not result in the loss of a system safety function; it did not represent the loss of a single train for greater than technical specification allowed outage time; it did not represent a loss of one or more non-technical specification risk-significant equipment for greater than 24 hours; and it did not screen as potentially risk-significant due to seismic, flooding, or severe weather. The cause of this finding was determined to have no cross-cutting aspect due to the fact that the hot gas bypass valves were installed backwards more than three years ago and did not represent a current station performance issue (Section 1R19).

Inspection Report# : [2010005](#) (*pdf*)

Significance:  Dec 31, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Perform Engineering Evaluation to Determine Seismic Qualification of Safety-related Equipment

Green. The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure to follow Procedure PPM 10.2.53, "Seismic Requirements for Scaffolding, Ladders, Man-Lifts, Tool Gang Boxes, Hoists, Metal Storage Cabinets, and Temporary Shielding Racks," Revision 26. Specifically, the position of equipment was required to meet specific criteria to prevent damage to safety related equipment during a seismic event. Contrary to this procedure, the inspectors identified that equipment was positioned adjacent to safety-related equipment without a supporting engineering evaluation. The inspectors notified the main control room personnel, who directed an equipment operator to immediately position the 55 gallon drum away from the standby liquid control system. This issue has been placed in the licensee's corrective action program as Action Request/Condition Report 230872.

This finding was more than minor because it was a human performance error which affected the Mitigating Systems Cornerstone objective to ensure the availability and reliability of systems that respond to initiating events to prevent undesirable consequences. The finding was determined to be of very low safety significance because it was not a design or qualification deficiency; it did not result in the loss of a system safety function; it did not represent the loss of a single train for greater than technical specification allowed outage time; it did not represent a loss of one or more non-technical specification risk-significant equipment for greater than 24 hours; and it did not screen as potentially risk significant due to seismic, flooding, or severe weather. A cross-cutting aspect in the human performance area with a work control component was identified in that Energy Northwest failed to appropriately plan work, resulting in job site conditions which may have impacted plant components [H.3.a] (Section 4OA2).

Inspection Report# : [2010005](#) (*pdf*)

Significance:  Sep 25, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Risk Assessment Associated with Planned Surveillance Activities

Green. The inspectors identified a Green noncited violation of 10 CFR 50.65(a)(4) for the licensee's failure to perform an adequate risk assessment during surveillance testing. Specifically, licensee personnel failed to input the appropriate variable for the reactor core isolation cooling system being unavailable during surveillance testing. When the correct

variable was used the risk profile for the day increased one level of significance. This violation has been placed in the licensee's corrective action program as Action Request 224294.

The performance deficiency was more than minor because it involved a failure to include all maintenance activities ongoing in the plant. The performance deficiency affected the equipment performance attribute of the Mitigating Systems Cornerstone objective to ensure the availability of systems that respond to an initiating event in that the risk profile did not adequately show system availability. The inspectors evaluated the performance deficiency using Manual Chapter 0609, Appendix K, "Maintenance Risk Assessment and Risk Management Significance Determination Process", and determined the performance deficiency to be of very low safety significance (Green) because the risk deficit during the time of the surveillance was calculated to be less than 1.0E-6. This performance deficiency has a crosscutting aspect in the area of human performance, resources, for the failure to provide an up to date work package with the correct input variable for assessing risk [H.2.c] (Section 1R13).
Inspection Report# : [2010004](#) (*pdf*)

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

Physical Protection

Although the NRC is actively overseeing the Security cornerstone, the Commission has decided that certain findings pertaining to security cornerstone will not be publicly available to ensure that potentially useful information is not provided to a possible adversary. Therefore, the [cover letters](#) to security inspection reports may be viewed.

Miscellaneous

Significance: SL-IV Mar 26, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Make Required Event Notification

Severity Level IV. The inspectors identified a Severity Level IV violation of 10 CFR 50.72(b)(3)(v)(D) for the failure of the licensee to make a non-emergency event notification to the NRC. Specifically, on December 20, 2010, the licensee failed to report the low pressure core spray minimum flow valve failing to open on pump start, rendering the low pressure core spray system incapable of performing its specified safety function during testing. The licensee made Event Notification 46604 on February 8, 2011, to report the identified condition. As a corrective action the licensee has informed all current shift managers, and plans to train future senior reactor operators, of the expectation to evaluate low pressure core spray system failures as a failure of a single train system to complete a safety function. This violation has been placed in the licensee's corrective action program as Action Request/Condition Report

236879.

The performance deficiency was more than minor because the NRC relies on licensees to identify and report conditions or events meeting the criteria specified in the regulations in order to perform its regulatory function. The inspectors determined that this finding was not appropriate to evaluate using the Significance Determination Process due to the finding only affecting the NRC's ability to perform its regulatory oversight function. As a result, this finding was evaluated for traditional enforcement in accordance with the NRC Enforcement Policy. This finding was determined to be a Severity Level IV violation in accordance with Section 6.9.d.9 of the NRC Enforcement Policy, dated September 30, 2010. The inspectors determined that assigning a cross-cutting aspect was not applicable to this finding due to the finding being screened exclusively using the traditional enforcement process (Section 4OA2).

Inspection Report# : [2011002](#) (*pdf*)

Last modified : October 14, 2011