

# Brunswick 1

## 4Q/2004 Plant Inspection Findings

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### Initiating Events

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### Mitigating Systems

**Significance:**  Dec 31, 2004

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

#### **Inadequate Storage of Standby Liquid Control System Nitrogen Accumulator Repair Kits**

Green. A self-revealing finding and non-cited violation of 10CFR50, Appendix B, Criterion XIII, was identified for failure to store Unit 1 standby liquid control system (SLC) nitrogen accumulator repair kits in a condition which did not prevent deterioration. The licensee's material evaluation of the commercially dedicated part did not include special storage requirements and, therefore, the parts were stored, from at least 1999 until March 2004, in a condition which made them susceptible to developing leaks along folds in the nitrogen accumulator bladders. This resulted in accumulator nitrogen leakage into the Unit 1 standby liquid control system and was determined to be the cause of the 1 B standby liquid control pump being discovered in an inoperable condition on July 8, 2004.

This finding is more than minor because it is associated with equipment performance and affected the functional capability of the system to respond to initiating events. This finding was evaluated using MC 0609 Appendix A. A Phase 3 Significance Determination Process analysis determined this finding to be of very low safety significance (Green) because the redundant train of the Unit 1 SLC system remained operable. The licensee's corrective actions included replacing all of the affected nitrogen accumulator bladders.

Inspection Report# : [2004005\(pdf\)](#)

**Significance:**  Jun 19, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Failure to Adequately Consider Vortexing in the Calculation for CST Level for Automatic Transfer of the HPCI Pump Suction**

Green. The inspectors identified a non-cited violation of 10 CFR 50, Appendix B, Criterion III, Design Control, for failure of design calculations to adequately address the potential for air entrainment in the high pressure coolant injection (HPCI) process flow due to vortexing. The Technical Specifications allowable value for the condensate storage tank (CST) level - low function, for automatic HPCI pump suction transfer to the suppression pool, was not adequately supported by these design calculations. The finding is greater than minor because it affects the design control attribute of the mitigating systems cornerstone objective. It is of very low safety significance because the finding is a design deficiency that would not result in loss of the HPCI function, and because the likelihood of having a low level in the CST that would challenge the CST level - low automatic HPCI suction transfer function is very low. In addition, alternate core cooling methods would normally be available, including reactor core isolation cooling as well as automatic depressurization system and low pressure coolant injection.

Inspection Report# : [2004003\(pdf\)](#)

**Significance:**  Jun 19, 2004

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

#### **Failure to Follow EDG Barring Procedure**

Green. A self-revealing Green non-cited violation of Technical Specifications (TS) 5.4.1 was identified for failure to implement a maintenance procedure. Maintenance personnel failed to follow the emergency diesel generator (EDG) barring procedure (predictive maintenance which slowly cranks the engine) by not closing the right bank engine cylinder petcocks while performing the evolution on EDG 1 on June 6, 2004. This resulted in the EDG being inoperable until the condition was discovered when the EDG was started later that day. This finding is greater than minor because it affected the mitigating systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to an event. The finding is of very low safety significance because the EDG was restored to an operable status within the TS limiting condition for operation allowed outage time. The finding was related to the cross-cutting area of human performance because the cause was due to maintenance workers failing to properly follow procedural requirements.

Inspection Report# : [2004003\(pdf\)](#)

**Significance:**  Mar 20, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

### **INADEQUATE CORRECTIVE ACTIONS FOR EDG JACKET WATER COOLING LEAK RESULTS IN FAILURE TO MEET TECHNICAL SPECIFICATION LCO 3.8.1**

The inspectors identified a non-cited violation for the failure to take adequate corrective actions in accordance with 10CFR50 Appendix B Criterion XVI, associated with an unrepaired leak in the No. 3 emergency diesel generator (EDG) jacket water cooling (JWC) system. This condition resulted in EDG 3 being inoperable from December 8, 2003, until January 7, 2004.

This finding is greater than minor because it is associated with the availability and reliability of EDG 3 to mitigate events such as a loss of offsite power. The finding was determined to have very low safety significance because, although the ability of EDG 3 to mitigate a loss of offsite power event was effected, EDG 3 provides a relatively small amount of the Unit 1 safety-related loads.

Inspection Report# : [2004002\(pdf\)](#)

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## **Barrier Integrity**

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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**

[Physical Protection](#) information not publicly available.

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## **Miscellaneous**

**Significance:** N/A Aug 27, 2004

Identified By: NRC

Item Type: FIN Finding

### **Results of Brunswick Unit 1 Loss of Offsite Power Special Inspection**

A special inspection was conducted following a Brunswick Unit 1 Loss of Offsite power on August 14, 2004. The inspectors determined: (1) The cause of the loss-of-offsite power was the internal failure of a switchyard breaker as it responded to a line fault outside the unit's switchyard: that failure led to loss of power on the 1B bus, which caused, in turn, a loss of power to the unit 1 startup transformer, and the loss of both recirculation pumps. (2) The site switchyard design and configuration complied with General Design Criterion 17. The inspectors noted that changes could be made in the switchyard configuration and some switchyard equipment which could significantly reduce the unit's vulnerability to similar events in the future. The licensee initiated efforts to review and evaluate enhancements. (3) A load-shed permissive HGA relay on emergency bus 1 failed when the relay dust cover prevented the relay armature from actuating. Several loads were not shed from the bus before emergency diesel generator (EDG)-1 picked up the loads on that bus. Upon identifying the relay problem, the licensee corrected the involved relay problem, completed an adequate operability determination of EDG-1 and also performed the Technical Specifications-required common-cause analysis of the other EDGs. (4)To verify that no other important HGA relays had mispositioned dust covers, the licensee examined a larger population of relays in other applications. The initial relay examination identified a number of conditions that needed to be corrected, however, none of those conditions prevented the proper operation of any relay. Because the initial examination had been completed using an informal methodology, the licensee had not developed documentation that was adequate to support an operability determination. Some Operations personnel and management were not aware of how the identified relay conditions had been addressed. The licensee subsequently re-examined the subject relays, using a more formal and approved process. The re-examination was completed and the operability determination was formally documented prior to continuing the unit restart.

Inspection Report# : [2004011\(pdf\)](#)

