# Columbia Generating Station
# 3Q/2006 Plant Inspection Findings

## Initiating Events

## Mitigating Systems

**Significance:** G Sep 30, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
**Failure to implement adequate design control measures for the station's safety-related batteries**
The inspectors identified a noncited violation of 10 CFR 50, Appendix B, Criterion III, "Design Control," when Energy Northwest failed to perform adequate design reviews to maintain appropriate control of the design and qualification of the station's safety related batteries. Specifically, the repetitive failure to provide adequate engineering analysis supporting the temporary installation of a non class 1E battery rail charger on a safety-related battery was not commensurate with ensuring the reliability of the station's safety-related batteries.

This finding was more than minor because the finding was a design control issue which affected the mitigating systems cornerstone objective to ensure the availability and reliability of systems that respond to initiating events to prevent undesirable consequences. Utilizing MC 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," Phase 1 screening, the inspectors determined that the finding was of very low risk significance because it was a qualification issue confirmed not to result in loss of operability. Additionally, the finding did not represent a loss of safety function for a single train or for the system, and did not screen as potentially risk significant due to external events. This finding had cross-cutting aspects in the area of problem identification and resolution with the corrective action component in that the licensee did not thoroughly evaluate design issues with the nonqualified rail charger, as documented in Condition Report 2-05-01894. This resulted in additional examples of the failure to maintain adequate design control of the batteries.
Inspection Report# : 2006004*(pdf)*

**Significance:** G Jan 20, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
**Failure to Promptly Identify Condition Adverse to Quality in Safety Related 4160 VAC Breakers**
The inspectors identified a non-cited violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Actions," for failure to promptly identify and evaluate conditions adverse to quality associated with the 4160 VAC safety related breakers. Although Energy Northwest had identified a potential common cause failure of the breakers, the extent of condition inspections of other risk significant breakers were not prioritized properly and promptly inspected until prompted by the inspectors. Subsequent inspections by Energy Northwest identified the onset of degradation in some of the breakers similar to that which prompted the concern for the common cause failure. Energy Northwest entered the issue into the corrective action program for resolution.

This finding is greater than minor because if left uncorrected it could become a greater safety concern. Specifically, the degradation which was identified in the breakers could, if left uncorrected, eventually impact breaker reliability and functionality complicating accident response. Although the finding affected the mitigating systems cornerstone objectives, the finding was of very low safety significance because a loss of safety function did not occur, the finding was not a design or qualification deficiency, and the finding did not screen as potentially risk significant due to external events. The cause of the finding was related to the cross cutting element of problem identification and resolution because of Energy Northwest's failure to properly prioritize the extent of condition examination of other risk significant breakers, which resulted in the untimely identifcation of conditons adverse to quality.

Inspection Report# : 2006002*(pdf)*

**Significance:** G Dec 31, 2005
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
**Failure to Maintain Design of Reactor Core Isolation Cooling in accordance with Final Safety Analysis Report Design Requirements**
A Green self-revealing noncited violation of 10CFR50, Appendix B, Criterion III, "Design Control," was identified because Energy Northwest failed to maintain the design capability of the RCIC system in consistent with the FSAR specified design functions. Specifically, following the implementation of a design change in 2001, the RCIC system was not capable under all required plant conditions of initiating automatically upon reaching a predetermined low level in the reactor vessel or restarting automatically with no operator action.

This finding was more than minor in accordance with Manual Chapter 0612, Appendix B, in that it was a plant modification design issue which affected the mitigating systems cornerstone attribute of equipment performance and reliability which could impact the ability of the RCIC system to respond to an initiating event. Using Manual Chapter 0609, "Significance Determination Process," Phase 1 worksheet, the inspectors determined that since an actual loss of system safety function occurred that a phase 2 evaluation was warranted. A subsequent Phase 2 and Phase 3 evaluation were performed. A senior reactor analyst conducted the phase 3 evaluation using a Standardized Plant Analysis Risk model simulation of the failure of the RCIC pump to automatically start and inject into the Reactor coolant system. The analyst concluded that the CDF associated with the event was 4.3 x 10-8 and that any increase in core risk due to external events was insignificant given the low CDF (< 1 x 10-6). The inspectors concluded that the finding was of very low risk significance.
Inspection Report# : 2005005*(pdf)*

**Significance:** G Oct 05, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
**Inadequate Design Modification of Low Pressure Core Spray System**
Green. An NRC identified noncited violation of 10CFR50, Appendix B, Criterion III, “Design Control,” was identified when Energy Northwest failed to ensure the adequacy of a design modification, implemented in 1992, to a low pressure core spray instrument pipe associated with the discharge header flow element. Energy Northwest failed to ensure that steady state vibration stress levels in the pipe were within code standards after the modification was performed. Stress levels were later determined to exceed endurance stress limit standards after the NRC identified concerns with the magnitude of vibration the pipe exhibited during operation of the low pressure core spray pump.

This finding was determined to be more than minor because it was associated with the design control attribute of the mitigating systems cornerstone and it affected the cornerstone objective of ensuring the availability, reliability, and capability systems that respond to initiating events. The finding was determined to be of very low safety significance because the finding was a qualification deficiency confirmed not to result in loss of operability per “Part 9900 Technical Guidance, Operability Determination Process for Operability and Functional Assessment”. A cross-cutting aspect associated with problem identification and resolution was identified when Energy Northwest failed to take vibration data at the earliest opportunity when the low pressure core spray pump was next operated. This resulted in a delay in Energy Northwest determining that the instrument tubing vibration stress levels exceeded ASME code endurance limits.
Inspection Report# : 2006003*(pdf)*

**Significance:** G Jun 14, 2005
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
**Failure to Promptly Identify Degraded Shaft Couplings in Standby Service Water Pumps**
Green. A Green self-revealing noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, “Corrective Actions,” was identified for failure to promptly identify conditions adverse to quality associated with the safety-related standby service water pumps. Specifically, Energy Northwest failed to implement actions identified in 1994 in response to external

operating experience (Information Notice 93-68) associated with the standby service water pumps. The failure to implement the actions resulted in the failure to promptly identify that shaft couplings on standby service water pump 1A pump shaft had failed due to intergranular stress corrosion cracking prior to the failure revealing itself on June 14, 2005. Energy Northwest later determined during an inspection in December 2005, that a coupling on standby service water pump 1B pump shaft had also failed, although the pump continued to demonstrate acceptable performance. Energy Northwest replaced both standby service water pumps and implemented corrective actions to ensure periodic future inspections of service water pumps 1A and 1B to ensure their operational readiness.

This finding is greater than minor because it was an equipment reliability issue which impacted the mitigating systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Although the finding affected the mitigating systems cornerstone objectives, the finding was of very low safety significance because the finding did not result in a loss of function of standby service water pump 1A, did not result in a loss of safety function of the system, did not represent a loss of safety function of non-technical specification equipment, and did not screen as potentially risk significant due to external events. The cause of the finding was related to the cross-cutting element of problem identification and resolution because of Energy Northwest's failure to implement identified actions to inspect either standby service water pump in response to Information Notice 93-68. (Section 4OA2.2)

Inspection Report# : 2006011*(pdf)*

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# Barrier Integrity

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# Emergency Preparedness

**Significance:** G Jan 12, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
**Failure to Establish Adequate Compensatory Measure to Ensure Prompt Implementation of the Columbia Generating Station Emergency Plan**
The inspectors identified a non-cited violation of 10 CFR 50.54(q) for the failure to maintain the facility emergency plan commensurate with the standards provided in 10 CFR 50.47(b)(4). Specifically, Energy Northwest failed to establish adequate compensatory actions in response to a planned calibration of a seismic monitoring system which rendered a key control room annunciator inoperable. This annunciator is used, in part, for establishing the criteria by which the emergency director would declare a notice of unusual event in the event that a seismic event is detected on site. The emergency director could have been significantly delayed in classifying the event because of the inadequate compensatory measure. Energy Northwest took immediate action to establish an adequate compensatory measure and to enter the issue into the corrective action program.

This finding is greater than minor because it is related to the emergency preparedness cornerstone attribute of response organization and affected the cornerstone objective because the inability to implement an emergency action level diminishes the licensee's capability to protect the health and safety of the public. The finding was determined to be of very low risk significance because it did not represent a loss of function or degradation of a risk significant planning standard and did not affect the declaration of an Emergency Action Level above a Notice of an Unusual Event. The cause of the finding was related to the cross cutting element of problem identification and resolution because Energy Northwest noted concerns with the identified compensatory measure but failed to take corrective action to address the concerns until prompted by the inspectors.
Inspection Report# : 2006002*(pdf)*

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# Occupational Radiation Safety

**Significance:** G Nov 10, 2005
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
**Failure to Provide Adequate Instructions to Prevent an Unintended Uptake of Radioactive Material**
A Green self-revealing non-cited violation was identified for failure to have adequate procedures in accordance with Technical Specification 5.4.1.a to prevent the unintended uptake of radioactive material by three workers.

This finding was more than minor in that the replacement of a contaminated flange without the use of an adequate radiation work permit was associated with the occupational radiation safety's attribute of procedures for exposure control and affected the cornerstone objective to ensure the adequate protection of the worker's health and safety from exposure to radiation from radioactive material. Using the occupational radiation safety significance determination process, the finding was determined to be of very low risk significance because it did not represent an ALARA or work controls issue, did not involve an overexposure, did not constitute a substantial potential for an overexposure, and did not compromise the ability to assess dose.
Inspection Report# : 2005005*(pdf)*

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# Public Radiation Safety

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# Physical Protection

Physical Protection information not publicly available.

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# Miscellaneous

Last modified : December 21, 2006