

## Surry 1 2Q/2014 Plant Inspection Findings

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### Initiating Events

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### Mitigating Systems

**Significance:**  Mar 31, 2014

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Recirculation Spray Heat Exchanger Inlet Isolation Valve MOV Thermal Overload Not Properly Reset (Section 1R15)**

A self-revealing NCV of Surry Technical Specification (TS) 6.4.A.7 was identified because 1-SW-MOV-103D, the “B” and “C” recirculation spray heat exchanger (RSHX) inlet isolation valve, motor thermal overload was improperly reset after planned maintenance and became disengaged on November 29, 2013, rendering one service water (SW) flow path of the “B” and “C” recirculation spray (RS) subsystem inoperable. The issue was documented in Surry’s corrective action program (CAP) as CR 533932.

The licensee’s failure to include acceptance criteria for determining if a thermal overload was properly reset was a performance deficiency (PD) that was within the licensee’s ability to foresee and correct. Specifically, an inadequate procedure did not have electricians verify that the trip indication flag in the thermal overload had fully cleared the viewing window or provide some other criteria for acceptance. The inspectors determined that the PD was more than minor because it was associated with the procedural quality attribute of the Mitigating Systems Cornerstone, and it adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the motor thermal overload was improperly reset after planned maintenance which resulted in rendering one SW flow path of the “B” and “C” RS subsystem inoperable thereby affecting the availability of the RS subsystem. Using Manual Chapter 0609.04, “Initial Characterization of Findings,” Table 2, dated June 19, 2012, the finding was determined to affect the Mitigating Systems 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 affect the design or qualification of the RS system and it did not represent a loss of system safety function. This finding has a cross-cutting aspect in the Documentation aspect of the human performance area, H.7, because the licensee did not create and maintain a complete and accurate procedure to ensure that MCC thermal overloads were properly reset.

Inspection Report# : [2014002](#) (*pdf*)

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### Barrier Integrity

**Significance:**  Dec 31, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

### **Failure to Missile Protect Beyond Design Bases FLEX Modification to LHSI Piping**

An NRC-identified Green NCV of 10 CFR 50, Appendix B, Criterion III, "Design Control," was identified for the licensee's failure to adequately protect safety-related low head safety injection system (LHSI) piping from a tornado missile. Specifically, the licensee installed a mechanical piping connection to the Unit 1 LHSI system as part of a design change (DC) and did not provide tornado missile protection for the portions of piping that were installed above the 28.6 feet elevation in the safeguards valve pit and connected directly to the LHSI piping. The issue was documented in the licensee's corrective action program (CAP) as condition report (CR) 533401.

The licensee's failure to protect the Unit 1 LHSI system piping against external missile hazards when the piping was modified by the diverse and flexible coping strategies (FLEX) mechanical piping connection as part of DC SU-12-00022 was a performance deficiency (PD) that was within the licensee's ability to foresee and correct.

The inspectors determined that the performance deficiency (PD) was more than minor because it was associated with the design control attribute of the Barrier Integrity Cornerstone and adversely affected the cornerstone objective to provide reasonable assurance that physical design barriers (fuel cladding, reactor coolant system, and containment) protect the public from radionuclide releases caused by accidents or events. Specifically, the welded piping connection installed by DC SU-12-00022 located between containment and containment isolation valve 1-SI-MOV-1890A, "A" LHSI hot leg discharge isolation valve, was susceptible to failure from the impact of a tornado generated missile. Using Manual Chapter 0609.04, Initial Characterization of Findings, Table 2, dated June 19, 2012, the finding was determined to affect the reactor containment barrier and the Barrier Integrity Cornerstone. The inspectors screened the finding using Manual Chapter 0609 Appendix A, "Significance Determination Process (SDP) for Findings at-Power", and determined the finding was of very low safety significance (Green) because the finding did not represent an actual open pathway in the physical integrity of reactor containment. This finding has a cross-cutting aspect in the work control component of the human performance area, H.3(b); because the licensee failed to address both the impact of changes in the work scope on the plant and to use adequate interdepartmental coordination during the design process. (Section 1R18)

Inspection Report# : [2013005](#) (*pdf*)

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## **Emergency Preparedness**

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## **Occupational Radiation Safety**

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## **Public Radiation Safety**

**Significance:**  Dec 31, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

### **Failure to Maintain Control of Licensed Radioactive Material that was not in Storage**

A self-revealing non-cited violation of 10 CFR 20.1802, "Control of Material not in Storage", was identified for the licensee's failure to maintain control and constant surveillance of licensed radioactive material in a controlled or unrestricted area (Health Physics (HP) technical services area of the administration building) that was not in storage. The material that was initially unaccounted for was an Americium-241 check source with an activity of 0.02 micro-Curies, used to perform routine function checks on iSolo alpha/beta counter. The issued was documented in the

licensee's corrective action program (CAP) as condition report (CR) 523692.

The licensee's failure to control and maintain constant surveillance of licensed material that is in a controlled or unrestricted area and that is not in storage was a performance deficiency (PD). The PD was more than minor because it was associated with the Program and Process attribute of the Public Radiation Safety Cornerstone and affected the cornerstone objective of ensuring adequate protection of public health and safety from exposure to radioactive materials released into the public domain. Using Manual Chapter 0609, Appendix D, "Public Radiation Safety SDP," this finding determined to be was of very low safety significance (Green) in that the public radiation exposure was not greater than 0.005 rem (5 millirem). The inspectors determined that cross-cutting issue H.4(b), "The licensee defines and effectively communicates expectations regarding procedural compliance and personnel follow procedures," was applicable for this violation because the radiation protection (RP) technician had failed to follow procedure HP-1033.148, "Canberra iSolo: Performance Checks", step 6.4.3 which states: "Ensure check source is removed from Canberra iSolo and returned to designated storage location". (Section 2RS8  
Inspection Report# : [2013005](#) (*pdf*)

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## 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.

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## Miscellaneous

**Significance:** N/A Jul 26, 2013

Identified By: NRC

Item Type: FIN Finding

### Identification and Resolution of Problems

The inspection team concluded that, in general, problems were adequately identified, prioritized, and evaluated; and effective corrective actions were implemented. Site management was actively involved in the corrective action program (CAP) and focused appropriate attention on significant plant issues. The team found that employees were encouraged by management to initiate condition reports (CRs) as appropriate to address plant issues.

The licensee was effective at identifying problems and entering them into the CAP for resolution, as evidenced by the relatively few deficiencies identified by the NRC that had not been previously identified by the licensee during the review period. The threshold for initiating CRs was appropriately low, as evidenced by the type of problems identified and large number of CRs entered annually into the CAP. In addition, CRs normally provided complete and accurate characterization of the problem.

Generally, prioritization and evaluation of issues were adequate and consistent with the licensee's CAP guidance. Formal root cause evaluations for significant problems were adequate, and corrective actions specified for problems did address the cause of the problems. The age and extensions for completing evaluations were closely monitored by plant management, both for high priority condition reports, as well as for adverse conditions of less significant priority. Also, the technical adequacy and depth of evaluations (e.g., root cause investigations) were typically adequate.

Corrective actions were generally effective, timely, and commensurate with the safety significance of the issues. The operating experience program was effective in screening operating experience for applicability to the plant, entering items determined to be applicable into the CAP, and taking adequate corrective actions to address the issues. External and internal operating experience was adequately utilized and considered as part of formal root cause evaluations for supporting the development of lessons learned and corrective actions for CAP issues. The licensee's audits and self-assessments were critical and effective in identifying issues and entering them into the corrective action program. These audits and assessments identified issues similar to those identified by the NRC with respect to the effectiveness of the CAP.

Based on general discussions with licensee employees during the inspection, targeted interviews with plant personnel, and reviews of selected employee concerns records, the inspectors determined that personnel at the site felt free to raise safety concerns to management and use the CAP as well as the employee concerns program to resolve those concerns.

Inspection Report# : [2013007](#) (*pdf*)

Last modified : August 29, 2014