

# Robinson 2

## 4Q/2009 Plant Inspection Findings

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### 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*)

**Significance:**  Mar 31, 2009

Identified By: Self-Revealing

Item Type: FIN Finding

#### **Inadequate procedures produced conditions which caused a reactor trip**

Green. A self-revealing finding was documented for the licensee's failure to provide adequate procedures for maintenance and installation of the main generator and exciter. As a result, work activities using those procedures produced conditions which led to high turbine vibration, which on November 17, 2008, prompted control-room operators to manually initiate a reactor trip. This failure was a performance deficiency with respect to a self-imposed licensee policy which requires Managers and Supervisors to ensure that procedures are adequate to assure nuclear safety. This finding is addressed in the licensee's corrective action program within Action Request 306903. In that Action Request, one corrective action is to correct the affected procedures.

This finding is more-than-minor because it affected 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 during power operations. When evaluated per Attachment 4 of Manual Chapter 0609, this finding 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. This finding has a cross-cutting aspect of supervisory and management oversight, as described in the Work Practices component of the Human Performance cross cutting area because the licensee failed to provide adequate oversight to the work activities associated with turbine-generator reassembly (H.4(c)).

Inspection Report# : [2009002](#) (*pdf*)

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## Mitigating Systems

**Significance:**  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)

**Significance:**  Mar 31, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to meet the required actions of TS 3.8.1 for condition B**

Green. The inspectors identified a Green non-cited violation of Technical Specification 3.8.1, for the licensee's failure to meet the required actions of TS 3.8.1 for one inoperable emergency diesel generator (EDG), which are, in part, that within 24 hours of discovering the inoperable EDG, the licensee must either verify that the other EDG starts from standby conditions and achieves acceptable steady-state conditions, or determine that the other EDG is not inoperable due to a common cause. The licensee has entered this finding into their corrective action program as Action Request 327363, and plans to insert into the appropriate procedure criteria to describe the required attributes of an adequate determination that an EDG is not inoperable due to a common cause.

This finding is more-than-minor because if left uncorrected, this finding would become a more significant safety and regulatory concern, in that following a common-cause inoperability of both EDGs and the discovery of the inoperability of one EDG, if left uncorrected this violation could result in the licensee correcting the discovered inoperability of one EDG without correcting the undiscovered inoperability of the other EDG, such that the other EDG could remain inoperable for longer than its allowed outage time. Using Appendix A of IMC 0609, the significance of this violation was determined to be of very low safety significance (GREEN), because although the violation could degrade the Emergency AC power function in the Mitigating Systems cornerstone, the violation 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, 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 area of Human Performance because the licensee did not ensure that personnel, equipment, procedures, and other resources were available and adequate to assure nuclear safety (H.2(c)).

Inspection Report# : [2009002](#) (*pdf*)

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## **Barrier Integrity**

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## **Emergency Preparedness**

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## **Occupational Radiation Safety**

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## **Public Radiation Safety**

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## **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.

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## **Miscellaneous**

Last modified : March 01, 2010