

Sequoyah 1

1Q/2005 Plant Inspection Findings

Initiating Events

Significance: **G** Dec 31, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

Communications Problems Resulted in Failure to Meet TS LCO 3.9.1 for RCS Boron

The inspectors identified a non-cited violation of Technical Specification Limiting Condition for Operation 3.9.1 when communication failures between and within chemistry and operations resulted in Unit 1 reactor coolant system boron concentration dropping below the limit of 2000 ppm. Although chemistry analysis indicated the out-of-specification condition existed, the required actions of immediately borating to within specification were not taken for four hours.

This finding was more than minor because it affected the human performance attribute of the initiating event cornerstone with the potential to challenge reactivity control during shutdown operations. This finding is of very low safety significance because the core remained subcritical by a large margin and the duration of the out-of-specification was less than the boron analysis frequency required by the Technical Specifications

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

Significance: **G** Jun 26, 2004

Identified By: Self Disclosing

Item Type: FIN Finding

Electrical Ground on Improperly Abandoned Cable Resulted in Reactor Trip

A self-revealing finding was identified for an improperly abandoned cable in the non-safety related 250-VDC Battery Board 2 system that resulted in a reactor trip of Unit 1. A Design Change Notice (DCN) in 1999 required the cable to be disconnected and insulated on both ends; however, the work was done only on one end. The cable subsequently grounded and, in conjunction with a second ground, actuated a protective relay on the main bank transformer and tripped the unit.

This finding is more than minor because it affected the design control attribute of the initiating event cornerstone and resulted in an upset in plant stability. This finding is of very low safety significance because no mitigating system was affected

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

Mitigating Systems

Significance: **G** Sep 25, 2004

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

Operator Inattentiveness Resulted in an 800-Gallon Loss of RCS Inventory over a Two-Hour Period

The inspectors identified a non-cited violation of Technical Specification 6.8.1 for a self-revealing failure to comply with procedures for monitoring the plant. Operators failed to adequately monitor appropriate parameters and respond to reactor coolant system leakage greater than technical specification limits for a two-hour period which included another activity affecting reactor coolant system inventory. This resulted in a loss of 800 gallons of reactor coolant system inventory over the two-hour period.

This finding is more than minor because it was a post-event human error. This finding is of very low safety significance because once identified, the leak was readily isolated and no loss of safety function occurred. The cause of the finding is related to the cross-cutting element of human performance.

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

Significance: **W** Sep 25, 2004

Identified By: NRC

Item Type: VIO Violation

Failure to Take Adequate Corrective Actions Regarding Binding of the 1A RHR Pump Breaker

Sequoyah encountered various compatibility and design problems associated with the modification to install Siemens breakers (modified by

Wyle) in Sequoyah's 6.9-kV breaker cabinets. Several of these issues required modifications to the MOC linkage to address operational problems. A similar binding problem on a different breaker had been discovered on July 11, 2003, when maintenance technicians discovered a tight shoulder bolt during a receipt inspection. Following a series of failures during post-maintenance testing in the Spring of 2004, Siemens found a binding problem (due to bradding in the MOC slide assembly) on one of four breakers TVA sent to Siemens for analysis, prompting Siemens to recommend (in May 2004) that visual and/or functional inspections be conducted on the breakers. Although Siemens stated that the functional inspection would be more accurate, the Sequoyah staff chose to do visual inspections.

The binding/bradding problem that led to the failure of RHR Pump 1A on July 7, 2004, was not detected when Sequoyah plant personnel performed the visual inspection on the 1A RHR breaker on June 9, 2004. The NRC has determined that TVA's actions in response to the previous MOC linkage problems and Siemen's discovery of the binding problem in April of 2004 did not constitute adequate corrective action to preclude the failure of the 1A RHR breaker. This performance deficiency was a violation of 10 CFR 50, Appendix B, in that TVA failed to identify and correct a significant condition adverse to quality, which resulted in the failure of RHR Pump 1A to start during surveillance testing.

An Assessment Follow-Up Letter was issued on March 10, 2005, which scheduled a Supplemental Inspection for the week of March 28, 2005, and will be documented as Inspection Report 05000327, 328/2005008. The supplemental inspection was completed March 30, 2005 and the report issued April 29, 2005. The supplemental inspection assessed TVA's evaluation and corrective actions and concluded that the licensee's problem identification and root cause analysis was acceptable. The licensee determined that the root cause of the event was attributable to multiple programmatic weaknesses that allowed safety-related circuit breakers with design and manufacturing deficiencies to be installed in the plant. The completed and proposed corrective actions, including actions to prevent recurrence, have adequately addressed the results of the root cause evaluation. Given the licensee's acceptable performance in addressing the problems with Wyle/Siemens circuit breakers, the White finding will only be considered in assessing plant performance for a total of four quarters in accordance with the guidance in IMC 0305, "Operating Reactor Assessment Program."

Inspection Report# : [2005007\(pdf\)](#)

Inspection Report# : [2005008\(pdf\)](#)

G

Significance: Jun 26, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Comply with Configuration Control Procedures

The inspectors identified a non-cited violation of Technical Specification (TS) 6.8.1 for a self-revealing failure to comply with status control procedures. While attempting to get information to set a limit switch on Electric Board Room Chiller A, maintenance personnel removed the slide valve position indicator cover on Electric Board Room Chiller B. When replacing it, the cover contacted the control power circuits and caused a short circuit that tripped the B Chiller. In removing the cover, maintenance personnel had not obtained prior approval from operations, nor did they have work documents that authorized the actions.

This finding is more than minor because it affected the availability of both electric board room chillers, a mitigating system. Alteration of safety-related equipment configuration outside of approved processes would, if left uncorrected, result in a more significant safety concern. A protected train that is lost due to configuration control errors has an increased chance that it will not restart.

This finding is of very low safety significance because there was no loss of safety function, no loss of TS equipment for more than the allowed outage time, no loss of maintenance rule (MR) risk-significant system for more than 24 hours, and no increase in risk from external events. The cause of this finding is related to the cross-cutting area of human performance.

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

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

Physical Protection

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

Miscellaneous

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