

Sequoyah 1

2Q/2008 Plant Inspection Findings

Initiating Events

Significance:  Mar 31, 2008

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to Follow Calibration Procedure

Green. A self-revealing NCV was identified for failure to properly follow procedure when calibrating Loop 3 Steam Pressure Channel 1 on Unit 1. Because of failure to follow procedure, automatic steam generator level control rapidly reduced feedwater flow to the point where programmed level could not be maintained and caused the operators to manually trip the reactor. The licensee entered the problem into their corrective action program and initiated actions to prevent recurrence.

The finding was more than minor because it was associated with the human performance attribute of the Initiating Events Cornerstone and resulted in an upset in plant stability by causing a reactor trip. While the finding resulted in an actual trip, the finding was determined to be of very low safety significance, because it did not contribute to the likelihood of a loss of coolant accident, contribute to a loss of mitigation equipment functions, or increase the likelihood of a fire or flood. The cause of the finding was associated with the human error prevention techniques aspect of the human performance cross-cutting area, because the involved instrument technicians failed to follow proper placekeeping practices and failed to verify and validate the proper starting place in the procedure after taking a break. (Section 1R22).

Inspection Report# : [2008002](#) (*pdf*)

Significance:  Sep 10, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Procedure for Reduced Inventory/Mid-loop Operation.

The team identified a violation of TS 6.8.1 for failure to establish an adequate procedure for reactor coolant system reduced inventory/mid-loop operations. Specifically, procedure 0-GO-13, Reactor Coolant System (RCS) Drain and Fill Operations, Rev. 57, was not adequate in that it did not establish adequate actions to maintain continuous RCS level indication during all possible plant conditions while in the reduced inventory/mid-loop configuration, specifically Loss of Offsite Power (LOSP). Additionally, the procedure did not establish contingency actions to recover power to the Mansell level indication systems or provide guidance for alignment of an alternate RCS level indication mechanism within the 30 minutes for which power was still available from the Mansell system unit battery.

This finding is more than minor because it impacts the Initiating Events Cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown. In accordance with NRC Inspection Manual Chapter 0609, Appendix G, "Shutdown Operations" the team conducted a Phase 3 significance determination process screening and determined the finding was of very low safety significance (Green). This finding was entered into the Sequoyah corrective action program as Problem Evaluation Report 125906.

Inspection Report# : [2007006](#) (*pdf*)

Significance:  Sep 10, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Abnormal Operating Procedure for RHR System Malfunctions During Mode 4 Conditions.

The team identified a violation of Technical Specification 6.8.1 for failure to establish an adequate abnormal operating procedure for the Residual Heat Removal System (RHR) system malfunctions during shutdown conditions. Procedure

AOP-R.03, RHR System Malfunction, Rev. 17, was not adequate in that it did not establish adequate actions to restore RHR cooling following isolation of an RHR leak during hot shutdown (Mode 4) operations. The instruction provided in the procedure could result in a total loss of RHR cooling capability during Mode 4 conditions if an RHR leak occurred.

This finding is more than minor because it impacts the Initiating Events Cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown in that the loss of RHR pumps would increase the likelihood of a loss of RHR cooling. In accordance with NRC Inspection Manual Chapter 0609, Appendix G, "Shutdown Operations" the team conducted a Phase 2 significance determination process screening and determined the finding was of very low safety significance (Green). This finding was entered into Sequoyah's corrective action program under Problem Evaluation Report 125844.

Inspection Report# : [2007006](#) (*pdf*)

Mitigating Systems

Significance:  Jun 30, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

Gland Seal Steam Header Isolation Valves Not Scoped In Maintenance Rule

The inspectors identified a Green, non-cited violation of 10 CFR 50.65(b)(2)(i) for the licensee's failure to include the gland seal steam supply and supply bypass isolation valves in the scope of their maintenance rule program. These valves are used in the emergency operating procedures to mitigate a steam generator tube rupture if a main steam isolation valve were to fail. The licensee entered the issue into their corrective action program.

The finding was more than minor because it was associated with the mitigating systems cornerstone attribute of equipment performance and affected the cornerstone objective of ensuring the availability and reliability of systems that respond to initiating events to prevent undesirable consequences. In accordance with Inspection Manual Chapter IMC 0609.04, Phase 1 - Initial Screening and Characterization of Findings, the finding was determined to be of very low safety significance (Green) because it did not represent an actual loss of a safety function of one or more non-Technical Specification trains of equipment designated as risk-significant per 10 CFR 50.65.

Inspection Report# : [2008003](#) (*pdf*)

Significance:  Mar 31, 2008

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Inadequate Tagging Procedure

Green. A self-revealing NCV was identified for an inadequate tagging procedure that resulted in a failure to properly isolate a fire hydrant before maintenance. Because of the failure, the hydrant was forced off the associated fire protection system header, depressurized the system, and rendered it inoperable. The licensee entered the problem into their corrective action program and initiated actions to prevent recurrence.

This finding was more than minor because it affected the mitigating system cornerstone objective of availability of systems, i.e. Fire Protection System, and was associated with the protection against fire, an external hazards attribute. While the finding caused the fire protection system to be inoperable, the inspectors determined that the degradation rating used for the significance determination process was low. Therefore, the finding was considered to be of very low safety significance. The cause of the finding was associated with the accurate and up-to-date procedures and work packages aspect of the human performance cross-cutting area. The clearance procedure and Work Order (WO) were not sufficient to ensure continued fire protection system operability during hydrant maintenance.

Inspection Report# : [2008002](#) (*pdf*)

Significance: **G** Sep 30, 2007

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to Follow Procedure when Adjusting EDG Intake Fire Damper

Green. A self-revealing non-cited violation of Technical Specification 6.8.1a was identified for failure to follow procedures when performing maintenance on the intake fire damper for Emergency Diesel Generator 2A. Because of this failure, the damper inadvertently closed and rendered the emergency diesel generator incapable of starting for 2.5 hours. The licensee entered this issue into their Corrective Action Program as Problem Event Report (PER) 129463.

This finding was more than minor because it affected the mitigating systems cornerstone objective of availability by rendering the emergency diesel generator incapable of starting and was associated with the equipment performance attribute. This finding was of very low safety significance because redundant equipment was available to provide the safety function. The finding had a cross-cutting aspect in the area of Human Performance because the cause of the finding was related to the Work Practices aspect of communicating expectations regarding procedural compliance (H.4(b)). (Section 1R12)

Inspection Report# : [2007004](#) (pdf)

Significance: **G** Sep 10, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

Failure To Use Appropriate Assumptions in Design Calculations

The team identified a violation of 10 CFR 50, Appendix B, Criterion III, Design Control, associated with TVA's use of non-conservative design input values in design calculations. TVA's failure to use appropriate inputs in design calculations resulted in a significant increase in the calculated maximum room temperatures for the Emergency Core Cooling System (ECCS) pump rooms as well as the Turbine Driven Auxiliary Feedwater (TDAFW) pump room. This increase in the calculated maximum room temperatures had the potential for affecting the operability of safety related components in the ECCS and TDAFW pump rooms.

This finding is more than minor because if left uncorrected the use of incorrect design input values could become a more serious safety concern as many other safety-related design calculations rely upon these design outputs. In accordance with NRC Inspection Manual Chapter 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," the team conducted a Phase 1 significance determination process screening and determined the finding was of very low safety significance (Green). This finding was entered into Sequoyah's Corrective Action Program under Problem Evaluation Report 127414.

Inspection Report# : [2007006](#) (pdf)

Significance: **G** Sep 10, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

No Procedure for Inspection/Replacement of DG Local Electrical Panel Filters

The team identified a violation of Technical Specification 6.8.1 associated with Tennessee Valley Authority's (TVA) failure to develop a procedure that would provide periodic inspection and replacement of the emergency diesel generator room electrical panel ventilation air filters. This failure resulted in a fourteen year period between 1993 and present, for which the filters were not inspected and replaced for all four diesel generator rooms.

The finding is greater than minor because it is associated with the Mitigating Systems cornerstone attribute procedure quality and affects the cornerstones objective of ensuring the availability, reliability, and operability of the emergency diesel generators to perform their safety function during an event, such as a loss of offsite power (LOSP). In accordance with NRC Inspection Manual Chapter 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," the team conducted a Phase 1 significance determination process screening and determined the finding was of very low safety significance (Green). This finding was entered into Sequoyah's Corrective Action Program (CAP) under Problem Evaluation Report (PER) 125944 and actions have been taken to replace the existing air filters and procedural changes have been made to ensure filter inspection and replacement will be performed on a periodic basis

Inspection Report# : [2007006](#) (pdf)

Barrier Integrity

Significance:  Dec 31, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Effectively Implement Foreign Material Control Requirements in the RCS

The inspectors identified a non-cited violation of 10 CFR 50, Appendix B, Criterion V, for failure to implement licensee Procedure SPP-6.5, Foreign Material Control. During a review of the core verification video following refueling and reactor vessel head installation, the inspectors identified debris within the Reactor Coolant System (RCS), not previously identified by the licensee. The licensee took immediate action to enter the problem into their corrective action program and evaluate whether the reactor coolant system could safely operate with the material left behind.

The finding was more than minor because the material could have been removed had it been properly identified and because an evaluation was required to justify leaving it after the reactor head was installed. The finding was of very low safety significance because it affected only the fuel barrier and not the RCS barrier.

The finding had no cross-cutting aspects.

Inspection Report# : [2007005](#) (*pdf*)

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

Physical Protection

Although the NRC is actively overseeing the Security cornerstone, the Commission has decided that certain findings pertaining to security cornerstone will not be publicly available to ensure that potentially useful information is not provided to a possible adversary. Therefore, the [cover letters](#) to security inspection reports may be viewed.

Miscellaneous

Significance: N/A Aug 10, 2007

Identified By: NRC

Item Type: FIN Finding

Problem Identification & Resolution

The team determined that the licensee was identifying plant deficiencies at an appropriately low level and effectively entering them into their corrective action program. The team also determined that the licensee was prioritizing and evaluating issues properly. The team identified several isolated examples where corrective actions did not appear appropriate, were not accurately documented, or were not completely carried out. Overall, the team found the effectiveness of corrective actions to be acceptable. The team observed that the quality of Problem Evaluation Report (PER) documentation has improved since the last NRC biennial PI&R inspection, but further improvements could be

made. There continue to be multiple extensions for corrective actions with resources identified as the most significant contributing cause. The team concluded, however, that the licensee was generally providing an effective corrective action program.

The inspection team identified that the last NRC Sequoyah PI&R inspection report 50-327,328/2005009, issued 09/09/05 identified lingering technical problems with the Electronic Corrective Action Program (eCAP) electronic document management program. A review of the technical interface between personnel and the eCAP program identified that personnel were comfortable with the software and it's functionality in creating and processing PERs.

On the basis of interviews conducted during this inspection, the inspectors determined that workers at the site felt free to put safety concerns into the corrective action program. The inspectors concluded that the Employee Concerns Resolution program was functioning acceptably but the inspectors observed that there was a work backlog.

Inspection Report# : [2007008](#) (*pdf*)

Last modified : August 29, 2008