

# Vogtle 1

## 4Q/2013 Plant Inspection Findings

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### Initiating Events

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### Mitigating Systems

**Significance:**  Dec 31, 2013

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

#### **Failure to meet the conditions of TS LCO 3.8.4**

A Green, self-revealing non-cited violation (NCV) of plant Technical Specification (TS) 3.8.4, “DC Sources - Operating,” was identified for failure to meet the conditions of TS limiting condition for operation (LCO) 3.8.4. Specifically, placing the 1AD1CA battery charger out of service during performance of the 18 month load test surveillance, concurrent with the failure of the 1AD1CB battery charger, caused the 1A train chargers to be unable to fulfill their specified safety function. As a result, the 1AD1 safety-related 1E 125 VDC source was inoperable. The 1AD1CB battery charger was repaired, functionally tested, and placed back in service. This violation was entered into the licensee’s corrective action program as condition report (CR) 735160.

The finding was more than minor because it was associated with the equipment performance attribute of the mitigating systems cornerstone and it adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, removing the 1AD1CA battery charger from service to conduct a 18 month load test while the 1AD1CB battery charger was not capable of performing its specified safety function resulted in the loss of a single train for greater than its TS allowed outage time. The inspector evaluated the finding in accordance with IMC 0609 Appendix A, “The Significance Determination Process (SDP) for Findings At-Power,” dated June 19, 2012. Since the inspectors answered “Yes” to the question A.3 of the Mitigating Systems Screening Questions, “Does the finding represent an actual loss of function of at least a single Train for greater than its TS allowed outage time,” a detailed risk evaluation was required. A detailed risk evaluation was performed by resident inspectors and reviewed by a regional senior reactor analyst in accordance IMC 0609 Appendix A guidance using the NRC Vogtle Standardized Plant Analysis Risk (SPAR) model and the NRC Sapphire 8 risk analysis code. An SDP Module Condition Analysis was run with the Unit 1 A train battery chargers, 1AD1CA and 1AD1CB failed with no recovery allowed for a 14 hour exposure period. The dominant sequence was a transient consisting of a reactor trip coincident with the common cause failure of auxiliary feed pumps (AFW) to run and the inability of an operator to restore main feedwater (MFW). The detailed risk evaluation determined that the risk due to the performance deficiency was an increase in core damage frequency (?CDF) of  $<1E-7$ /year, a GREEN finding of very low safety significance. Because the increase in ? CDF was  $<1E-7$ /year no external events analysis was required. The risk was mitigated by the availability of alternate trains of components and the short exposure period. The detailed risk evaluation was reviewed by a regional senior reactor analyst. The inspectors determined that the cause of this finding was related to the corrective action program (CAP) component of the problem identification and resolution (PI&R) cross-cutting area due to less-than-adequate problem evaluation techniques. Specifically, licensee failed to adequately investigate why the wires were rolled during initial functional testing. [P.1(c)] (Section 1R19)

Inspection Report# : [2013005](#) (*pdf*)

**Significance:** G Aug 30, 2013

Identified By: NRC

Item Type: FIN Finding

**Failure to Correct a Condition Affecting EDG Recovery Capability under Station Blackout Conditions**

Green. The team identified a Green finding for the licensee's failure to follow guidance in nuclear management procedure NMP-GM-002-001, "Corrective Action Program Instructions," Version 30.1, which resulted in their failure to correct a condition that adversely affected the implementation of the station's mitigating strategies for a station blackout (SBO). This was a performance deficiency. The licensee entered the issue into their corrective action program as Condition Report 673722, and performed an evaluation that determined the 'as-found' condition would not prevent successful implementation of their SBO mitigating strategies.

The performance deficiency was more than minor because it affected 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, the capability of the emergency diesel generator air start system following the SBO coping duration was not ensured since the licensee did not adequately evaluate and address the test acceptance criteria for the air start check valves, as captured in Condition Report 599089. The finding was determined to be of very low safety significance (Green) because the finding was a deficiency affecting the design of a mitigating structure, system, or component, confirmed not to have resulted in the loss of functionality. The cause of the finding was indicative of current licensee performance and involved the Corrective Action component of the Problem Identification and Resolution cross-cutting area, because the licensee failed to thoroughly evaluate a problem involving a deficiency in their SBO mitigation strategies such that the resolution addressed the cause of the deficiency. [P.1(c)].

Inspection Report# : [2013007](#) (*pdf*)

**Significance:** G Mar 31, 2013

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

**Inadequate Maintenance Procedures Results in Failure of the Inboard Bearing on the Unit 1A CCW pump #1**

Green: A self-revealing non-cited violation (NCV) of 10 CFR Part 50 Appendix B, Criterion V, "Instructions, Procedures, and Drawings" was identified for failure to provide appropriate quantitative or qualitative acceptance criteria for determining that important activities have been satisfactorily accomplished. Specifically, procedure 27080-C, "CCW Pump Maintenance", did not provide adequate direction as to the duration of and instrumentation required to properly perform a post-maintenance test that would detect a misalignment between the pump and motor shafts. The licensee entered this issue into their corrective action program as CR 526268, and revised maintenance procedure 27080-C to specify the proper post maintenance testing required after rebuilding CCW pumps.

The finding was more than minor because it was associated with the equipment performance attribute of the mitigating systems cornerstone and it adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, the post-maintenance test performed after rebuilding the Unit 1A component cooling water (CCW) pump #1 failed to identify excessive misalignment between the motor and pump shafts, which subsequently resulted in the catastrophic failure of the inboard pump bearing once the pump was returned to service. Because the inspectors answered "No" to all of the IMC 0609 Appendix A (dated June 19, 2012) Exhibit 2, Section A, "Mitigating Systems Screening Questions," the inspectors concluded that the finding was of very low safety significance (Green). The inspectors determined that the cause of this finding was related to the work control component of the human performance cross-cutting area due to less-than-adequate procedures. Specifically, the maintenance procedures used to reassemble the CCW pumps did not provide adequate direction as to the duration of and instrumentation required to properly perform an adequate post-maintenance test. [H.2(c)]

Inspection Report# : [2013002](#) (*pdf*)

## Barrier Integrity

**Significance:**  Mar 31, 2013

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

### **Human Performance Error Renders 1A CS Pump Inoperable**

Green. A self-revealing non-cited violation (NCV) for failure to meet the requirements of plant Technical Specification (TS) 5.4, Procedures was identified. While realigning equipment to support the filling and venting of the Unit 2 containment spray header the system operator inadvertently closed 1HV-9017A, refueling water storage tank (RWST) suction to Unit 1 containment spray (CS) pump A. As a result, the 1A CS pump was temporarily rendered inoperable. The valve was subsequently re-opened and the pump was declared operable. The licensee entered the issue into their corrective action program (CR 608718).

This finding is more than minor because it is associated with the human performance attribute of the barrier integrity cornerstone and it adversely affected the cornerstone objective to provide reasonable assurance that physical design barriers (fuel cladding, reactor coolant system, and containment) protect the public from radionuclide releases caused by accidents or events. Specifically, the performance deficiency is a human performance error which affected the availability, reliability, and capability of the Unit 1 “A” train containment spray system to limit and maintain post accident conditions to less than containment design values. Because the inspectors answered “No” to all of the IMC 0609 Appendix A (dated June 19, 2012) Exhibit 3, Section B, “Barrier Integrity Cornerstone Screening Questions,” the inspectors concluded that the finding was of very low safety significance (Green). The inspectors determined that the cause of this finding was related to the work practices component of the human performance cross-cutting area due to less-than-adequate human error prevention techniques. Specifically, peer checking techniques were less than adequate. [H.4(a)]

Inspection Report# : [2013002](#) (*pdf*)

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## Emergency Preparedness

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## Occupational Radiation Safety

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## Public Radiation Safety

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## Security

Although the Security Cornerstone is included in the Reactor Oversight Process assessment program, the Commission has decided that specific information related to findings and performance indicators pertaining to the Security Cornerstone will not be publicly available to ensure that security information is not provided to a possible adversary.

Other than the fact that a finding or performance indicator is Green or Greater-Than-Green, security related information will not be displayed on the public web page. Therefore, the [cover letters](#) to security inspection reports may be viewed.

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## Miscellaneous

Last modified : February 24, 2014