Surry 2
4Q/2014 Plant Inspection Findings

Initiating Events

Significance: G Dec 31, 2014
Identified By: NRC
Item Type: NCV NonCited Violation
Unit 2 Trip Due to Loose RPS Wire Connection
An NRC-identified, non-cited violation (NCV) of Surry Technical Specification (TS) 6.4, Unit Operating Procedures and Programs, Section A.7 was identified because Surry procedure 0-ECM-1801-01, "Westinghouse Type BF – BFD – or NBFD65NR Relay Replacement" did not include a torque value for the reactor protection system (RPS) relay terminal screws to a field wiring connection. Subsequently, Unit 2 tripped on October 13, 2014, when a field wire connection became loose from the terminal end of a RPS trip relay and caused a reactor trip breaker to open. The issue was documented in Surry's corrective action program (CAP) as condition report (CR) 561820.

The licensee's failure to specify a torque value in procedure 0-ECM-1801-01 was a performance deficiency (PD) that was within the licensee's ability to foresee and correct. Specifically, the licensee removed the correct torque value from the procedure based on a licensee procedure action request (PAR) that was incorrectly implemented. The inspectors determined that the PD was more than minor because it was associated with the procedural quality attribute of the Initiating Events Cornerstone and adversely affected the cornerstone objective to limit the likelihood of events that upset stability and challenge critical safety functions during shutdown as well as power operations. Specifically, the procedure that controlled the connection of electrical termination to RPS relays did not specify a torque value and therefore, left it up to the technician to determine the "tightness" of the connection. Using Manual Chapter 0609.04, "Initial Characterization of Findings," Table 2, dated June 19, 2012, the finding was determined to affect the Initiating Events Cornerstone. The inspectors screened the finding using Manual Chapter 0609, Appendix A, "Significance Determination Process (SDP) for Findings at-Power" dated June 19, 2012, and determined that it screened as Green because the deficiency did not cause a loss of mitigation equipment relied upon to transition the plant to a stable shutdown condition. This finding has a cross-cutting aspect in the documentation component of the human performance area, H.7, because the organization failed to maintain complete, accurate and up-to-date documentation for the replacement of RPS relays. (Section 4OA3)

Inspection Report# : 2014005 *(pdf)*

Significance: G Jun 30, 2014
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Inadequate Amount of Packing in Pressurizer Spray Valve
A self-revealing NCV of Surry Technical Specification (TS) 6.4.A.7 was identified because 2-RC-PCV-2455A, the Unit 2 "A" pressurizer (PZR) spray valve's packing gland was repacked with the incorrect number of packing rings in May, 2008. When the Unit 2 "A" PZR spray valve bellows failed in March 2014, the amount of packing in the valve was insufficient to prevent packing leakage. This leakage approached the technical specification (TS) allowable unidentified reactor coolant system (RCS) leak rate on March 19, 2014, and subsequently required an unplanned unit shutdown. The issue was documented in Surry's corrective action program (CAP) as CR 542547.

The failure of the licensee's packing control program to list the correct number of packing rings in the "packing control form" for the repack of 2-RC-PCV-2455A, the Unit 2 "A" PZR spray valve, was a performance deficiency that was within the licensee's ability to foresee and correct. Specifically, the licensee did not thoroughly evaluate decreasing the number of packing rings from five to four when packing control was shifted from the PZR safety valve overhaul procedure to the licensee's "Packing Control Program." As a consequence of the inadequate number of packing rings, the Unit 2 "A" PZR spray valve experienced a packing leak that approached the TS allowable unidentified RCS leak rate on March 19, 2014, which subsequently required an unplanned shutdown of Unit 2. The inspectors determined that the performance deficiency was more than minor because it was associated with the procedural quality attribute of the Initiating Events Cornerstone and adversely affected the cornerstone objective to limit the likelihood of events that upset stability and challenge critical safety functions during shutdown as well as power operations. Specifically, an incorrect number of packing rings listed on the packing control form eventually allowed packing leakage to approach the TS limit. Using Manual Chapter 0609.04, "Initial Characterization of Findings," Table 2, dated June 19, 2012; the finding was determined to affect the Initiating Events Cornerstone. The inspectors screened the finding using Manual Chapter 0609, Appendix A, "Significance Determination Process (SDP) for Findings at-Power" dated June 19, 2012, and determined that it screened as Green because the deficiency did not cause a loss of mitigation equipment relied upon to transition the plant to a stable shutdown condition. Because the PD occurred outside of the nominal three-year period for "present performance", no cross-cutting aspect has been assigned. (Section 1R12)

Inspection Report# : 2014003 *(pdf)*

Mitigating Systems

Significance: G Sep 26, 2014
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Perform Required Preventative Maintenance on Class 1E Molded Case Circuit Breakers
The team identified a Green non-cited violation of Technical Specification 6.4.A.7, "Unit Operating Procedures and Programs," for the licensee's failure to implement written procedures to perform periodic tests for the Class 1E 125 volt direct current thermal-magnetic molded case circuit breakers (MCCBs). The licensee entered the issue into their corrective action program as condition reports CR558445 and CR560488 and performed an immediate determination of operability, in which they determined that the MCCBs were operable but not fully qualified.

The licensee's failure to conduct periodic tests to detect the deterioration of the system and to demonstrate that components not exercised during normal operation of the station are operable, as required by IEEE 308-1970, Section 6.3, was a performance deficiency. The performance deficiency was determined to be more than minor because, if left uncorrected, it had the potential to lead to a more significant safety concern. Specifically, absent testing to detect deterioration and to demonstrate continued operability, the likelihood that these MCCBs will unpredictably fail when called upon increases with time in service. The team used Inspection Manual Chapter 0609, Att. 4, "Initial Characterization of Findings," issued June 19, 2012, for Mitigating Systems, and Inspection Manual Chapter 0612, App. A, "The Significance Determination Process (SDP) for Findings At-Power," issued June 19, 2012, and determined the finding to be of very low safety significance (Green) because the finding was a deficiency

affecting the design or qualification of a mitigating structure, system, or component, which maintained its operability or functionality. The team determined that no crosscutting aspect was applicable because the finding was not indicative of current licensee performance. (Section 1R21.2b.i)
Inspection Report# : 2014007 *(pdf)*

Significance: G Sep 26, 2014
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Evaluate the Range of Conditions that Effect Canal Level Probes
The team identified a Green non-cited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the licensee's failure to properly evaluate and quantify the system response times and accuracies over the range of conditions under which the service water canal level probes must operate. The licensee entered the issue into their corrective action program as condition report CR558429 and performed an immediate determination of operability, in which they determined the canal level probes to be operable but not fully qualified.

The licensee's failure to evaluate conditions that affected system response times and accuracy of the canal level probes, as required by IEEE 279-1968, Section 4.1, was a performance deficiency. The performance deficiency was determined to be more than minor because it was associated with the Protection Against External Factors attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, response time delays could allow the canal water level to fall below Technical Specification limits reducing the available heat removal required to mitigate Updated Final Safety Analysis Report chapter 14 design basis accidents. The team used Inspection Manual Chapter 0609, Att. 4, "Initial Characterization of Findings," issued June 19, 2012, for Mitigating Systems, and Inspection Manual Chapter 0612, App. A, "The Significance Determination Process (SDP) for Findings At-Power," issued June 19, 2012, and determined the finding to be of very low safety significance (Green) because the finding was a deficiency affecting the design or qualification of a mitigating structure, system, or component, which maintained its operability or functionality. The team determined that the finding was associated with the Design Margin cross-cutting aspect of the Human Performance area because recent modification designs for the canal probes were completed and approved without evaluating effects on the canal level probe response times and accuracies. [H.6] (Section 1R21.2b.ii).
Inspection Report# : 2014007 *(pdf)*

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

Security

Although the Security Cornerstone is included in the Reactor Oversight Process assessment program, the Commission has decided that specific information related to findings and performance indicators pertaining to the Security Cornerstone will not be publicly available to ensure that security information is not provided to a possible adversary. Other than the fact that a finding or performance indicator is Green or Greater-Than-Green, security related information will not be displayed on the public web page. Therefore, the cover letters to security inspection reports may be viewed.

Miscellaneous

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