

Surry 1

4Q/2008 Plant Inspection Findings

Initiating Events

Significance:  Dec 31, 2008

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Inadequate Work Instructions Result in Actuation of Unit 1 Safety Injection Train B.

A Green self-revealing non-cited violation (NCV) of Technical Specification 6.4.A.7 was identified for failure to provide adequate work instructions for corrective maintenance on the safety injection (SI) system. The inadequate work instructions led to an inadvertent actuation of the Unit 1 B train of safety injection on October 29, 2008. Control room operators terminated the invalid actuation within two minutes. The licensee entered the deficiency into the corrective action program for resolution (CR 116664). The proposed corrective actions to establish a response procedure for an inadvertent SI actuation and to provide guidance/restrictions in the work planning process to assure appropriate reviews are obtained, commensurate with the safety significance of the work, appear appropriate.

The finding is greater than minor because it had an actual impact by causing a SI and if left uncorrected could lead to a more significant safety issue. The finding is associated with the human performance attribute of the Reactor Safety Initiating Events cornerstone and adversely affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. The finding was determined to be of very low safety significance (Green) based on a Phase 3 SDP analyses performed by a regional Senior Reactor Analyst. The analysis was accomplished by increasing the initiating event frequency for a stuck open power operated relief valve (PORV) by one order of magnitude and solving the applicable accident sequences, two of which were Green.

This finding had a cross-cutting aspect in the area of human performance, decision making, because the decision to continue with the planned work was made without a complete understanding of either the effects of the job steps or the worst case possible unintended consequences (H.1(b)). (Section 40A3)

Inspection Report# : [2008005](#) (*pdf*)

Significance:  Dec 31, 2008

Identified By: Self-Revealing

Item Type: FIN Finding

Inadequate Review of Vendor Information Led to Unit 1 Manual Reactor Trip.

A Green self-revealing Finding was identified for failure to perform an adequate review of the vendor's recommended balance moves for the Unit 1 main turbine. As a result, an improper balance move was made to the Unit 1 main turbine during the April forced outage which caused high turbine vibrations that required the insertion of a manual turbine and reactor trip during the startup on April 20, 2008. A violation of regulatory requirements was not identified. The licensee entered the deficiency with the work instructions into the corrective action program for resolution (CR 096233). The corrective actions to correct the balance move, implement peer review requirements, and procedural changes that require specifying the detailed location and weight for balance moves with an independent verification appear adequate.

The finding is greater than minor because it had an actual impact, it led to a plant trip, and is associated with the human performance attribute of the Reactor Safety Initiating Events cornerstone and adversely affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety

functions during shutdown as well as power operations. The finding, evaluated per Attachment 4 of the SDP, screened to very low safety significance (Green) because it did not contribute to both an initiating event and the likelihood of a loss of mitigating equipment or functions.

The cause of the finding is related to the cross-cutting element of human performance work practices. Human error prevention techniques such as peer checks were not invoked by the licensee (H.4(a)). (Section 40A3)

Inspection Report# : [2008005](#) (*pdf*)

Mitigating Systems

Significance:  Sep 30, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Design Control for the EDG Ambient Air Temperature Limit.

The inspectors identified a Green non-cited violation (NCV) of 10 CFR 50 Appendix B, Criterion III, "Design Control," for a change in the EDG ambient air temperature operating limits, from 100°F to 120°F, that was made without an adequate design analysis. The licensee entered the issue into their corrective action program (CAP) for resolution using condition report (CR) 102488.

The inspectors concluded that the licensee's failure to perform the necessary analysis to support the increase of the EDG ambient air temperature operating limit from 100°F to 120°F was a performance deficiency. The finding, more than minor in accordance with MC 0612, Appendix E, examples 3j and k, is associated with the design control attribute of the Mitigating System Cornerstone. The cornerstone objective of ensuring the availability and reliability of systems that respond to initiating events to prevent undesirable consequences was adversely affected. Using Inspection Manual Chapter 0609, "Significance Determination Process," Attachment 4 the inspectors concluded that the finding is of very low safety significance (Green) because the condition did not represent an actual loss of safety function due to the ambient temperature exceeding 100°F but not exceeding 105°F. The finding also was not potentially risk significant due to a seismic, flooding, or severe weather initiating event. A cross-cutting aspect was not assigned to the issue because it is not indicative of recent

Inspection Report# : [2008004](#) (*pdf*)

Significance:  Mar 30, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Follow Start-up Procedure which Resulted in Leaving Loose Fibrous Insulation in Containment

An NRC-identified, non-cited violation (NCV) of very low safety significance was identified for the failure to follow start-up procedure 1-GOP-1.7, revision 2, "Unit Startup, RCS Heat Up from Ambient to HSD", which resulted in leaving loose fibrous insulation in containment (Unit 1).

This finding is greater than minor because it is 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. Using the IMC 0609, "Significance Determination Process," Phase 1 Worksheets, the finding is determined to have very low safety significance (Green) since it only affected the mitigating systems cornerstone and did not represent a loss of system safety function. The cause of this finding had cross-cutting aspects associated with work practices of the Human Performance area in that the licensee did not provide the appropriate oversight of contractors conducting the containment walk downs (H.4.c). The finding was entered into the corrective action program as Condition Report 02564. Corrective actions to remove the fibrous material from containment prior to startup and to establish the extent of condition and potential impact on Unit-2 were adequate.

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

G

Significance: Feb 29, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Evaluate and Use Limiting Case 4160 VAC Bus Frequency and Voltage in Design Calculations

The inspectors identified two examples of a Green non-cited violation of 10 CFR 50, Appendix B, Criterion III, Design Control, for failure to evaluate variations of emergency diesel generator (EDG) output frequency in electrical design loading calculations, and failure to consider worst case 4160 VAC bus voltage in safety related motor starting calculations. This finding was entered into the licensee's corrective action program as condition reports (CR) 091493 and 091494. Planned corrective actions included revision of the EDG loading calculations to incorporate the most limiting voltages and frequencies.

This finding is more than minor because it affects the Mitigating Systems Cornerstone objective ensuring the availability, reliability, and operability of the EDGs to perform the intended safety function during a design basis event and the cornerstone attribute of Design Control, i.e. initial design. The inspectors assessed the finding using the SDP and determined that the finding was of very low safety significance (Green) because the deficiencies did not result in any EDG being inoperable based upon additional analysis that showed that the EDGs had sufficient margin to accommodate the increased loading due to worst case acceptably high EDG output frequency; and all safety related motor loads remained operable since they were still capable of starting with the revised worst case low voltage values.

Inspection Report# : [2008006](#) (pdf)

G

Significance: Feb 29, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Use Appropriate Acceptance Criteria for Testing Battery Voltage at the One Minute Mark

The inspectors identified a Green NCV of 10 CFR 50, Appendix B, Criterion XI, Test Control, for incorrect acceptance criteria in test procedure 1-EPT-0106-01, Main Station Battery 1A Service Test. This finding was entered into the licensee's corrective action program as condition report 091906. Planned corrective actions included revision of the main station battery test procedures to include the correct voltage at the one minute mark.

This finding is more than minor because it affects the Mitigating Systems Cornerstone objective ensuring the availability, reliability, and operability of the station batteries to perform the intended safety function during a design basis event and the cornerstone attribute of Procedure Quality, i.e. maintenance and testing procedures. The inspectors assessed the finding using the SDP and determined that the finding was of very low safety significance (Green) because the deficiency did not result in station batteries being inoperable based upon a recent review of station battery discharge test results.

The inspectors determined that the lack of a thorough evaluation of condition report 022112, which addressed deficiencies in station battery test procedures such that resolutions addressed causes, was a significant cause of this performance deficiency. Failure to thoroughly evaluate problems such that resolutions address causes is directly related to the Corrective Action Program component of the cross-cutting area of Problem Identification and Resolution and the aspect of thorough evaluation of problems (P.1(c)).

Inspection Report# : [2008006](#) (pdf)

Barrier Integrity

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

Last modified : April 07, 2009