Turkey Point 3 – Quarterly Plant Inspection Findings

4Q/2017 – Plant Inspection Findings

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Initiating Events

Significance: G Oct 02, 2017
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to Perform Design Verification for Under Frequency Trip of the Main Generator Breakers

The NRC identified a non-cited violation of Title 10 Code of Federal Regulations Part 50, Appendix B, Criterion III, ? Design Control,? for failure to verify or check the

adequacy of design of the under frequency trip feature of the main generator circuit breakers with regard to the effect of its operation on plant stability and the maintenance

of critical safety functions. The licensee entered this issue into their corrective action program as AR 2220874 and AR 2224998.

The performance deficiency was determined to be more than minor because it was associated with the Design Control 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. Specifically, opening of the main

generator breakers due to an under frequency condition on the offsite power system would cause the generator load to suddenly drop from full power to the level of the plant

loads, and there was no verification that plant stability and critical safety functions would be maintained. The team evaluated the finding with Inspection Manual Chapter 0609,

Appendix A, and determined the finding met the Support System Initiators screening criteria for requiring a detailed risk evaluation. The team determined that this issue

increased the likelihood of the support system initiator ?loss of offsite power (LOOP).? The regional senior risk analyst conducted a detailed risk evaluation with a one year

exposure and determined the change in core damage frequency was less than 1E-6, which was of very low safety significance (Green). The team did not assign a crosscutting

aspect because the issue did not reflect current licensee performance.

Inspection Report# : 2017007 *(pdf)*

Significance: G Oct 02, 2017
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to Verify the Adequacy of Design for Component Protective Covers

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 verify the adequacy of design for the non-safety related component protective covers attached to safety related equipment. For immediate corrective actions, the licensee

entered this into their corrective action program as AR 02220993 and removed visibly degraded protective covers.

The performance deficiency was determined to be more than minor because it was associated with the Design Control attribute and of the Initiating Events Cornerstone objective

to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Specifically, the failure to ensure the

quality and qualification of commercial components and assemblies to maintain adequate mounting to Class 1E equipment increased the likelihood of inadvertent component failures,

and thus increased the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. The team determined the

finding to be of very low safety significance because the finding did not cause a reactor trip and the loss of mitigation equipment relied upon to transition the plant from the onset of the

trip to a stable shutdown condition (e.g. loss of condenser, loss of feedwater). This finding was not assigned a cross-cutting aspect because the issue did not reflect current licensee performance.

Inspection Report# : 2017007 *(pdf)*

Significance: G Aug 11, 2017
Identified By: Self-Revealing
Item Type: NCV Non-Cited Violation
Inadequate Foreign Materials Exclusion Controls for Thermo-Lag Activities Renders Electrical Equipment Inoperable and Results in a High Energy Arc Flash

A self-revealing Green (NCV) of Technical Specification (TS) 6.8.1.a., "Procedures and Programs," was identified for the failure to appropriately implement foreign material exclusion (FME) controls during Thermo-Lag fire barrier modifications. Specifically, maintenance procedure 0-GMP-102.21, "Installation, Modification and Maintenance of Thermo-Lag Fire Barrier System," Rev. 0C, did not include instructions in sufficient detail to prevent foreign material used in the installation of Thermo-Lag fire barriers from entering nearby electrical equipment and was a performance deficiency (PD) which affected the operation of two redundant safety-related battery chargers and caused a high energy arc fault (HEAF) that damaged the 3A 4kV switchgear bus. After the HEAF, the licensee promptly ceased all Thermo-Lag installation activities. The licensee completed a root cause evaluation in Action Request (AR) 2192198 and revised the installation procedure to prevent foreign material from entering nearby electrical equipment.

The PD was more than minor because it caused both a reactor trip and resulted in the unavailability of the 3A 4kV switchgear bus. The inspectors evaluated the significance of this finding by utilizing IMC 0609 Attachment 4, "Initial Characterization of Findings," and IMC 0609 Appendix A, "The Significance Determination Process for Findings At-Power," and determined the finding's significance could not be screened to Green because it caused both a reactor trip and the loss of mitigation equipment relied upon to transition the plant from the onset of the trip to a stable shutdown condition. Therefore a detailed risk evaluation was required to complete the significance determination. Based upon the results of the evaluation the finding was considered to be Green, or equivalent to low safety significance. The cross-cutting aspect (CCA) that best corresponds to the root cause as described in IMC 0310, "Aspects Within the Cross-Cutting Areas," was "Resources;" leaders ensure that personnel, equipment, procedures, and other resources are available and adequate to support nuclear safety (H.1).

Inspection Report# : 2017002 *(pdf)*

Significance: G May 11, 2017
Identified By: NRC
Item Type: FIN Finding
Inadequate Operational Decision-Making Procedure Implementation Results in Feedwater Heater Water Hammer

Green: A self-revealing finding was identified for the failure to adequately implement OP-AA-105-1000, "Operational Decision Making" (ODM) procedure that was used to establish plant conditions for the repair of the Unit 3 condensate tube leak in the 3B feedwater heater (FWH). The failure to implement all the steps of OP-AA-105-1000, "Operational Decision Making," to establish plant conditions for the repair of the Unit 3 condensate tube leak in the 3B FWH was a performance deficiency.

The performance deficiency was determined to be more than minor because it was associated with the configuration control and procedure quality attributes of the initiating events cornerstone and adversely affected the cornerstone's objective to limit the likelihood of events that upset plant stability. Specifically, not implementing the ODM procedure steps 2.3, "Rigorous Evaluation," and Steps 2.5, "Effective Implementation," of Attachment 3, resulted in an incorrect

revision to procedure 3-ONOP-081.02 which led field operators to close the extraction steam to the 5B FWH too quickly and without due-precaution to prevent a rapid decrease in the 5B FWH shell pressure and caused significant water hammer and resulted in a fast load reduction and reactor trip. Using Inspection Manual Chapter (IMC) 0609, Appendix A, "The Significance Determination Process (SDP) for Findings at Power," the inspectors determined that the issue had very low safety significance (Green) because the event did not cause both a reactor trip and a loss of mitigating equipment relied upon to transition the plant from the onset of the trip to a stable shutdown condition.

The finding was assigned a cross-cutting aspect of resources in the area of human performance, in that, leaders ensure that personnel, equipment, procedures, and other resources were available and adequate to support nuclear safety. Specifically, the ODM team did not ensure that the revised procedure was adequate to preclude water hammer. [H.1].

Inspection Report# : 2017001 *(pdf)*

Mitigating Systems

Significance: G Oct 02, 2017
Identified By: NRC
Item Type: NCV Non-Cited Violation
Inadequate Verification of Electrical Protective Device Selective Coordination

The NRC identified a non-cited violation of Title 10 Code of Federal Regulations Part 50, Appendix B, Criterion III, ? Design Control,? for failure to verify that coordination

exists between the protective devices on safety related switchgear in order to minimize the probability of losing a safety related power bus. For immediate corrective actions,

the licensee entered this issue into their corrective action program as Action Request (AR) 2220956 and performed an operability determination, which determined the system

was operable, and was performing a reevaluation of the calculation to determine adequate coordination.

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 systems that respond to initiating events to prevent undesirable

consequences. Specifically, failing to verify short circuits in non-safety related SSCs downstream of the safety related switchgear would not cause a lockout of the safety related

bus affected its availability and reliability. The team determined the finding to be of very low safety significance because the finding was a deficiency affecting the design

of a mitigating structure, system, or component (SSC), and the SSC maintained their operability or functionality. This finding was not assigned a cross-cutting aspect

because the issue did not reflect current licensee performance.

NOTE: This NCV was incorrectly identified in IR 2017-007 under the List of Items Opened, Closed and Discussed as Item 05000250, 251/2017008-04 due to a typographical error.

In the body of the report (Section 1R21.2.b.1) the NCV is correctly identified as NCV 250, 251/2017007-001.

Inspection Report# : 2017007 *(pdf)*

Significance: G Oct 02, 2017
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to Verify the Adequacy of CCW isolation from Supplemental Cooling System (SCS)

The NRC identified a non-cited violation of Title 10 Code of Federal Regulations Part 50, Appendix B, Criterion III, ? Design Control,? for the licensee?s failure to verify the

adequacy of design of temperature set points used for isolation of the Component Cooling Water (CCW) from the CCW supplemental cooling system (SCS) during an

accident. For immediate corrective actions, the licensee entered this into their corrective action program as AR 2218834, performed an operability determination, which

determined the system is operable but non-conforming, and issued engineering change (EC) 289598 to account for uncertainties in the CCW SCS temperature isolation setpoint.

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 systems that respond to initiating events to prevent undesirable

consequences. Specifically, by not ensuring prompt isolation or adjusting the isolation setpoint to account for instrument uncertainties and temperature lag, the licensee failed

to ensure that the SCS loop would be isolated at onset of an accident, which affected the reliability and capability of the CCW system when called upon. The determined the

finding to be of very low safety significance because the findings were a deficiency affecting the design of a mitigating structure, system, or component (SSC), and the SSC

maintained their operability or functionality. The finding had a cross-cutting aspect in the area of Human Performance because the licensee failed to ensure knowledge transfer to

maintain a knowledgeable, technically competent workforce and instill nuclear safety values [H.9].

Inspection Report# : 2017007 *(pdf)*

Significance: G Oct 02, 2017
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to adequately perform discharge testing on 3B Battery

The NRC identified a non-cited violation of Title 10 Code of Federal Regulations Part 50, Appendix B, Criterion XI, ? Test Control,? for the licensee?s failure to perform

surveillance testing on station battery 3B in accordance with the requirements of Institute of Electrical and Electronic Engineers (IEEE) 450-1987. For immediate corrective

actions, the licensee entered this issue into their corrective action program as AR 2219948 and performed an extent of condition review, which determined that none of the

station batteries were currently in a degraded condition, and placed surveillance procedure 0-SME-003.15 on administrative hold until the corrective actions are completed.

The performance deficiency was determined to be more than minor because if left uncorrected, the performance deficiency had the potential to lead to a more significant

safety concern. Specifically, the performance deficiency could result in masking degradation of the battery on future performance discharge tests and adversely affect

the ability to trend when the testing periodicity should be increased to once a year as required by Technical Specifications (TS). The team determined the finding to be of very

low safety significance because the finding did not represent an actual loss of function of one or more non-TS trains of equipment designated as high safety-significant in

accordance with the licensee?s maintenance rule program for greater than 24 hrs. This finding was not assigned a cross-cutting aspect because the issue did not reflect current

licensee performance.

Inspection Report# : 2017007 *(pdf)*

Significance: G Oct 02, 2017
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to verify the adequacy of design for the Emergency Containment Cooler (ECC) and CCW Systems

The NRC identified a non-cited violation of Title 10 Code of Federal Regulations Part 50, Appendix B, Criterion III, ? Design Control,? for the licensee?s failure to verify the

Emergency Containment Cooler (ECC) unit 4A auto start circuitry would not result in exceeding the thermal limits of the CCW system during a design basis accident.

Specifically, the licensee failed to verify that a single active failure of the motor starter auxiliary contacts would not result in exceeding the design basis limits for CCW as

described in updated final safety analysis report (UFSAR) Section 9.3. For immediate corrective actions, the licensee entered the issue into their corrective action program as

AR 2219505, performed a prompt determination of operability, and determined that the CCW system remained operable.

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 systems that respond to initiating events to prevent undesirable

consequences. Specifically, three ECC fans running during a during a design basis accident would result in exceeding the design basis temperature of 158.6 □F for the

CCW supply and a significant reduction in margin for the SI pump lube oil cooler. The team determined the finding to be of very low safety significance because the finding

was a deficiency affecting the design of a mitigating structure, system, or component (SSC) and the SSC maintained its operability. This finding was not assigned a crosscutting

aspect because the issue did not reflect current licensee performance.

Inspection Report# : 2017007 *(pdf)*

Significance: G Oct 02, 2017
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to Identify ICW Pipe Corrosion

The NRC identified a 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 inspect Intake Cooling Water (ICW) piping in accordance with license renewal commitments. For immediate corrective actions, the licensee entered

the issue into their corrective action program as AR 02218430 and AR 02218437, planned to perform localized corrosion wall thickness measurements to ensure the ICW

system remained operable.

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 reliability of systems that respond to initiating events to prevent undesirable consequences.

Specifically, unmonitored corrosion affects the reliability of the ICW systems. The team determined the finding to be of very low safety significance because it did not represent

an actual loss of function of one or more non-Tech Spec trains of equipment designated as high safety-significant in accordance with the licensee?s maintenance rule program for

>24 hrs. The finding had a cross-cutting aspect in the area of Problem Identification and Resolution, Identification, because the licensee failed to implement a corrective action

program with a low enough threshold for identifying issues [P.1]. Specifically, individuals routinely failed to identify corrosion issues on CCW system area walk downs that

exceeded proceduralized acceptance criteria of ?light surface rust? specified in 0-ADM- 564, during the July 5, 2017, August 11, 2016, and April 11, 2016 CCW area walk downs.

Inspection Report# : 2017007 *(pdf)*

Significance: G Aug 11, 2017
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to Implement Fire Detection

A NRC-identified Green finding was identified for the licensee's failure to follow plant procedure O-ADM-016, "Fire Protection Program," Rev. 19. Specifically, the licensee failed to properly implement fire watches following a HEAF on the 3A 4kV switchgear bus.

The inspectors determined that the licensee's failure to implement fire detection was a PD. This PD was more than minor because it was associated with the reactor safety mitigating systems cornerstone, and if a fire was not detected in the 3B 4kV switchgear room there was a potential for the B train of equipment to lose function which could have resulted in the unavailability of both the A and B trains of equipment post incident. The finding is not greater than Green because a risk analysis of the PD was performed and determined the risk increase in core damage frequency due to the PD was equivalent to a Green finding of very low safety significance due to the short exposure period. Because site personnel failed to reset fire detectors and implement fire watches in appropriate areas following the incident; and during interviews, inspectors identified that fire drills did not emphasize post incident activities, the inspectors concluded the finding had a CCA in the area of Human Performance associated with the "Training;" the organization provides training and ensures knowledge transfer to maintain a knowledgeable, technically competent workforce and instill nuclear safety values (H.9).

Inspection Report# : 2017002 *(pdf)*

Barrier Integrity

Significance: G Oct 02, 2017
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to Correct a Non-Conforming Condition Impacting Containment

The NRC identified a non-cited violation of Title 10 Code of Federal Regulations Part 50, Appendix B, Criterion XVI, ?Corrective Action,? for the licensee?s failure to take

timely corrective action to maintain the unit 3 and 4 containment cathodic protection systems. These systems have been non-functional on both units since 2009. The

cathodic protection system?s purpose is to protect the containment?s interconnected liner, reinforcing bars, and tendon trumplates. For immediate corrective actions, the

licensee entered the issue into their corrective action program as AR 2216534 and performed a prompt operability determination. The licensee concluded that the

containment structure was operable but non-conforming and established plans to monitor the potentially impacted inaccessible areas through continued performance of

the American Society of Mechanical Engineers (ASME) IWL and IWE programs until actions are taken to restore the Cathodic Protection System.

The performance deficiency was determined to be more than minor, because it is associated with the Design Control attribute of the Barrier Integrity cornerstone and

affected the cornerstone objective of maintaining the containment structural integrity and operational capability to provide reasonable assurance that the containment protects the

public from radionuclide releases caused by accident or events. Specifically, the failure to implement timely corrective actions to maintain the protection of the containment?s

interconnected liner, reinforcing bars, and tendon trumplates affected the structural integrity and operational capability of the containment structure. The team determined

the finding to be of very low safety significance because the finding was not a pressurized thermal shock issue, did not represent an actual open pathway in the

physical integrity of the reactor containment, and did not involve an actual reduction in function of hydrogen igniters in the reactor containment. This finding was not assigned a

cross-cutting aspect because the issue did not reflect current licensee performance.

Inspection Report# : 2017007 *(pdf)*

Significance: G Aug 11, 2017
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to Perform 100 Percent General Visual Examinations of Containment Moisture Barriers Associated with Containment Liner Leak Chase Test Connections

A NRC-identified Green NCV of 10 CFR 50.55a, "Codes and Standards," was identified for the failure to perform general visual examinations of moisture barrier materials in the reactor containment leak-chase channel test connections in accordance with the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel (BPV) Code, Section XI, Subsection IWE. The licensee performed the required examinations in Unit 3 during the April 2017, refueling outage and initiated corrective actions to revise the physical configuration of leak chase areas and review the In-service Inspection (ISI) Plan. This issue has been entered into the licensee's corrective action program as AR 02196637.

The failure to conduct the required visual examination of all moisture barriers in accordance with the ASME BPV Code requirements was a PD. The PD was more than minor significance per IMC 0612, Appendix B, "Issue Screening," because the current Containment ISI Plan did not adequately implement the ASME BPV Code inspection requirements for the examination of moisture barriers, and if left uncorrected, had the potential to lead to a more significant concern. The finding was of very low safety significance, or Green, per IMC 0609 because it did not, based on inspections performed following discovery, represent an actual open pathway in the physical integrity of the reactor containment. Because the licensee did not effectively evaluate and appropriately implement the ASME BPV Code requirements in the Containment ISI Plan when a reasonable opportunity was available through the licensee's review of NRC Information Notice (IN) 2014-07 and Regulatory Issue Summary (RIS) 2016-07, the inspectors determined the finding had a CCA in the operating experience component of the problem identification and resolution cross-cutting area, in that the organization systematically and effectively collects, evaluates, and implements relevant internal and external operating experience in a timely manner (P.5).

Inspection Report# : 2017002 *(pdf)*

Emergency Preparedness
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 Oct 02, 2017
Identified By: NRC

Item Type: NCV Non-Cited Violation
Failure to Update the UFSAR with the Latest Information Developed

The NRC identified a Severity Level-IV non-cited violation of Title 10 Code of Federal Regulations 71(e), ? Maintenance of Records, Making of Reports,? for the failure

to assure that the Updated Final Safety Analysis Report (UFSAR) contained the latest information developed, including all changes made in the facility or procedures as

described in the UFSAR. The team determined that the licensee failed to update the UFSAR to include the latest information regarding several design features associated

with turbine runback. For immediate corrective actions, the licensee entered this issue into their corrective action program as AR 2218695 to update the UFSAR.

The NRC determined this violation was associated with a minor performance deficiency in accordance with the screening criteria in IMC 0612, Appendix E. Because the failure

to update the UFSAR impacted the NRC?s ability to perform its regulatory process, the team evaluated the violation using the traditional enforcement process. The team

determined that this met the criteria for a SLIV violation because not accurately describing turbine runback design features in the UFSAR could have a material impact

on licensed activities, and met the SLIV violation criteria in 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.

Inspection Report# : 2017007 *(pdf)*

Current data as of : February 01, 2018

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