

Surry 1

2Q/2009 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:  Jun 30, 2009

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Inadequate Work Instructions for Installation of a Design Change

A self-revealing Green non-cited violation of TS 6.4 "Unit Operating Procedures and Programs" was identified for the failure to provide adequate work instructions for installation of design change SU-08-0001, for engine-driven emergency service water pump 1-SW-P-1A. Corrective action to remove the modification from the A pump was completed and reasonable compensatory measures established for all 3 pumps pending removal/alteration of the exhaust piping modification. The licensee entered this issue into the CA program as CR 3337337

The finding associated with the Procedure Quality attribute of the Mitigating Systems Cornerstone, is more than minor because it adversely affected the cornerstone objective to ensure the availability, reliability, and operability of 1-SW-P-1A to perform its safety function during a design basis event. Evaluated using a Phase II SDP risk analysis per Appendix A of MC-0609, the finding was determined to be of very low safety significance (Green) due to availability of the two remaining ESWPs which provided full mitigation capability for the safety functions required.

A cross cutting aspect in the area of human performance work control was assigned to the finding (H.3.a)

Inspection Report# : [2009003](#) (pdf)

Significance:  Jun 26, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Establish Maintenance for Backup Battery for the Halon 1301 System in ESGRs

The team identified a performance deficiency and Green NCV for failing to implement a maintenance program for the backup batteries for the Halon 1301 system for the emergency switchgear rooms to ensure on a continuing basis that 24-hour backup power was available as required by the fire protection program (FPP) and Units 1 & 2 Operating License Condition 3.I, "Fire Protection." The licensee entered this finding into their corrective action program, and demonstrated that the backup battery had sufficient capacity in the short term until the long term corrective actions can be implemented.

The licensee's failure to implement a maintenance program to help ensure that the backup battery for the Halon 1301 system continued to meet its licensing basis requirement of providing backup power for 24 hours is a performance deficiency. The finding is more than minor because the backup battery actually degraded on several occasions in the past, and the finding is associated with the reactor safety, mitigating systems, cornerstone attribute of protection against external factors, and affected the objective of ensuring reliability and capability of systems that respond to initiating events. The finding was determined to be of very low safety significance because it represented a low degradation of the fixed fire suppression systems. A cross-cutting aspect was not identified in relation to this finding since the cause was not representative of current license performance.

Inspection Report# : [2009007](#) (pdf)

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)

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

