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Vogtle 1 – Quarterly Plant Inspection Findings

2Q/2017 – Plant Inspection Findings

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Initiating Events

Significance: G Jun 30, 2017

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Correct a Condition Adverse to Quality Involving an MSIV Manufacturing Deficiency

(Green). A self-revealing, Green, non-cited violation (NCV) of 10 CFR 50 Appendix B, Criterion XVI, Corrective Action, was identified for the licensee's failure to identify and correct a condition adverse to quality (i.e., manufacturing deficiency), which led to a repetitive failure of MSIV 1HV-3006B. The failure to determine the cause of a significant condition adverse to quality and take corrective action to preclude repetition was a performance deficiency.

Specifically, the licensee failed to identify the root cause of an MSIV actuator failure on April 12, 2014 that resulted in a reactor trip. As a result, appropriate corrective actions were not taken and a repeat failure of the valve actuator caused another reactor trip on February 3, 2017. The licensee has entered this issue into the corrective action program as condition report 10326456.

This performance deficiency is more than minor because it is associated with the Human Performance attribute of the Initiating Events Cornerstone, and adversely affected the cornerstone objective of limiting the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. The finding was determined to be of very low safety significance (Green) because the finding did not result in a loss of mitigation equipment used to transition the reactor to a stable shutdown condition. The finding was not assigned a cross cutting aspect since it is not indicative of current licensee performance due to the root cause evaluation in question being performed greater than three years ago (Section 4OA5).

Inspection Report# : 2017002 (*pdf*)

Mitigating Systems

Significance: G Jun 30, 2017

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Follow Work Instructions for Implementation of Open Phase Protection System

(Green). A self-revealing, Green, non-cited violation of Technical Specifications 5.4.1.a, "Procedures," was identified for the licensee's failure to redline new wiring installation associated with an open phase protection system modification installation, as required by work instructions. As result, control circuit wires were not installed per wiring diagrams and caused a loss of the offsite power feed to the 'B' train 4160-volt emergency power bus. The licensee's failure to redline new wiring installation associated with an open phase protection system modification installation, as required by work instructions SNC804606 and maintenance procedure NMP-MA-017, was a performance deficiency. The licensee entered this issue into their corrective action program under condition reports 10343972 and 10344136 and restored offsite power to the emergency bus by correcting the wiring configuration.

The performance deficiency was more than minor because it was associated with the Human Performance 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. The finding was determined to be of very low safety significance (Green) because the in-service train of shutdown cooling (i.e. 'A' train of the residual heat removal system) was not affected. The finding was assigned a cross cutting aspect of "Procedure Adherence," in the Human Performance area because individuals did not follow work instructions and redline procedures when installing new wiring for the open phase protection system [H.8] (Section 4OA5).

Inspection Report# : 2017002 (*pdf*)

Significance:  Mar 10, 2017

Identified By: NRC

Item Type: FIN Finding

Failure to identify a Degraded Atmospheric Relief Valve

Green: The NRC identified a Green finding for the licensee's failure to identify the reduced reliability of Unit 1 loop 3 atmospheric relief valve (ARV) 1PV-3020 as a degraded/nonconforming condition, as required by NMP-AD-012, "Operability Determinations and Functionality Assessments," Version 12.5. As a result, corrective maintenance was not prioritized nor conducted at the next available opportunity and led to an additional valve failure in March 12, 2016. The failure to identify aging of 1PV-3020 #285 pilot-to-check valve as a degraded/non conforming condition, as required by NMP-AD-012, was a performance deficiency.

The performance deficiency was more than minor because it was associated with the equipment performance 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, the performance deficiency prevented the license from prioritizing and conducting corrective maintenance of 1PV-3020 at the next available opportunity, and led to an additional valve failure in March 2016. Using Exhibit 2 of IMC 0609, Appendix A, the inspectors determined that this finding is of very low safety significance (Green) because, although the performance deficiency (PD) affected the design/qualification of the 1PV3020 operability, it did not result in an actual loss of safety system function, and it did not represent a loss of function of one or more than one train for more than its technical specification (TS) allowed outage time or greater than 24 hours. The finding was assigned a cross cutting aspect of "Resolution" in the Problem Identification and Resolution area, because the licensee failed to take effective corrective actions to address aging of the #285 pilot-to-check valve in a timely manner. [P.3] (Section 4OA2.1.c)

Inspection Report# : 2017007 (*pdf*)

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:  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:  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:  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:  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*)

Significance:  Sep 30, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Properly Implement Fire Door Inspections

An NRC-identified Green non-cited violation (NCV) of Technical Specifications (TS) 5.4.1.d, "Procedures," was identified for the licensee's failure to correctly verify fire door gaps at the strike plate area and between meeting edges of double swinging metal doors were within acceptable limits. The licensee initiated hourly roving fire watches for these fire doors and took corrective maintenance action to restore affected fire doors within limits. The licensee documented this condition in condition reports 10254221 and 10252774.

The performance deficiency was more than minor because it was associated with the Mitigating Systems cornerstone attribute of Protection Against External Hazards (i.e. fire) and adversely affected the cornerstone objective in that door gaps outside the required limits compromised the door's fire rating qualification. The finding was determined to be of very low safety significance (i.e. Green) because either the combustible loading on both sides of each door was representative of a fire duration of less than 1.5 hours or each door maintained at least a 1-hour fire endurance rating. The finding had a cross-cutting aspect of "Training" in the Human Performance area because the licensee did not ensure there was adequate training to properly inspect station fire doors (H.9).

Inspection Report# : 2016003 (*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 : September 05, 2017

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