

## Columbia Generating Station 3Q/2003 Plant Inspection Findings

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### Initiating Events

**Significance:**  Jul 05, 2003

Identified By: NRC

Item Type: FIN Finding

**Failure to take effective corrective actions resulted in main turbine trip.**

The inspectors documented a self-disclosing finding for the failure to take appropriate corrective measures following a June 2000 plant trip. On June 30, 2003, the plant suffered another plant trip for the same reason - degraded main transformer differential current relay wiring. Failure to take effective corrective measures for the 2000 event directly resulted in the June 30 plant trip. The problem was not subject to NRC enforcement because the affected equipment was not safety-related.

The issue had more than minor safety significance because it impacted the initiating events cornerstone objective - to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. The issue was of very low safety significance because: 1) it did not contribute to the likelihood of a loss of coolant accident initiator; 2) it did not contribute to both the likelihood of a reactor trip and the likelihood that mitigating equipment or functions would not be available; and 3) it did not increase the likelihood of a fire or flood

Inspection Report# : [2003005\(pdf\)](#)

**Significance:**  Dec 28, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

**Man-lift inappropriately stored in control room**

The inspectors identified that the licensee failed to properly store a man-lift, located in the control room, in accordance with plant procedures. The man-lift could have tipped against control room panels containing sensitive plant system control circuits during a seismic event (or other disturbance) resulting in a reactor scram.

A violation of Technical Specification 5.4.1.a was identified that is being treated as a noncited violation in accordance with Section VI.A.1 of the NRC Enforcement Policy. The inspectors determined that the issue was greater than minor in significance because it affected the reactor safety, initiating events cornerstone objective. The inspectors utilized the NRC's significance determination process Manual Chapter 0609, Appendix A worksheet and determined that the issue was of very low safety significance (Green). The issue screened out as Green because the problem did not: 1) contribute to the likelihood of a primary or secondary system loss of coolant accident initiator; 2) contribute to both the likelihood of a reactor trip and the failure of mitigation equipment; or 3) increase the likelihood of a fire or internal/external flood.

Inspection Report# : [2002004\(pdf\)](#)

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### Mitigating Systems

**Significance:**  Apr 05, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

### **Inadequate Corrective Actions and Operability Evaluations for Emergency Diesel Generator 1**

The inspectors identified that the licensee had failed to take prompt corrective measures to address a condition adverse to quality associated with the Division I emergency diesel generator and had failed to properly evaluate emergency diesel generator operability. Specifically, as early as 1998, plant vibration data indicated that one of the unit's generator bearings was significantly degraded and was continuing to degrade at an accelerated rate. The licensee's operability evaluation was inadequate because it relied on an inappropriate method to determine remaining bearing life. As a result of the NRC concerns, the licensee declared the emergency diesel generator inoperable and, ultimately, shut down the reactor to complete repairs.

A violation of 10 CFR Part 50, Appendix B, Criterion XVI, was identified that is being treated as a noncited violation in accordance with Section VI.A.1 of the NRC's Enforcement Policy. The inspectors determined that the issue was more than minor in significance because it impacted the mitigating systems cornerstone and affected the ability of the emergency diesel generator to perform its safety function for the required 30 day design requirement. The inspectors utilized the Significance Determination Process, Manual Chapter 0609, Appendix A, worksheet and determined that the issue was of very low safety significance (Green). The issue screened out as Green because the finding did not result in the loss of a safety function of the system or the loss of a single train of safety-related equipment for longer than its Technical Specification allowed outage time. The inspectors determined that the emergency diesel generator should have operated for at least 5 days, which would meet the licensee's probabilistic risk assessment mission time and would provide sufficient time to establish other compensatory measures in the event the emergency diesel generator bearing degraded further.

Inspection Report# : [2003004\(pdf\)](#)

**Significance:**  Mar 20, 2003

Identified By: NRC

Item Type: AV Apparent Violation

### **Use of manual actions in lieu of physical protection to assure that one train of safe shutdown equipment is free of fire damage**

The inspectors identified a noncited violation of License Condition 2.C(14) and 10 CFR Part 50, Appendix R, Section III.G.2 for utilizing unapproved manual actions in Procedure ABN-FIRE, "Fire," in lieu of physical protection to assure than one train of safe shutdown equipment is free of fire damage.

Contrary to the above requirements, the licensee failed to assure that one train of low pressure coolant injection was free of fire damage. This finding is greater than minor because it impacts the mitigating systems cornerstone.

Inspection Procedure 71111.05, "Fire protection," issued March 6, 2003, integrated inspector guidance for manual actions associated with licensee commitments to Section III.G.2 of Appendix R.

Inspection Report# : [2003002\(pdf\)](#)

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## **Barrier Integrity**

**Significance:**  Dec 10, 2002

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

### **Recurrence of containment isolation valve failures due to inadequate corrective actions**

The inspection team identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, for the failure to take effective corrective actions to preclude containment isolation valve failures caused by system debris, a known and preventable problem. The original problem surfaced in 1996, but the licensee failed to follow through on planned corrective measures and two additional valve failures were experienced in the past 18 months. In addition, the licensee did not identify a current operability concern until prompted by the NRC and the licensee's first two attempts at addressing operability were inadequate, in part, because they were based on inaccurate information. In the past 18 months, the licensee experienced two containment isolation valve failures due to system debris - a known and preventable problem. Valves FDR-V-3 and FDR-V-4 are both 3-inch ball valves located in the drywell unidentified leakage rate instrument line.

Based on the above, the team determined that the issue was more than minor in significance because the problem affected the reactor safety, barrier integrity cornerstone objective. The team utilized the NRC's significance determination process Manual Chapter 0609, Appendix A worksheet and determined that the issue was of very low safety significance (Green). The issue screened out as Green because the problem did not result in an actual open pathway in the physical integrity of the reactor containment or an actual reduction of the atmospheric pressure control function of the reactor containment.

Inspection Report# : [2002006\(pdf\)](#)

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## **Emergency Preparedness**

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## **Occupational Radiation Safety**

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## **Public Radiation Safety**

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## **Physical Protection**

**Significance:** N/A Mar 07, 2003

Identified By: NRC

Item Type: FIN Finding

### **Verification of Compliance With Interim Compensatory Measures Order**

On February 25, 2002, the NRC imposed by Order, Interim Compensatory Measures to enhance physical security. The inspectors determined that, overall, the licensee appropriately incorporated the Interim Compensatory Measures into the site protective strategy and access authorization program; developed and implemented relevant procedures; ensured that the emergency plan could be implemented; and established and effectively coordinated interface agreements with offsite organizations.

Inspection Report# : [2003003\(pdf\)](#)

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## Miscellaneous

**Significance:** N/A Dec 10, 2002

Identified By: NRC

Item Type: FIN Finding

### PI&R Inspection

NRC had documented a substantive human performance issue in NRC Inspection Report 50-397/01-04. The issue involved several plant events that were caused by poor human performance. The team reviewed corrective actions associated with that finding, which included: 1) increased contractor training and oversight during outages; 2) increased support to operators during outages; 3) increased resources towards job planning prior to outages; 4) staff coaching sessions; and 5) the use of a human performance simulator. The team also reviewed human performance data and statistics for the past two years, which showed marked improvement for the non-outage period since April 2002. Based on a review of the licensee's records and interviews with plant personnel and managers, the licensee has taken reasonable actions to preclude significant problematic human performance trends. No findings of significance were identified.

Inspection Report# : [2002006\(pdf\)](#)

Last modified : December 01, 2003