

# Sequoyah 2

## 3Q/2011 Plant Inspection Findings

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### Initiating Events

**Significance:**  Dec 31, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Failure to collect reactor coolant pump oil leakage**

•Green. The inspectors identified a Green non-cited violation of 10 CFR 50 Appendix R, Section III.O, “Oil collection system for reactor coolant pump,” for the licensee’s failure to ensure the capability of the reactor coolant pump (RCP) oil collection system to collect and drain all RCP oil leakage. System configuration and procedural deficiencies resulted in the inability of the oil collection system to collect and drain all RCP oil leakage. Approximately 2-3 gallons of oil leakage were identified on the containment floor following Unit 1 shutdown for a refueling outage. The licensee entered this issue into their corrective action program as PERs 270216, 278689, and 284244. Corrective actions included revision to applicable plant procedures to prevent the condition from occurring, as well as plans to evaluate a design change to modify the system configuration.

The finding was determined to be greater than minor because it was associated with the protection against external factors attribute of the initiating events cornerstone, and affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety function during shutdown as well as power operations. Specifically, the likelihood of a fire in the containment building was elevated due to the failure to maintain combustible material (RCP oil) within the boundaries of the oil collection system. Using IMC 0609 Appendix F, “Fire Protection Significance Determination Process,” the inspectors assumed that the condition represented a low degradation of the fire protection program element of fire prevention through control of combustible materials. Therefore, the finding was determined to be of very low safety significance (Green). No cross-cutting aspect was identified. The issue was not reflective of current licensee performance, since both the bowl drain line configuration (last modified in 1993) and the seal standpipe filling procedure (in place since at least 2000) had been in place for a number of years. (Section 1R05)

Inspection Report# : [2010005](#) (*pdf*)

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### Mitigating Systems

**Significance:**  Jun 30, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Failure to perform instrumentation surveillance testing within required frequency**

The inspectors identified a non-cited violation of Units 1 and 2 TS Surveillance Requirement (SR) 4.0.2 for the licensee’s failure to perform SRs specified in Units 1 and 2 TS 3/4.3.1, “Reactor Trip System Instrumentation,” and 3/4.3.2, “Engineered Safety Feature Actuation System (ESFAS) Instrumentation,” within the required surveillance frequencies. The inspectors identified eight examples over the last three years (five examples on Unit 1 and three examples on Unit 2) where the interval between tests of the automatic actuation logic and reactor trip breaker functions required by SRs 4.3.1.1.1 and 4.3.2.1.1 exceeded the maximum surveillance interval allowed by TS. The licensee entered this issue into their corrective action program as PER 369938. Corrective actions included ensuring that work control processes correctly implement the required surveillance intervals.

The finding was determined to be greater than minor because it was associated with the equipment performance attribute of the mitigating systems cornerstone and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences.

Specifically, extending beyond the required maximum interval between TS surveillance tests affects the ability to confirm continued availability of TS equipment, and the ability to detect potential latent operability concerns in a timely manner. Using Inspection IMC 0609, "Significance Determination Process," Attachment 4, "Phase 1 - Initial Screening and Characterization of Findings," the finding was determined to be of very low safety significance (Green) since it did not represent an actual loss of safety function of a single train for greater than the associated TS allowed outage time. The inspectors did not identify that the cause of this finding was related to any of the cross-cutting aspects defined in IMC 0310, and therefore no cross-cutting aspect was assigned to this finding. (Section 1R22)  
Inspection Report# : [2011003](#) (*pdf*)

**Significance:**  Jun 13, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to Establish Compensatory Actions for Blocked Sprinklers**

The inspectors identified a non-cited violation of Sequoyah Operating License Conditions 2.C.(16) and 2.C.(13) for Units 1 and 2, respectively, for failure to establish compensatory measures for an obstructed sprinkler system. Specifically, scaffolding installed in auxiliary building fire area FAA-054/Room A01 was in a configuration which obstructed sprinkler heads A198 and A208. The licensee entered this issue into the corrective action program as Problem Evaluation Report 321911 and implemented compensatory measures (fire watches) in accordance with the approved fire protection program.

Inspection Report# : [2011006](#) (*pdf*)

**Significance:**  Jun 13, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

**Sprinkler System in Room 690.0-A1 of the Auxiliary Building has NFPA Code Deviation**

The inspectors identified a non-cited violation of Operating License Conditions 2.C.(16) and 2.C.(13), for Units 1 and 2 respectively, for failure to install the automatic suppression system (sprinkler system) in the auxiliary building corridor 690 foot elevation, in accordance with applicable National Fire Protection Association (NFPA) Standard No. 13, "Automatic Sprinkler Systems." Specifically, NFPA 13-1975 required sprinklers to be installed within 12-inches of the ceiling. Portions of the auxiliary building sprinkler system were installed greater than 12-inches below the ceiling. As a result, the actuation of the fusible link type sprinklers would have been slower than originally intended after fire ignition. The licensee entered this issue into the corrective action program as Problem Evaluation Report 147467 and implemented compensatory measures (fire watches) in accordance with the approved fire protection program. The inspectors determined that there was no cross-cutting aspect associated with this finding because the condition has existed since initial plant licensing and was not reflective of present performance.

Inspection Report# : [2011006](#) (*pdf*)

**Significance:**  Mar 31, 2011

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

**Failure to adequately qualify molded-case circuit breakers to safety-related application through commercial grade dedication.**

The inspectors identified a non-cited violation of 10 CFR 50, Appendix B, Criterion III, Design Control, for the licensee's failure to assure that appropriate quality standards were specified and included in design documents and that deviations from such standards were controlled. Specifically, the licensee failed to ensure that the molded case circuit breakers utilized in the station 120VAC vital instrument power boards were properly seismically qualified for their application. The licensee entered this issue into their corrective action program as PERs 264271, 266599, 286156, and 319161. Corrective actions included revision of applicable procedures to perform re-alignment of breakers in the vital instrument power boards.

The finding was determined to be greater than minor because it was associated with the design control attribute of the mitigating systems cornerstone and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the failure to ensure that the 120VAC vital instrumentation board components had proper seismic qualification had the potential to

affect the ability of safety-related equipment to perform its required function under design basis conditions. Using Inspection IMC 0609, “Significance Determination Process,” Attachment 4, “Phase 1 - Initial Screening and Characterization of Findings,” the finding was determined to have very low safety significance (Green) because it did not represent an actual loss of safety function. No cross-cutting aspect was identified, since the issue was determined to not reflect current licensee performance. (Section 1R15.1)

Inspection Report# : [2011002](#) (pdf)

**Significance:** G Dec 31, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to implement Technical Specification requirements to vent ECCS piping**

•Green. The inspectors identified a Green non-cited violation of Technical Specification 6.8.1(c), “Procedures and Programs,” for the failure to establish surveillance test procedures to verify that ECCS piping systems were full of water by venting accessible piping high points on the suction side of the ECCS pumps as required by Surveillance Requirement (SR) 4.5.2.b.1. The licensee has entered this issue into their corrective action program as service request 291511.

The finding was determined to be greater than minor because it adversely affected the equipment performance attribute of the mitigating systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the failure to perform surveillance tests on the ECCS system reduced the assurance that the system could respond to initiating events to prevent undesirable consequences. Using IMC 0609, “Significance Determination Process,” Attachment 4, “Phase 1 - Initial Screening and Characterization of Findings,” the finding was determined to be of very low safety significance (Green) since it was not a design or qualification deficiency, it did not represent the loss of a system safety function or the loss of any equipment trains, and is not potentially risk significant due to seismic, flooding or severe weather initiating events. Because site interdepartmental communication, coordination, and cooperation were not sufficient to identify the impact of changes to ECCS surveillance requirements on existing surveillance test procedures, the cross cutting aspect in the work control component of the human performance area applies to this finding [H.3(b)]. (Section 4OA5.4)

Inspection Report# : [2010005](#) (pdf)

**Significance:** G Dec 31, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to use worst case 6900 VAC bus voltage in design calculations**

•Green. The inspectors identified a Green non-cited violation of 10 CFR 50, Appendix B, Criterion III, Design Control, for the licensee’s failure to assure that applicable regulatory requirements and the design basis for structures, systems, and components are correctly translated into specifications, drawings, procedures, and instructions. Specifically, the licensee failed to assure that applicable regulatory requirements for undervoltage (degraded) voltage protection, including those prescribed in TS section 3.3.14, table 3.3.14-2, were correctly translated into design calculation, SQNETAPAC, “AC Auxiliary Power System Analysis”, Rev. 36, which evaluated transient motor starting voltages at the beginning of a design basis loss of coolant accident (LOCA). The licensee has entered this into their corrective action program as PER 297671

This finding is more than minor because it affects the Design Control attribute of the Mitigating Systems Cornerstone. It impacts the cornerstone objective of ensuring the availability, reliability, and operability of the 6900 VAC safety buses to perform its intended safety function during a design basis event. The potential availability, reliability, and operability of the 6900 VAC safety buses during a potential degraded voltage condition was impacted as the licensee calculation used a non conservative degraded voltage input, with respect to the values specified in TS, into their safety-related motor starting and running calculations. The inspectors assessed the finding using the SDP and determined that the finding was of very low safety significance (Green) because the finding represented a design deficiency confirmed not to result in the loss of functionality of safety-related loads due to the availability of load tap changers (LTCs) that are installed to improve a degraded voltage condition. (Section 4OA5.5)

Inspection Report# : [2010005](#) (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

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.

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## Miscellaneous

**Significance:** SL-IV Sep 30, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

### **Failure to report system actuation**

The inspectors identified a non-cited violation of 10 CFR 50.73, "Licensee Event Report System," for the licensee's failure to report an invalid system actuation. On May 5, 2011, a containment ventilation isolation (CVI) signal was inadvertently generated on Unit 2 while performing surveillance testing. This system actuation was not reported to the NRC as required by 10 CFR 50.73(a)(2)(iv) within 60 days of discovery of the event. This issue was entered into the licensee's corrective action program as PER 417453, and was reported to the NRC as EN #47249 on September 8, 2011.

This violation was determined to be applicable to traditional enforcement because of its potential to impact the ability of the NRC to perform its regulatory oversight function, and was therefore evaluated in accordance with the NRC Enforcement Policy. This issue was determined to be a Severity Level IV violation in accordance with Section 6.9.d.9 of the NRC Enforcement Policy. No cross-cutting aspect was assigned since traditional enforcement violations for which there are no associated ROP findings are not screened for cross-cutting aspects. (Section 1R15)

Inspection Report# : [2011004](#) (*pdf*)

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