

# Ginna

## 1Q/2011 Plant Inspection Findings

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### Initiating Events

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### Mitigating Systems

**Significance:**  Nov 11, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Inadequate Evaluation of Breaker Coordination for Ampetector Type LSG Trip Unit Discriminator Feature**

The inspectors identified a finding of very low safety significance involving a non-cited violation of 10 CFR 50, Appendix B, Criterion III, Design Control. Specifically, Ginna had not verified the adequacy of their design with respect to the impact of the installed Ampetector type long, short, and ground trip unit discriminator feature on breaker coordination. The discriminator circuit design had not been evaluated to ensure the 480V load center bus motor control center feeder breakers would maintain coordination and be capable of maintaining power to downstream safety-related components in response to design basis events such as seismic or steam line break transients. Ginna entered this into their correction action program to evaluate the adequacy of their design and ensure the feeder breakers remained operable.

The finding was determined to be more than minor because the finding was associated with the Mitigating Systems Cornerstone attribute of design control and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of the 480V busses to respond to initiating events to prevent undesirable consequences. The inspectors evaluated the finding in accordance with Inspection Manual Chapter 0609, Significance Determination Process, Attachment 0609.04, Phase 1, "Initial Screening and Characterization of Findings", Table 4a, for the Mitigating Systems Cornerstone. The inspectors determined the finding was of very low safety significance because it was a design deficiency confirmed not to result in a loss of operability. The inspectors did not identify a cross-cutting aspect with this finding because this was an old design issue and, therefore, was not reflective of current performance. Inspection Report# : [2010009](#) (*pdf*)

**Significance:**  Nov 11, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Inadequate Translation of NPSH Design Limits into EOPs**

The inspectors identified a finding of very low safety significance involving a non-cited violation of 10 CFR 50, Appendix B, Criterion III, Design Control. Specifically, Ginna had not correctly translated residual heat removal (RHR) pump net positive suction head (NPSH) operating limits into emergency operating procedures. Emergency operating procedure ES-1.3, "Transfer to Cold Leg Recirculation," included criteria for aligning the discharge of the RHR pump to the suction of the safety injection (SI) pump under post-accident sump recirculation conditions which had not been adequately analyzed for RHR pump NPSH. Ginna entered the issue into their corrective action program to address the inconsistency between the design analysis and procedure and performed a review to ensure the RHR pump remained operable with respect to NPSH margin.

The finding was determined to be more than minor because it was associated with the Mitigating Systems Cornerstone attribute of design control and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, design control measures had not ensured consistency between the design analysis assumptions and the operating procedure to ensure adequate RHR pump NPSH margin when aligned to the SI pump during sump recirculation. The inspectors evaluated the finding in accordance with Inspection Manual Chapter 0609, Significance Determination Process,

Attachment 0609.04, Phase 1, "Initial Screening and Characterization of Findings, Table 4a, for the Mitigating Systems Cornerstone. The inspectors determined the finding was of very low safety significance because it was a design deficiency confirmed not to result in a loss of operability. The inspectors did not identify a cross-cutting aspect with this finding because it did not represent current performance. The discrepancy between the design analysis and procedure occurred outside of the timeframe which reflects current performance.  
Inspection Report# : [2010009](#) (pdf)

**Significance:**  Sep 30, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to Adequately Assess the Risk of Technical Support Center Inverter Maintenance**

The inspectors identified a very low safety significance (Green) non-cited violation (NCV) of 10 CFR 50.65, "Maintenance Rule," paragraph (a)(4), when Ginna did not perform an accurate risk assessment prior to removing the technical support center (TSC) battery charger and fire system S01, suppression for the auxiliary building basement cable trays, from service, which resulted in an underestimation and lack of awareness of the risk during these maintenance activities. Ginna's corrective actions included immediately updating their risk model to reflect the actual plant configuration. When re-evaluated, the core damage frequency risk, during the maintenance, increased from low to medium.

The finding is more than minor because if the overall risk had been correctly assessed, it would have placed Ginna into a higher risk category. The finding is associated with the configuration control attribute of the Mitigating Systems cornerstone and affects the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors determined that the finding is of very low safety significance because the incremental core damage probability deficit was less than 1.0E-6. This finding has a cross-cutting aspect in the area of human performance, work control, in that Ginna operators were not fully apprised of the work status of the TSC inverter work and its operational impact (H.3.b per IMC 0310).

Inspection Report# : [2010004](#) (pdf)

**Significance:**  Sep 30, 2010

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

**Failure to Identify Five Pumps in the Inservice Testing Alert Range**

A self-revealing non-cited violation (NCV) of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was determined based on Ginna's failure to identify that vibration data exceeded the inservice testing (IST) acceptance criteria for five pumps. On June 30, 2009, Ginna identified that the 'B' residual heat removal (RHR) pump vibration data had exceeded the required action range for IST criteria for the previous four surveillance tests due to vibration data being incorrectly measured and analyzed. Ginna's apparent cause evaluation documented that an extent of condition review was completed which identified all the additional components that were unknowingly in the IST alert or required action range from May 2008 to June 2009. On August 4, 2010, Ginna tested the 'A' motor-driven auxiliary feedwater pump and determined that it was in the alert range for inboard bearing vibration. During their analysis, Ginna discovered that during the last comprehensive test in October 2008, the same vibration point was in the IST alert range. This had not been identified during Ginna's previous extent of condition review. Subsequently, Ginna performed another extent of condition review and identified that four other components were outside the vibration acceptance criteria and in the alert range. Ginna's immediate corrective actions included entering this issue into their corrective action program (CAP) and verifying that all other IST pumps were within the IST acceptable range.

This finding is more than minor because it was repetitive and it affected a number of pumps. The finding is associated with the equipment performance attribute of the Mitigating Systems Cornerstone and adversely affected the objective of ensuring the capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors determined that the finding was of very low safety significance (Green) because it was not a design or qualification deficiency, did not represent a loss of safety function, and did not screen as potentially risk significant

due to seismic, flooding, or severe weather. This finding has a cross-cutting aspect in the area of problem identification and resolution, CAP, in that Ginna did not thoroughly evaluate IST program vibration data during their extent of condition review conducted in 2009 as a result of the 'B' RHR pump exceeding the IST required action range (P.1.c per IMC 0310).

Inspection Report# : [2010004](#) (*pdf*)

**Significance:** G Jun 11, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

### **Failure to Take Adequate Corrective Actions for Elevated Chlorides in the 'A' EDG Jacket Water Heat Exchanger**

The team identified an NRC-identified finding of very low safety significance associated with a non-cited violation (NCV) of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," in that measures were not established to assure that a condition adverse to quality was promptly identified and corrected. Specifically, after Ginna identified that monthly samples of the emergency diesel generator (EDG) jacket water system were not being taken and analyzed for chlorides and fluorides, a sample was not taken and analyzed for approximately 5 months. Additionally, after the analysis indicated that the chlorides were over twice the procedural limit, Ginna did not increase the chloride sampling frequency, did not take action to return the chlorides to within specifications, and did not complete an analysis for long term effects on the EDG as required by chemistry procedure CH-138, "Closed Cooling Water Systems Chemistry Optimization Plan," Revision 1. Ginna's corrective actions included evaluating the degradation of the 'A' EDG jacket water due to the elevated chloride level in the 'A' EDG jacket water heat exchanger exceeding 90 days and developing a plan to reduce the chloride level to within specification.

This finding is more than minor because if left uncorrected, elevated chloride levels in the 'A' EDG jacket water system could lead to a more significant safety concern. Specifically, elevated chlorides in the 'A' EDG jacket water heat exchanger could lead to degradation of the jacket water heat exchanger through stress corrosion cracking and impact the reliability of the 'A' EDG. This finding is associated with the Mitigating Systems Cornerstone and affects the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). The team determined that the finding was of very low safety significance (Green), because it was not a design or qualification deficiency confirmed not to result in loss of operability; did not result in a loss of safety function; and did not screen as potentially risk significant due to a seismic, flooding, or a severe weather initiating event. This finding has a cross-cutting aspect in the area of problem identification and resolution because Ginna did not take appropriate actions to address the elevated chloride level in the 'A' EDG jacket water system.

Inspection Report# : [2010006](#) (*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 : June 07, 2011