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Watts Bar 1 – Quarterly Plant Inspection Findings

2Q/2017 – Plant Inspection Findings

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Initiating Events

Significance: G Jun 30, 2017

Identified By: Self-Revealing

Item Type: FIN Finding

Failure to Follow Procedure Results in Reactor Coolant Pump Failure to Transfer and Unit 1 Reactor Trip

A self-revealed Green finding was identified for the failure to follow procedure NPG-SPP-22.207, "Procedure Use and Adherence" Revision 4, which requires that applicable procedures are used for all activities controlled by a written procedure. The licensee entered this into their corrective action program as CR 1291140

The failure to follow procedure NPG-SPP-22.207, "Procedure Use and Adherence," Revision 4, was a performance deficiency. The performance deficiency was more than minor because it affected the Initiating Events Cornerstone attribute of Human Performance and adversely affected the cornerstone objective in that it resulted in two reactor trips. The inspectors determined that the finding was of very low safety significance (Green) because it did not cause a reactor trip and the loss of mitigation equipment. The finding was not assigned a cross-cutting aspect since none of the CCAs described in IMC 0310 corresponded to an apparent cause or most significant causal factor of the performance deficiency.

Inspection Report# : 2017002 (*pdf*)

Mitigating Systems

Significance: G Jun 23, 2017

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Replace Namco Limit Switch Gasket to Maintain EQ Qualification

The NRC identified a Green non-cited violation (NCV) of title 10 Code of Federal Regulations (CFR) Part 50, Appendix B, Criterion V, "Instructions, Procedures, and

Drawings," for the licensee's failure to implement instructions to replace Namco limit switch gaskets as required to maintain environmental qualification. The licensee entered this issue into their corrective action program as CR 1309040.

The performance deficiency was determined to be more than minor because it was associated with the Equipment Performance attribute of 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, not maintaining the main steam header isolation valve limit switches in their qualified condition impacted their reliability. The inspectors determined the finding to be of very low safety significance (Green) because the finding was a deficiency affecting the qualification of a mitigating structure, system, or component (SSC), and the SSC maintained its operability or functionality. Because the finding was indicative of current licensee performance, the inspectors assigned the cross-cutting aspect of Documentation in the area of Human Performance [H.7] because the procedure did not contain accurate instructions related to the replacement of the gaskets.

Inspection Report# : 2017007 (*pdf*)

Significance:  Jun 23, 2017

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Maintain an Adequate Record of Qualification

The NRC identified a Green NCV of 10 CFR 50.49(j), for the licensee's failure to maintain a complete record of qualification for Brand-Rex cables under environmental qualification binder WBNEQ-CABL-050. Specifically, the licensee could not produce a certificate of conformance related to thermal aging test data obtained from Brand-Rex. The licensee entered this issue into their corrective action program as CR 1310230.

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 safety related cable systems. Specifically, the irretrievable loss of quality records that demonstrate the equipment is qualified for its application in conformance to Appendix B requirements, impacted the reliability and capability of safety-related cable systems. The inspectors determined the finding was of very low safety significance (Green) because the finding was a deficiency affecting the qualification of a mitigating SSC and the SSC maintained its operability or functionality. This finding was not assigned a cross-cutting aspect because the issue did not reflect current licensee performance.

Inspection Report# : 2017007 (*pdf*)

Significance:  Dec 31, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

Inadequate Immediate Determination of Operability for Essential Raw Cooling Water Pumps

The NRC identified a non-cited violation (NCV) of 10 Code of Federal Regulations (CFR) 50 Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the licensee's failure to base an immediate determination of operability (IDO) for Essential Raw Cooling Water (ERCW) pumps on information sufficient to conclude that a reasonable expectation of operability existed. The licensee restored compliance on November 30, 2016 when they documented an IDO that met the requirements of OPDP-8. The violation was entered into the licensee's CAP as CR 1237178.

The performance deficiency was more than minor because because it adversely affected the equipment performance attribute of the Mitigating Systems Cornerstone. Specifically, reasonable assurance of operability did not exist for the ERCW pumps from November 29, 2016 until November 30, 2016. The inspectors determined the finding was of very low safety significance (Green) because it did not represent an actual loss of function for at least a single train for longer than its technical specification allowed outage time. The cause of this finding had a cross cutting aspect of "Teamwork" in the Human Performance area, because individuals and work groups failed to communicate and coordinate their activities within and across organizational boundaries such that nuclear safety is the overriding priority. Inspection Report# : 2016004 (*pdf*)

Significance:  Sep 30, 2016

Identified By: Self-Revealing

Item Type: NCV Non-Cited Violation

Inappropriate Procedure used for Work Order Scope Change Results in Loss of 1B-B Shutdown Board

A self-revealed non-cited violation (NCV) of 10 Code of Federal Regulations (CFR) 50, Appendix B, Criterion V, Instructions, Procedures, and Drawings, was identified for the licensee's failure to use a procedure appropriate to the circumstances when work scope changed which contributed to the loss of the 1B-B shutdown board on May 17, 2016.

The failure to use a procedure appropriate to the circumstances, such as NPG-SPP-07.6, NPG Work Management Planning Procedure, Revision (Rev.) 14, for a work scope change associated with a design change work order on the 1B-B shutdown board on May 17, 2016, was a performance deficiency. The performance deficiency was more than minor because it affected the equipment performance attribute of the mitigating systems cornerstone objective because the loss of the 1B-B shutdown board caused the inoperability of the B train of the onsite electrical distribution system and also resulted in the inoperability of all B train structures, systems, or components (SSCs) powered from the 1B-B shutdown board. The inspectors performed an initial screening of the finding and determined that this finding was of very low safety significance (Green) because the finding did not represent an actual loss of function of a single train for greater than its technical specification (TS) allowed outage time. The finding had a cross-cutting aspect in the Work Management component of the Human Performance area because the licensee failed to implement a process of planning, controlling, and executing work activities such that nuclear safety is the overriding priority. Specifically, the process of planning and executing the work activities for Design Change Notice (DCN) 64063 failed to identify and manage the risk associated with system restoration due to either equipment failure or personnel error [H.5].

Inspection Report# : 2016003 (*pdf*)

Significance:  Aug 26, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Ensure Adequate Unit 1 Emergency Diesel Generator Surveillance Instructions

The NRC identified a Green NCV of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures and Drawings," for the licensee's failure to have adequate instructions and acceptance criteria in the emergency diesel generator surveillance instructions to ensure that the largest load rejection test bounds the power demand of the largest load. These issues were entered into the licensee's corrective action program as condition reports 1201749 and 1199001. The licensee confirmed current operability and determined that likely corrective actions will include revisions to the surveillance instructions.

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, the licensee's SIs to implement TS SR 3.8.1.9 failed to ensure that the tested kW level of the rejected load bounded the largest predicted post-accident load. 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 determined the finding was indicative of current licensee performance and assigned a cross-cutting aspect of Documentation in the area of Human Performance. [H.7]

Inspection Report# : 2016011 (*pdf*)

Significance:  Aug 26, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Adequately Evaluate Net Positive Suction Head to the Unit 1 AFW Pumps

The NRC identified a Green NCV of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the licensee's failure to properly evaluate the available net positive suction head to the Unit 1 auxiliary feedwater pumps. These issues were entered into the licensee's corrective action program as condition reports 1196925 and 1201623. The licensee confirmed current operability and had determined that likely corrective actions will include revisions to the net positive suction head calculation.

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 safety systems that respond to initiating events to prevent undesirable consequences. Specifically, the licensee's inadequate evaluation of the available NPSH for the AFW pumps resulted in a significant margin reduction of approximately 74%. The team determined the finding to be of very low safety significance (Green) because the finding was a deficiency affecting the design of a mitigating SSC that maintained its operability. The team determined the finding was indicative of current licensee performance and assigned a cross-cutting aspect of Design Margin in the area of Human Performance. [H.6]

Inspection Report# : 2016011 (*pdf*)

Barrier Integrity

Significance:  Jun 30, 2017

Identified By: Self-Revealing

Item Type: NCV Non-Cited Violation

Failure to Implement Clearance on Containment Isolation Valve Results in TS 3.6.3 Violation

A self-revealed finding and associated non-cited violation of Technical Specification (TS) 3.6.3, "Containment Isolation Valves," was identified for a failure to properly implement a clearance for containment isolation valve surveillance testing. Clearance 1-30-1011-WW removed fuses from a different valve than the one specified in the clearance. The licensee entered this issue into their corrective action program as CR 1245529.

The failure to comply with NPG-SPP-10.2, Steps 3.1.2.B.5 and 6, was a performance deficiency. The performance deficiency was more than minor because it adversely affected the configuration control attribute of the Barrier Integrity Cornerstone because the incorrectly placed clearance resulted in the inoperability of the containment isolation valve for

longer than its TS allowed outage time, reducing assurance that the containment function assumed in the safety analyses would be maintained. The inspectors performed an initial screening of the finding in accordance with NRC IMC 0609, Appendix A, and determined that this finding was of very low safety significance (Green) because the finding did not represent an actual open pathway in the physical integrity of reactor containment and did not involve an actual reduction in function of hydrogen igniters. The finding has a cross-cutting aspect in the Avoid Complacency component of the Human Performance area as defined in NRC IMC 0310, because multiple personnel failed to recognize and plan for the possibility of mistakes and error reduction tools, such as concurrent verification, were not appropriately implemented [H.12].

Inspection Report# : 2017002 (*pdf*)

Significance:  Dec 31, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

Inadequate Immediate Determination of Operability for Containment Penetration X-65

The NRC identified a non-cited violation of 10 Code of Federal Regulations (CFR) Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the licensee's failure to address all the design criteria for check valve, 1-CHV-31-3407, in the basis of the immediate determination of operability (IDO) for containment penetration X-65 to conclude that a reasonable expectation of operability existed. On September 19, TS compliance was restored when Penetration X-65 returned to operable when it was isolated and drained. The violation was entered into the licensee's CAP as CR 1216892.

The performance deficiency was more than minor because it adversely affected the design control attribute of the barrier integrity system cornerstone. Specifically, reasonable assurance of operability did not exist for containment penetration X-65 from September 18, 2016 until September 19, 2016. The inspectors performed an initial screening of the finding and determined that this finding was of very low safety significance (Green) because the finding did not represent an actual open pathway in the physical integrity of reactor containment (valves, airlocks, etc.), containment isolation system (logic and instrumentation), and heat removal components; and hydrogen igniters are not applicable. The cause of this finding had a cross-cutting aspect of "Evaluation" in the area of Problem Identification and Resolution, because the licensee did not consider all functions of check valve 1-CKV-31-3407 when performing the IDO after the valve failed to pass the surveillance instruction.

Inspection Report# : 2016004 (*pdf*)

Emergency Preparedness

Significance:  Dec 31, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Maintain Minimum On-Shift Emergency Response Staffing Levels

The NRC identified a non-cited violation of 10 Code of Federal Regulations (CFR) 50.47(b)(2) for the licensee's failure to maintain the effectiveness of its emergency plan, when on more than one occasion, the number of control room operators fell below minimum staffing, as required by Appendix C of NP-REP Tennessee Valley Authority (TVA) Nuclear Power Radiological Emergency Plan (E-Plan). The licensee's corrective actions included entering the issue into their corrective action program as CR 1233650.

The performance deficiency was more than minor because it was associated with the emergency response organization readiness attribute of the Emergency Preparedness cornerstone and adversely impacted 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. The inspectors assessed the finding in accordance with Inspection Manual Chapter 0609, Appendix B, Emergency Preparedness Significance Determination Process, and using Table 5.2-1 - Significance Examples for 50.47(b)(2), determined that this finding represented an example of a staffing process that would permit a shift to go below E-Plan minimum staffing requirements. The inspectors determined that the licensee's process, on more than one occasion, failed to ensure that on-shift staffing met E-Plan minimum staffing requirements between March 20 and May 6, 2016. The cause of the finding was determined to be associated with the cross-cutting aspect of thorough evaluation of problems in the corrective action component of the problem identification and resolution area because the organization failed to periodically analyze information from the corrective action program and other assessments in the aggregate to identify programmatic and common cause issues
Inspection Report# : 2016501 ([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

Current data as of : September 05, 2017

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