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## Vogtle 2 – Quarterly Plant Inspection Findings

### 3Q/2017 – Plant Inspection Findings

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### Initiating Events

**Significance:** G Dec 31, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

#### **NCV 05000425/2016004-01, Failure to Implement Maintenance Procedure for SOV Electrical Connectors**

A self-revealing non-cited violation (NCV) of Technical Specifications (TS) 5.4.1.a, "Procedures," was identified for the licensee's failure to properly install shims when assembling electrical connectors on Unit 2 main steam isolation valve (MSIV) HV-3026B, in accordance with maintenance procedure 25709-C, "Instructions for EGS Grayboot Connection Kit Installation," Ver. 21.1. The licensee replaced the affected connectors and entered the issue in their corrective action program under condition reports (CR) 10279411, and 10268507, and technical evaluations (TE) 970299, 968149, and 970300, to evaluate and develop additional training for maintenance technicians, enhance the maintenance procedure, and conduct extent of condition.

A self-revealing non-cited violation (NCV) of Technical Specifications (TS) 5.4.1.a, "Procedures," was identified for the licensee's failure to properly install shims when assembling electrical connectors on Unit 2 main steam isolation valve (MSIV) HV-3026B, in accordance with maintenance procedure 25709-C, "Instructions for EGS Grayboot Connection Kit Installation," Ver. 21.1. The licensee replaced the affected connectors and entered the issue in their corrective action program under condition reports (CR) 10279411, and 10268507, and technical evaluations (TE) 970299, 968149, and 970300, to evaluate and develop additional training for maintenance technicians, enhance the maintenance procedure, and conduct extent of condition.

The performance deficiency (PD) was more than minor because it adversely effected the Initiating Events cornerstone objective when Unit 2 received an automatic reactor trip and safety injection on March 14, 2015. The finding was determined to be Green because the PD did not result in a loss of mitigation equipment used to transition the reactor to a stable shutdown condition. The finding was assigned a cross cutting aspect of "Procedure Adherence" because maintenance technicians failed to adhere to procedural guidance in Attachment 1 of 25709-C for installing the

connector shims. (H.8)  
Inspection Report# : 2016004 (*pdf*)

## Mitigating Systems

**Significance:**  Nov 04, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

### **Failure to Verify Capability of EDGs Under Maximum Frequency and Voltage**

The NRC identified a Green non-cited violation of Title 10 Code of Federal Regulations Part 50, Appendix B, Criterion III, "Design Control," for failure to correctly translate the appropriate permissible limits for frequency and voltage from technical specifications into the emergency diesel generators design loading calculations as required by the licensing and design bases. The violation and related issues were entered into the licensee's corrective action program as condition reports 10288732 and 10293810. The licensee was evaluating corrective actions, which included determining acceptable loads at the more limiting power demands and developing procedural guidance.

The performance deficiency was determined to be more than minor because it was associated with the Design Control attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of the emergency diesel generators to respond to initiating events to prevent undesirable consequences. Specifically, failing to evaluate the impact from the frequency and voltage limits allowed by technical specification could result in overloading the diesel generator if operators manually loaded additional plant protection systems during an event. The team determined the finding was of very low safety significance (Green) because it was a design deficiency that did not result in a loss of emergency diesel generators operability. The team did not assign a crosscutting aspect because the most significant contributor did not reflect current licensee performance.  
Inspection Report# : 2016007 (*pdf*)

**Significance:**  Nov 04, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

### **Failure To Ensure Adequate Unit 1 Emergency Diesel Generator Surveillance Acceptance Criteria**

The NRC identified a Green non-cited violation of Title 10 Code of Federal Regulations Part 50, Appendix B, Criterion V, "Instructions, Procedures and Drawings," for the licensee's failure to have adequate instructions and acceptance criteria to confirm the emergency diesel generators capability to reject the largest single load without exceeding predetermined frequency and voltage while maintaining a specified margin to the overspeed trip. The violation was entered into the licensee's corrective action program as condition report 10294395. An immediate determination of operability was performed and concluded that the Emergency Diesel Generators were operable but degraded nonconforming. The licensee was evaluating corrective actions, which may include a final determination of the most severe single largest load and re-performing the surveillance tests.

The performance deficiency was determined to be more than minor because it was associated with the Procedure Quality attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems to respond to initiating events to prevent undesirable consequences. Specifically, without adequate acceptance criteria in surveillance procedure SR 3.8.1.8, the procedure could not ensure availability, reliability, and capability of the EDG under the most severe power demand characteristics for electric power used by components. The team determined the finding to be of very low safety significance (Green) because the finding was not a design deficiency, did not represent a loss of system and/or function, and did not represent the loss of any trains of technical specification or non-technical specification equipment. The team did not assign a crosscutting aspect because the most significant contributor did not reflect current licensee

performance.

Inspection Report# : 2016007 (*pdf*)

**Significance:** G Nov 04, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

**Failure to Meet Isolation Requirements When Incorporating Non-Class 1E Components into Class 1E electrical Circuits**

The NRC identified a Green non-cited violation of Title 10 Code of Federal Regulations Part 50, Appendix B, Criterion III "Design Control," for installing non-safety related Individual Cell Equalizer devices into the Class 1E battery charging circuits without isolation as specified by Institute of Electrical and Electronics Engineers standard 384 as amended by RG 1.75. The violation was entered into the licensee's corrective action program as condition report 10294321. The licensee was evaluating corrective actions, which included the removal of the non-Class 1E components.

The performance deficiency was determined to be more than minor because it affected the Design Control attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems to respond to initiating events to prevent undesirable consequences. Specifically, the failure to conform to Class 1E design requirements for independence affected the reliability of the Class 1E battery systems. The team determined the finding to be of very low safety significance (Green), because it was a deficiency affecting the design or qualification of a SSC, and the SSC maintained its operability or functionality. The team did not assign a crosscutting aspect because the most significant contributor did not reflect current licensee performance.

Inspection Report# : 2016007 (*pdf*)

**Significance:** G Nov 04, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

**Failure to Perform Required In-Service Testing of Unit 2 CST Swap over Valves**

The NRC identified a Green non-cited violation of Technical Specification 5.5.8, "Inservice Testing Program," for Vogtle Unit 2 failure to perform the required testing in accordance with the American Society of Mechanical Engineers Operation and Maintenance Code for nine valves that had active safety functions. Specifically, these valves were required to operate when aligning the AFW pumps from Condensate Storage Tank (CST) 1 to CST 2.

The violation was entered into the licensee's corrective action program as condition report 10293900. The licensee performed an immediate determination of operability and determined that the CST valves were operable but degraded nonconforming. The licensee planned to register the CST valves into the IST program and exercise those valves that that have never been exercised at the first available opportunity.

The performance deficiency was determined to be more than minor because it was associated with the Mitigating Systems Cornerstone attribute of Equipment Performance, and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, degraded valve performance could go undetected without periodic testing and trending. The team determined the finding to be of very low safety significance (Green) because the finding was not a design or qualification deficiency, did not represent a loss of system and/or function, and did not represent the loss of any trains of TS or Non-TS equipment. The team did not assign a crosscutting aspect because the most significant contributor did not reflect current licensee performance.

Inspection Report# : 2016007 (*pdf*)

**Significance:** G Nov 04, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

**Failure to Perform Periodic Testing Of Safety-Related Valve Interlocks**

The NRC identified a Green, non-cited violation of Title 10 Code of Federal Regulations Part 50.55a(h)(2) "Protection Systems," because the licensee failed to perform periodic testing of safety-related valve interlocks to ensure an adequate single failure analysis by identifying detectable failures in accordance with Institute of Electrical and Electronics Engineers standard (IEEE) 379-1972, "IEEE Trial-Use Guide for the Application of the Single-Failure Criterion to Nuclear Power Generating Station Protection Systems." The violation was entered into the licensee's corrective action program as condition report 10293749. The licensee performed an immediate determination of operability and determined that the affected systems were operable but degraded nonconforming. The licensee was in the process of determining and developing adequate corrective actions to conform with Institute of IEEE Standard 379-1972.

The performance deficiency was determined to be more than minor because it was associated with the Equipment Performance attribute of the Mitigating Systems Cornerstone 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 failure to periodically test safety-related valve interlocks affected the adequacy of the licensee's single failure analysis. The team determined the finding to be of very low safety significance (Green) because the finding was not a design deficiency, did not represent a loss of system and/or function, and did not represent the loss of any trains of technical specification or nontechnical specification equipment. The team did not assign a crosscutting aspect because the most significant contributor did not reflect current licensee performance.

Inspection Report# : 2016007 (*pdf*)

**Significance:** G Nov 04, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

**Failure to Assure Auxiliary Feedwater Design Basis Capability**

The NRC identified a Green non-cited violation of Title 10 Code of Federal Regulations Part 50, Appendix B, Criterion III, "Design Control" for the licensee's failure to translate the Auxiliary Feedwater (AFW) pumps design bases into adequate acceptance criteria for technical specifications SR 3.5.7.2 and for the failure to verify the adequacy of the design of the same AFW pumps. The licensee entered the violation into the corrective action program as condition reports 10293456 and 10294168. As an immediate corrective action, the licensee evaluated the operability of the Unit 1 and 2 AFW pumps, modify the allowed diesel frequency acceptance criteria, and initiated corrective action to develop new acceptance criteria and monitor pump performance for degradation.

The performance deficiencies were more-than-minor because they were associated with the Design Control attribute of the Mitigating Systems cornerstone and 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, when the quality of the established surveillance criteria was considered, there was a reasonable doubt on the operability of the Unit 1 and 2 turbine driven AFW and 2A and 1B motor driven AFW pumps. The team determined the finding to be of very low safety significance (Green) because it did not represent an actual loss of function of at least a single train for greater than its technical specification allowed outage time. The team determined that the finding had a crosscutting aspect in the Human Performance area of Design Margins [H.6], because engineers did not demonstrate the characteristic of ensuring that design margins were guarded and changed only through a systematic and rigorous process.

Inspection Report# : 2016007 (*pdf*)

## Barrier Integrity

### Emergency Preparedness

**Significance:** **W** Dec 28, 2016

Identified By: NRC

Item Type: VIO Violation

#### Transposition Results in Significantly Different EAL Threshold Values

The inspectors identified an apparent violation (AV) of Title 10 CFR Part 50.54(q)(2) for failure to follow and maintain the effectiveness of emergency plans which met the requirements of 10 CFR Part 50.47(b)(4) and Part 50 Appendix E, to have a standardized emergency action levels (EAL) scheme in use based on facility system and effluent parameters. Specifically, the licensee's emergency classification scheme for Radiological Effluent EAL RG1 (General Emergency) and RS1 (Site Area Emergency), contained radiation monitor threshold values which were significantly different (forty-two times different) due to a transposition of the threshold values. The licensee took immediate corrective actions by entering the issue into the corrective action program as condition report (CR) 10283097 and providing corrected EAL declaration threshold values to appropriate management and decision-makers (shift managers/emergency directors) via Standing Order C-2016-008.

The performance deficiency was determined to be more than minor because it was associated with the Emergency Preparedness cornerstone attribute of Procedure Quality and adversely affected the cornerstone objective of ensuring that the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. Specifically, the licensee's ability to declare a Site Area Emergency (SAE) and General Emergency (GE) based on effluent radiation monitor values was degraded in that event classification could be delayed and unnecessary Protective Action Recommendations could be provided to the public. The finding was assessed for significance in accordance with NRC Inspection Manual Chapter (IMC) 0609, Appendix B, "Emergency Preparedness Significance Determination Process." The inspectors determined that the finding constituted a degraded rather than lost risk significant planning standard function and accordingly is assigned White significance.

Additionally, the over-conservative threshold values could result in an over classification and unnecessary PARs to the public. In accordance with IMC 0609, Appendix B, an EAL over-classification that would result in unnecessary PARs for the public is assigned White Significance. Because these two findings resulted from the same performance deficiency, one White finding with two examples will be cited.

The cause of the finding was determined to be associated with a cross-cutting aspect in the change management component of the human performance area because the licensee failed to use a systematic process for evaluating and implementing change so that nuclear safety remains the overriding priority [H.3].

First Update:

The finding was determined to be of low to moderate safety significance (White). The transposed radiation monitor threshold values degraded the ability to make timely and accurate general emergency and site area emergency classifications based on abnormal radiological effluent initiating conditions.

Inspection Report# : 2017503 (*pdf*)

Inspection Report# : 2017504 (*pdf*)

## Occupational Radiation Safety

### Public Radiation Safety

#### Security

The security cornerstone is an important component of the ROP, which includes various security inspection activities the NRC uses to verify licensee compliance with Commission regulations and thus ensure public health and safety. The Commission determined in the staff requirements memorandum (SRM) for SECY-04-0191, "Withholding Sensitive

Unclassified Information Concerning Nuclear Power Reactors from Public Disclosure," dated November 9, 2004, that specific information related to findings and performance indicators associated with the security cornerstone will not be publicly available to ensure that security-related information is not provided to a possible adversary. Security inspection report cover letters will be available on the NRC Web site; however, security-related information on the details of inspection finding(s) will not be displayed.

## Miscellaneous

**Significance:** N/A Nov 04, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

### **Failure to Update the UFSAR with the Complete and Accurate Information (Section 1R21.2.b.7)**

SLIV. The NRC identified a severity level IV non-cited violation of Title 10 Code of Federal Regulations Part 50.71(e) (4) for the failure to reflect all changes made in the facility or procedures as described in the Updated Final Safety Analysis Report (UFSAR). The licensee failed to update UFSAR with the design basis of a new digital emergency diesel generator sequencers installed in 2007. This violation was entered into the licensee's corrective action program as condition reports 10288350, 10293456, 10291633. The licensee planned to update the UFSAR with the applicable design basis.

The failure to update the UFSAR was a performance deficiency that was determined to be a minor reactor oversight program violation because it did not meet the more than minor screening criteria. Because the issue impacted the NRC's ability to perform its regulatory process, the inspectors evaluated the violation using the traditional enforcement process. The inspectors determined the issue was a severity level IV violation because it met violation example 6.1.d.3 of the NRC Enforcement Policy. The violation represented a failure to update the UFSAR as required by Title 10 Code of Federal Regulations Part 50.71(e), but the lack of up-to-date information has not resulted in any unacceptable change to the facility or procedures. Cross-cutting aspects are not assigned to traditional enforcement violations. (Section 1R21.2.b.7)

Inspection Report# : 2016007 (*pdf*)

Current data as of : December 04, 2017

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