

Surry 1

2Q/2015 Plant Inspection Findings

Initiating Events

Mitigating Systems

Significance:  May 29, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Ensure a Functional Alternate Shutdown System Alignment during Appendix R Fire Events

The inspectors identified a Green non-cited violation (NCV) of Surry's Operating License, Condition 3.I, Fire Protection, for the licensee's failure to ensure a functional alternate safe shutdown flow path during an Appendix R fire. The licensee entered this issue into their corrective action program as condition report (CR) 580928.

The licensee's failure to ensure a functional alternate shutdown system alignment during an Appendix R fire event was a performance deficiency. The performance deficiency was more than minor because it was associated with the procedure quality attribute of the Mitigating Systems Cornerstone. Specifically, Surry failed to implement appropriate corrective actions to mitigate the spurious closure and subsequent damage of more than one motor operated valve as identified in an engineering evaluation. The failure to re-open credited Appendix R MOV(s) would result in the loss of secondary heat removal and/or RCS make-up capability during Appendix R fire events. The finding was screened in accordance with NRC IMC 0609, Appendix F, "Fire Protection Significance Determination Process," and determined to be of low safety significance (Green). A Region II senior risk analyst performed a bounding phase 3 analysis that determined the finding represented an increase in core damage frequency of $< 1 \text{ E-6 /year}$. No cross cutting aspect was assigned because the performance deficiency did not occur within the last three years. (Section 1R05.05.01)
Inspection Report# : [2015008](#) (*pdf*)

Significance:  May 29, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Implement In-service Testing and Inservice Inspections for Charging Cross-tie Components.

The inspectors identified a Green NCV of 10 CFR 50.55(a) for the licensee's failure to implement in-service testing (IST) and in-service inspections (ISI) for charging cross-tie components. The licensee entered this issue into their corrective action program as CRs 581385 and 581386.

The licensee failed to scope the charging cross-tie manual isolation valves and

pipng into the ISI and IST programs. This was a performance deficiency that resulted in the subsequent failure to perform ISI and IST activities required by the ASME OM Code-2004 and 10 CFR 50.55a(f) and (g). The performance deficiency was more than minor because it was associated with the equipment performance attribute of the Mitigating Systems Cornerstone. Specifically, the site's failure to perform required inspections and testing for charging cross-tie components, since 1989, resulted in a lack of reasonable assurance that the charging cross-tie function could perform its required function. The finding was screened in accordance with NRC IMC 0609, Appendix F, "Fire Protection Significance Determination Process," and determined to be of low safety significance (Green) because it did not affect the ability to reach and maintain a stable plant condition within the first 24 hours of a fire event. No cross cutting aspect was assigned because the performance deficiency did not occur within the last three years. (Section 1R05.05.02)

Inspection Report# : [2015008](#) (pdf)

Significance:  May 29, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

Multiple Design Deficiencies in the Fire Protection Program

The inspectors identified a Green NCV of Surry's Operating License, Condition 3.I, Fire Protection, for design control deficiencies in the fire protection program. The licensee entered this issue into their corrective action program as condition report CRs 581390.

The licensee's failure to adequately implement the design control requirements in the fire protection program as required by Topical Report, DOM-QA-1, "Dominion Nuclear Facility Quality Assurance Program Description," Section 3.2, "Design Control Program" was a performance deficiency. The finding was more than minor because it was associated with the design control attribute and affected the Mitigating Systems cornerstone. Specifically, design control deficiencies resulted in a lack of assurance that the design control requirements were being adequately implemented within the fire protection program. The finding was screened in accordance with NRC IMC 0609, Appendix F, "Fire Protection Significance Determination Process," and determined to be of low safety significance (Green) because it finding did not affect the ability to reach and maintain a stable plant condition within the first 24 hours of a fire event. No cross cutting aspect was assigned because the performance deficiency did not occur within the last three years. (Section 1R05.11.02)

Inspection Report# : [2015008](#) (pdf)

Significance:  Sep 26, 2014

Identified By: NRC

Item Type: NCV Non-Cited 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:  Sep 26, 2014

Identified By: NRC

Item Type: NCV Non-Cited 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

Significance: N/A May 29, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Perform Required 50.59 Evaluations and Failure to Update the UFSAR for Plant Changes Associated with RCP Seal Cooling During Fire Events

Green: The inspectors identified a Green NCV of 10 CFR 50.59 and 10 CFR 50.71(e) for the licensee's failure to perform 50.59 evaluations; and failure to update the UFSAR for plant changes associated with reactor coolant pump (RCP) seal cooling during fire events. The licensee entered this issue into their corrective action program as condition report CRs 5813388.

The licensee's revision of fire safe shut down procedures; and the installation of a

different reactor coolant pump seal package without completing the required 50.59 evaluations was a performance deficiency. Additionally, the licensee's failure to update the UFSAR as required by 10 CFR 50.71(e) was a performance deficiency. The UFSAR did not adequately describe the charging cross-tie function; and did not adequately describe the fire protection program's procedural isolation of the RCP seals for the entire duration of an Appendix R event. In accordance with the Reactor Oversight Process, the performance deficiencies were more than minor because they were associated with the design control attribute of the Mitigating Systems Cornerstone. The performance deficiencies were also assessed using traditional enforcement because the NRC's ability to perform its regulatory function such as, license amendment reviews and inspections was affected. The finding was screened in accordance with NRC IMC 0609, Appendix F, "Fire Protection Significance Determination Process," and determined to be of low safety significance (Green) because it did not affect the ability to reach and maintain a stable plant condition within the first 24 hours of a fire event. No cross cutting aspect was assigned because these performance deficiencies did not occur within the last three years. (Section 1R05.11.01)

Inspection Report# : [2015008](#) (*pdf*)

Last modified : August 07, 2015