

# Harris 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

#### **Failure to Follow the Procedure for Taping Leads Lifted From Time Delay Relay 2-1/1711**

Green. A self-revealing non-cited violation of Technical Specification 6.8.1 was identified for a failure to adequately implement maintenance procedures for electrical maintenance on the 1A-SA switchgear during a refueling outage. During relay calibration, technicians failed to adequately tape the relay leads in order to prevent the leads from short-circuiting and causing the loss of the 1A-SA vital bus and 'A' residual heat removal pump. The 'A' residual heat removal pump was in service, providing core cooling, at the time the bus was lost. This finding is more than minor because it affected the Mitigating Systems Cornerstone safety function of core decay heat removal and increased the likelihood that a loss of decay heat removal would occur due to the loss of power to the 1A-SA bus. NRC Inspection Manual Chapter 0609, Appendix G was used to evaluate this finding. Phase 2 and 3 analyses determined that this finding is of very low safety significance (Green) because decay heat removal was only temporarily interrupted, power to the 1A-SA bus was restored automatically by the 1A EDG, the 'A' RHR train was restarted promptly (four minutes), and the 'B' RHR train was continuously available for decay heat removal if it was needed. The finding was also related to the cross-cutting area of human performance because the performance deficiency was identified as the failure of maintenance personnel to adequately tape the lifted leads.

Inspection Report# : [2004006\(pdf\)](#)

**Significance:**  Dec 31, 2004

Identified By: NRC

Item Type: FIN Finding

#### **Unnecessary Increase in Risk of Losing the Decay Heat Removal Key Safety Function**

Green. The inspectors identified a finding involving the management of maintenance activities during a refueling outage resulting in an unnecessary increase in risk of losing the decay heat removal key safety function. Work conducted during the refueling outage unnecessarily increased the risk of a loss of core shutdown cooling by conducting intrusive electrical maintenance on the 1A-SA vital electrical bus while the 'A' residual heat removal pump was being used for core cooling. Concurrently, the reactor coolant system was depressurized, rendering steam generators unavailable for natural circulation cooling and time to core boiling was relatively low. This finding is more than minor because it is associated with the Mitigating Systems Cornerstone attribute of configuration control of shutdown equipment used to mitigate the consequences of accidents, and the objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e. core damage). Therefore, the issue was assessed using the Significance Determination Process (SDP). NRC Inspection Manual Chapter 0609, Appendix G, "Shutdown Safety SDP" figure 1 and checklist 3 were applicable for the phase 1 evaluation of this issue. Although the finding increased the likelihood that a loss of decay heat removal would occur, the event's significance is bounded by the Phase 2 and 3 evaluations performed in response to NCV 05000400/2004006-02. The evaluation determined that the interruption of decay heat removal event was of very low safety significance (Green). Therefore, this finding, which involved increasing the likelihood of an interruption, is also of very low safety significance (Green).

Inspection Report# : [2004006\(pdf\)](#)

**Significance:**  Dec 31, 2004

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

#### **Failure to Provide an Adequate Isolation for the Disassembly of CVCS Valve 1CS-243**

Green. A self-revealing non-cited violation of Technical Specification 6.8.1 was identified for failure to adequately implement work control procedures, leading to draining approximately 1250 gallons of contaminated water from the refueling water storage tank and the volume control tank to the reactor auxiliary building during a refueling outage. The water drained due to an inadequate boundary clearance hung for work on a chemical and volume control system valve. This finding is more than minor because, if left uncorrected, it would become a more significant safety concern due to the potential to damage plant equipment, and drain the refueling water storage tank. The finding was associated with the configuration control attribute of the Mitigating Systems Cornerstone. NRC Inspection Manual Chapter 0609, Appendix G was used to evaluate this finding. The finding did not require quantitative analysis and was of very low safety significance because it did not affect the ability of the licensee to maintain shutdown event mitigation capability. The finding was also related to the cross-cutting area of

human performance because failure to adhere to both a valve isolation and a clearance boundary procedure contributed to initiating the draindown.

Inspection Report# : [2004006\(pdf\)](#)

**G**

**Significance:** Dec 31, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

### **Failure to Promptly Identify and Correct Flow Paths Which Bypassed the Containment Sumps' Screens**

Green. The inspectors identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, Corrective Action, for failure to promptly identify and correct a condition adverse to quality. The condition adverse to quality was the presence of flow paths in the top of the containment recirculation sump structures which bypassed the containment sumps' screens and had the potential to adversely impact emergency core cooling system (ECCS) performance during containment recirculation. This finding is more than minor because it affected the Mitigating Systems Cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events (loss-of-coolant-accident) to prevent undesirable consequences (core damage). The finding was associated with the design control attribute of the cornerstone. NRC Inspection Manual Chapter 0609, Appendix A was used to evaluate this finding. The finding is considered to be of very low safety significance (Green) because the bypass flow paths did not result in a loss of safety function. This finding was also related to the cross-cutting area of problem identification and resolution because the condition of the sumps had not been properly identified and corrected by the licensee during previous containment walkdowns.

Inspection Report# : [2004006\(pdf\)](#)

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## **Barrier Integrity**

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**Significance:** Jun 26, 2004

Identified By: NRC

Item Type: FIN Finding

### **Self-Revealing Steam Generator Tube Leak**

Green. A finding of very low safety significance was identified through a self-revealing, steam generator tube leak event. Licensee inspectors missed three opportunities during previous inspection activities involving the C steam generator, to identify a loose part which ultimately resulted in a steam generator tube leak. This finding was more than minor because it involved the human performance attribute that affected the reactor coolant system portion of the barrier integrity cornerstone objective. The finding was of very low safety significance because (1) the operational leakage rate was below both the Technical Specification criteria and the calculated "accident leakage" rate; (2) the tubes in question were found to meet required performance criterion for pressure, as demonstrated by in-situ testing; and (3) re-review of the eddy current data for the entire population of tube segments which did not receive a secondary analysis in 2003 did not find any additional indications missed by primary analysts. This finding was related to the cross-cutting area of human performance because during previous steam generator inspection activities, three separate human performance errors contributed to overlooking the foreign object in this steam generator.

Inspection Report# : [2004004\(pdf\)](#)

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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**

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

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## Miscellaneous

**Significance:** N/A Oct 29, 2004

Identified By: NRC

Item Type: FIN Finding

### **Special Inspection : Haris Loss of Shutdown Cooling Event Review**

The inspectors determined that the exact circumstances surrounding the initiating event could not be conclusively determined. The most probable cause was a failure to adequately insulate leads lifted from a degraded grid voltage time delay relay. A subsequent short circuit caused the loss of power to a 6.9 KV emergency bus and the operating residual heat removal (RHR) pump. The licensee adequately evaluated both the initiating event and the subsequent safety-related equipment responses. The operators correctly diagnosed the event and restored core cooling in accordance with procedures. RHR flow to the core was secured for a total of four minutes, and the primary temperature rose approximately six degrees F. The 'B' RHR pump was operable and immediately available for service had the 'A' pump failed to restart. Communications deficiencies were noted between plant work control organizations and within the electrical work groups. Neither the work control center nor the control room were fully cognizant of some important work activities occurring in the plant. Also, deficiencies were noted in the work scheduling process and work activities reduced the defense in depth for protection against a loss of core cooling during a period of relatively high level of decay heat production. The electrical power supply for the 'A' RHR pump was undergoing testing, control of the 'B' RHR pump was shifted between the control room and the remote shutdown panel, and the plant had been depressurized which complicated the availability of natural circulation cooling using the steam generators.

Inspection Report# : [2004009\(pdf\)](#)

Last modified : March 09, 2005