

Robinson 2

1Q/2010 Plant Inspection Findings

Initiating Events

Significance:  Jun 30, 2009

Identified By: Self-Revealing

Item Type: FIN Finding

Failure to address environmental conditions associated with freeze-protection temperature sensors

A green self-revealing finding was identified for the licensee's failure to identify the environmental conditions that temperature sensors in certain freeze-protection circuits could experience after routine installation of cold-weather enclosures during cold-weather operation. Although a violation of regulatory requirements was not identified, this failure was a performance deficiency with respect to the licensee's procedure EGR-NGGC-0005 ("Engineering Change") which requires, in part, that the licensee identify the functional performance requirements of each structure, system and component being modified in all possible operational configurations. In this circumstance, the licensee's modification to the freeze-protection circuits for the steam generator power operated relief valve sensing lines, installed the freeze-protection temperature sensors in a location where a heated enclosure is routinely installed for cold-weather protection. With the heated enclosure surrounding the temperature sensors the freeze protection circuitry failed to energize during freezing conditions and subsequently allowed the sensing line for the B steam generator power operated relief valve to freeze, which in turn caused the B steam generator power operated relief to open at full power operation. This finding is in the licensee's corrective action program as AR 339914. At the end of this inspection period, the licensee had not yet completed their evaluation of this finding, and had consequently not yet developed corresponding corrective actions.

This finding is more-than-minor because it is associated with the Equipment Performance attribute of the Initiating Events cornerstone and affected the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during power operations, in that this finding created conditions which caused an event that upset plant stability during power operations. Using Appendix A of the Significance Determination Process (SDP) described in MC 0609, this finding did not screen as green because it was a transient initiator contributor and because the finding contributed to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions will not be available, in that this finding created conditions that caused a S/G PORV to open during power operation, and rendered inoperable the automatic functions of that PORV. A regional Senior Reactor Analyst performed a Phase 3 evaluation under the Significance Determination Process. The performance deficiency was determined to be of very low safety significance (Green). The evaluation was accomplished using the NRC's Probabilistic Risk Assessment computer model of the plant with basic event MSS-ADV-CC-RV1-2, FAILURE OF SG-B PORV RV1-2, set to always fail. The model was quantified with a one day exposure period. The dominant accident sequences involved Steam Generator Tube Ruptures with complications, partially due to the finding, in depressurizing and cooling down. Consequently, the Residual Heat Removal System was not placed into service resulting in core damage and a Large Early Release. The major assumptions included that recovery of the failed component was possible and common cause inclusion was not appropriate. This finding has a cross-cutting aspect in the Resources component of the Human Performance area because the licensee did not provide and ensure that complete, accurate, up-to-date design documentation were available and adequate to plant personnel, in that the licensee did not ensure that Attachment 7 to EGR-NGGC-005 was adequate to enable engineers to identify a potential interference between the modification described in EC 70032 and the program described in OP-925 ("Cold Weather Preparations").

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

Mitigating Systems

Significance: **G** Mar 31, 2010

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Inaccurate Drawings Result In Loss of RWST Level Indication Due to Freezing

A self-revealing non-cited violation of Technical Specification 5.4.1, Procedures, was identified in that the licensee used inaccurate drawings to hang clearances on freeze protection circuits which resulted in the Refueling Water Storage Tank (RWST) level instrument lines freezing. The licensee failed to properly translate the design of the freeze protection circuits to the drawings used in the clearances, causing the RWST level sensing line freeze protection to be unavailable. The licensee removed the clearance, re-energized the freeze protection and level indications were restored. The licensee entered the drawing discrepancy issue into the corrective action program as AR 374561

The disabling of the RWST level instrument freeze protection during the RHR pump work is a performance deficiency. The finding is more than minor because it affected the mitigating systems cornerstone objective to ensure the availability, reliability and capability of systems that respond to initiating events. Specifically, the RWST level instrument line freezing caused the required post accident instrumentation of the RWST to be inoperable. Using Appendix A of the Significance Process (SDP) described in IMC 0609, Mitigating System Cornerstone, this finding was determined to have very low safety significance (Green) because no loss of operability or functionality of the RWST resulted from the level sensing line freezing. There is no cross-cutting aspect of this NCV since the incorrect drawing that resulted in the inaccurate clearance was last revised in 1986 and is not indicative of current licensee performance.

Inspection Report# : [2010002](#) (*pdf*)

Significance: **G** Mar 31, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

“A” Emergency Diesel Generator Fuel Oil Transfer Pump Power Supply Cable Subjected to Continuous Submersion in Water Design Deficiency

The inspectors identified a NCV of 10 CFR Part 50, Appendix B, Criterion III, Design Control, in that the licensee failed to maintain a safety-related cable in an environment for which it was designed. Specifically, the “A” Emergency Diesel (EDG) Fuel Oil Transfer Pump power supply cable was exposed to continuous submersion in water. The licensee removed the accumulated water from the hand hole, resealed, and reinstalled the hand hole cover. The licensee entered the issue into the corrective action program as AR 370343.

Failure to maintain a safety related cable in an environment for which it was designed is a performance deficiency. The finding is more than minor in accordance with IMC 0612, Appendix B (Block 9, Figure 2), “Issue Screening,” because if left uncorrected, the performance deficiency has the potential to lead to a more significant safety concern. Specifically, subjecting the “A” EDG fuel oil transfer pump cable to continuous submersion could, over time degrade the cable and result in failure. In accordance with IMC 0609 (Table 4a), “Phase 1 – Initial Screening and Characterization of Findings”, the finding was determined to be of very low safety significance (Green) because the finding was not a design or qualification deficiency which resulted in a loss of operability or functionality. The cause of the finding was directly related to the problem evaluation cross-cutting aspect in the corrective action program component of the Problem Identification and Resolution area because the licensee did not thoroughly evaluate the condition described in NRC Generic Letter 2007-01 Inaccessible or Underground Power Cable Failures that Disable Accident Mitigation Systems or Cause Plant Transients (P.1 (c))

Inspection Report# : [2010002](#) (*pdf*)

Significance: **G** Dec 31, 2009

Identified By: NRC

Item Type: FIN Finding

Failure To Identify Oil Leakage On A Operating Charging Pump

The inspectors identified a Green finding for the licensee’s failure to identify an oil leak on the “A” charging pump. This failure was determined to be a performance deficiency with respect to licensee procedure OMM-001-11, “Logkeeping,” which requires oil leakage be identified and abnormal conditions reported to shift management. The

licensee responded by stopping the “A” charging pump to verify proper oil level. An addition of 6.5 quarts was required to restore the oil level to normal. Additionally, to maintain operability, the licensee established a compensatory action to stop the “A” charging pump every three days to verify oil level until the oil leak was repaired. The licensee entered the issue into the corrective action program as AR 360876.

The finding is more than minor because if left uncorrected the performance deficiency would have the potential to lead to a more significant safety concern. Given the history of continuous operation of the charging pumps for up to 37 days, if the identified oil leak remained uncorrected, a loss of lubrication failure of the “A” charging pump would occur. The charging pumps are technical specification required equipment and are used in the emergency operating procedures to mitigate the consequences of an event. This finding was determined to be green because no loss of operability or functionality of the “A” charging pump resulted from the identified oil leakage. The apparent cause of this finding was a failure to implement a procedural requirement to identify and communicate an oil leak to shift management. The inspectors determined no cross-cutting aspect was associated with this performance deficiency.

Inspection Report# : [2009005](#) (pdf)

Significance:  Jun 30, 2009

Identified By: Self-Revealing

Item Type: FIN Finding

Failure to properly restore service water to the evaporative air coolers resulting in emergency diesel generator inoperability

A self-revealing finding was identified for the licensee’s failure to follow procedures while restoring auxiliary building evaporative air coolers to service. Although a violation of regulatory requirements was not identified, this failure was a performance deficiency with respect to licensee procedure PRO-NGGC-0200, Procedure Use and Adherence, Rev. 10, which requires all personnel who use procedures to understand the impact of their actions on personnel or equipment before taking action. As a result, the A emergency diesel generator (EDG) was declared unavailable and inoperable. At the end of this inspection period, the licensee had not yet completed their evaluation of this finding, and had consequently not yet developed corresponding corrective actions. This finding is in the licensee’s corrective action program as AR 332970.

This finding is more-than-minor because it affected the Equipment Performance attribute of the Mitigating Systems cornerstone, and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences, in that this finding resulted in unplanned unavailability of an emergency diesel generator. Using Attachment 4 of IMC 0609, the significance of this finding was determined to be of very low safety significance (GREEN), because although the finding could degrade the Emergency AC power function in the Mitigating Systems cornerstone, the finding was not a design or qualification deficiency confirmed not to result in loss of operability or functionality, did not represent a loss of system safety function, did not represent actual loss of safety function of a single train for longer than its TS Allowed Outage Time, did not represent an actual loss of safety function of one or more non-TS Trains of equipment designated as risk-significant, and did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. This finding has a cross-cutting aspect in the Work Practices component of the Human Performance area because the licensee did not communicate human error prevention techniques such that work activities were performed safely, in that the licensee did not communicate instructions for the sequence of valve operations during the pre-job brief and the licensee proceeded in the face of uncertainty by operating system components when the current system alignment was not verified.

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

Significance:  Jun 30, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to follow procedures while performing maintenance on an emergency diesel generator.

The inspectors identified a green non-cited violation of Technical Specification (TS) 5.4.1, Administrative Controls (Procedures) associated with two events in which maintenance technicians performed maintenance on the A emergency diesel generator (EDG) without pre-planning and performing the activity in accordance with written

procedures, documented instructions, or drawings appropriate to the circumstances. In both instances maintenance technicians tightened a fuel oil fitting on the A emergency diesel generator which caused increased leakage from that fitting and the unplanned unavailability and inoperability of the diesel generator. In response to this finding, the licensee revised their Maintenance Administration Program to clearly communicate that “skill of the craft” work on safety related equipment is prohibited without a procedure/work order, and held stand-down meetings to retrain all maintenance and planning personnel on work practices for safety related structures, systems and components. This finding is in the licensee’s corrective action program as AR 325384.

This finding was more-than-minor because it is associated with the Equipment Performance attribute of the Mitigating Systems cornerstone and affected the availability of the emergency diesel generator to respond to a loss of offsite power event. Using Attachment 4 of MC 0609, Significance Determination Process, this finding screened as having very low safety significance (Green) because the finding was not a design or qualification deficiency confirmed not to result in loss of operability or functionality, did not represent a loss of a system safety function, did not represent an actual loss of safety function of a single train, did not represent an actual loss of safety function of one or more non-Tech Spec Trains of equipment designated as risk-significant, and did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. This finding has a cross-cutting aspect in the Work Practices component of the Human Performance cross cutting area because personnel work practices did not support human performance, in that the licensee’s work practices did not ensure supervisory and management oversight of work activities such that nuclear safety is supported.

Inspection Report# : [2009003](#) (*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 : May 26, 2010