Brunswick 2
3Q/2004 Plant Inspection Findings

Initiating Events

Mitigating Systems

Significance: G 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: G 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: G Jun 19, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Install Dielectric Insulating Kit Between Service Water Valve and Pipe Flange
Green. The inspectors identified a non-cited violation of 10CFR50, Appendix B, Criterion V, for failure to install dielectric insulators on a service water isolation valve, required by a modification package. This resulted in a galvanic coupling between the carbon steel piping and the stainless steel valve, which could result in corrosion of the pipe flange at the bolt holes, accelerating corrosion of the interior of the pipe in areas where the cement lining had failed. This finding is greater than minor because it affected the equipment performance attribute of the mitigating systems cornerstone objective to ensure reliability of systems required to respond to initiating events. The finding is of very low safety significance because there was no actual loss of function, and a redundant valve was available for the isolation function.
Inspection Report# : 2004003*(pdf)*

Significance: W Mar 20, 2004
Identified By: NRC
Item Type: VIO Violation
FAILURE TO PROMPTLY CORRECT EDG JACKET WATER COOLANT LEAKAGE
The inspectors identified a violation for 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. Specifically, corrective maintenance the licensee performed on December 8, 2003, to stop a pipe coupling leak on the jacket water supply line to the turbo charger for

EDG 3 failed to correct the leak. In addition, the licensee failed to identify that two structural supports for the line were not in place, potentially contributing to the misalignment of the coupling. On January 4, 2004, the licensee identified that the line was again leaking at an even greater rate. Because of the ongoing leak, the licensee failed to comply with TS 3.8.1, AC Sources-Operating, in that EDG 3 was inoperable while the plant was in Mode 1 from December 8, 2003 until January 7, 2004, a period in excess of seven days.

The finding was determined to be of low-to-moderate safety significance. Loss of offsite power with failures to supply power to the emergency busses were the dominant risk sequences. The evaluation determined that EDG 3 was nonrecoverable for a short period of time when the demineralized water tank level was below a value that would have allowed gravity feed for makeup. For the remaining portion, the evaluation assumed that EDG 3 could potentially have been recovered by the operator refilling the JWC system. The licensee risk assessment also concluded that the finding was of low-to-moderate safety significance.
Inspection Report# : 2004008*(pdf)*

Significance: G Dec 20, 2003
Identified By: Self Disclosing
Item Type: NCV NonCited Violation
Failure to Position HPCI System Valve in Accordance with Clearance Order
A self-revealing non-cited violation was identified for the licensee's failure to position the Unit 2 high pressure coolant injection (HPCI) system turbine exhaust stop check valve in the open position following system maintenance, in accordance with plant procedures. This resulted in failure of the exhaust line rupture discs during testing, a primary containment isolation of the system, and activation of the HPCI room fire protection system.

This finding is greater than minor because it is associated with system configuration control and affected the mitigating availability of the HPCI system. This finding was determined to be of very low safety significance (Green) because the HPCI system was returned to an operable status within the Technical Specification allowed outage time. The finding was related to the cross-cutting aspect of Human Performance because the cause was determined to be due to plant operators using improper techniques in verifying the valve's position. Other contributing causes including operator knowledge deficiencies of valve operation, failure to perform an independent check of valve position, and the pre-job brief's limited scope were also related to Human Performance.
Inspection Report# : 2003006*(pdf)*

Significance: G Dec 20, 2003
Identified By: Self Disclosing
Item Type: FIN Finding
Unit 2 Reactor Feed Pump Speed Control Modification
A self-revealing finding (EA 04-017) was identified for an inadequate design review of a Unit 2 reactor feed pump speed control modification. The modification replaced the existing mechanical-hydraulic speed control system with a digital speed control system. The system is powered by internal power supplies that would fault, and thus cease to supply output power, with one cycle of sensed abnormal supply voltage. As a result, the reactor feed pumps would trip following a unit trip due to the supply voltage transient caused by the swap of in-house loads from the unit auxiliary transformer to the startup auxiliary transformer.

This issue is greater than minor because, if left uncorrected, it would increase the likelihood of initiating events caused by a loss of reactor feed pumps following transients and affect the reliability and functional capability of the reactor feed pumps to mitigate events (unit trips). The finding is of very low safety significance because multiple failures of high pressure injection systems would have to occur before the loss of feedwater was critical to cooling the core. This finding was originally identified as unresolved item 05000324/2003006-02, which was closed in Inspection Report 05000325,324/2004002, dated April 19, 2004.
Inspection Report# : 2004007*(pdf)*

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

Physical Protection

Physical Protection information not publicly available.

Miscellaneous

Significance: N/A Nov 21, 2003
Identified By: NRC
Item Type: FIN Finding
PROBLEM IDENTIFICATION & RESOLUTION INSPECTION RESULTS
The licensee was effective at identifying problems at a low threshold and entering them into the corrective action program. The licensee prioritized issues and performed adequate evaluations that were technically accurate and of sufficient depth. Corrective actions developed and implemented for problems were appropriate for the safety-significance of the issue. The licensee's self-assessments and audits were effective in identifying deficiencies. Based on discussions conducted with licensee employees and a review of station activities, the inspectors did not identify any reluctance to report safety concerns.
Inspection Report# : 2003009*(pdf)*

Last modified : December 29, 2004