Turkey Point 3
4Q/2016 Plant Inspection Findings

Initiating Events

Significance: G Mar 31, 2016
Identified By: Self-Revealing
Item Type: FIN Finding
Failure to Fully Implement Procedure QI3-PTN-1, Design Control (Section 4OA3)
Green: A self-revealing finding was identified for the licensee's failure to provide complete instructions in Maintenance Support Package (MSP) 06-053 for the Isophase Bus Enclosure Collar replacement modification in the Turkey Point switchyard. Specifically, the control power circuitry termination points in the 8W43 switchyard breaker were not identified and documented in the associated MSP for removal as required by procedure QI 3-PTN-1, Design Control. As a result, a direct current (DC) ground was introduced to the back-up protection relay by a 'b' contact when the 8W43 breaker was opened during a planned bus switching sequence. The DC ground on the back-up protection circuitry actuated the protection relay and caused both the supply breakers for the Unit 3 startup transformer (SUT) to open resulting in a loss of off-site power (LOOP) for Unit 3. The licensee entered this performance deficiency in their corrective action program (CAP) as action request (AR) 02092653.

The performance deficiency was more than minor because it was associated with the procedure quality attribute of the initiating events cornerstone and adversely affected the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during power operations. Specifically, the failure to apply procedure QI 3-PTN-1 in its entirety allowed for a DC ground to be introduced to the DC back-up protection relay circuit resulting in a LOOP. Because this finding caused a LOOP and a resultant loss of residual heat removal (RHR), a detailed risk evaluation was required per IMC-0609, Appendix G, "Shutdown Operations Significance Determination Process." A Senior Reactor Analyst assessed the risk significance and concluded it was of very low safety significance (Green). The risk of the event was mitigated by the multiple means that the licensee had available to them to either: 1) restore electrical power to the safety related buses, or; 2) establish alternate means of heat removal either via the steam generators or
via primary "feed and bleed." The inspectors did not identify a cross-cutting aspect associated with this finding because it was not indicative of current performance since the modification package was implemented greater than three years ago. (Section 4OA3)
Inspection Report# : 2016001 *(pdf)*

Mitigating Systems

Significance: G Sep 28, 2016
Identified By: NRC
Item Type: NCV Non-Cited Violation
Improper ECC Fuse Installation
Green: A self-revealed Green finding and associated Non-cited Violation (NCV) of Technical Specification (TS) Limiting Condition for Operation (LCO) 3.6.2.2 was identified for the failure to properly insert the control power fuse for the 3B Emergency Containment Cooler (ECC) fan. The ECC unit was determined to be inoperable for greater than

the allowed outage time of 72 hours and the actions required by TS LCO 3.6.2.2, Action A, were not taken. An immediate corrective action was taken to adjust the fuse holder clips on the 3B ECC breaker to provide a tight fit. Additional corrective actions initiated by the licensee in AR 2108256 included a review of recently replaced similar breakers on Units 3 and 4 to identify and schedule inspection of fuse tightness.

The inspectors determined that the finding was more than minor because it was associated with the Mitigating Systems cornerstone attribute of Equipment Performance and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, the 3B ECC was not available to automatically start upon receipt of a safety injection signal, and during periods with two ECCs concurrently inoperable, the ECC system would not have been able to perform its specified safety function. To determine the significance of the finding, a Senior Reactor Analyst performed a bounding risk assessment by failing all three containment coolers in the Turkey Point Standardized Plant Analysis Risk (SPAR) model for the entire exposure time of 72 days. The dominant accident sequence was a very small loss of coolant accident (LOCA) where high head safety injection fails for independent reasons. The delta-core damage frequency (CDF) due to the performance deficiency was 1E-8. The low risk result was driven by the low frequency of LOCAs, the limited exposure time, and the low risk value of the containment coolers themselves. The finding was determined to be of very low safety significance (Green). This finding was assigned a cross cutting aspect associated with the avoid complacency element of the human performance area because the licensee failed to confirm fuse holder tightness following implementation of breaker maintenance. The licenee failed to recognize and plan for the possibility of mistakes, latent issues, and inherent risk, even while executing successful outcomes. [H.12]

Inspection Report# : 2016003 *(pdf)*

Significance: G Sep 13, 2016
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to Provide Adequate Guidance to Prevent LCSWGR Heat-up
Green: The NRC identified a non-cited violation of Title 10 CFR Part 50, Appendix B, Criterion V, “Instructions, Procedures and Drawings,” for the licensee’s failure to provide adequate procedural guidance to ensure that the temperature in the Load Center Switchgear Room (LCSWGR) remains below the design temperature of 104 °F. The licensee entered the issue into the corrective action program and updated the procedure to include a specific guidance to the operator during a loss of air conditioning.
This 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 that respond to initiating events to prevent undesirable consequences. Specifically, failure to provide adequate procedural guidance to prevent operators from opening the east door (el. 18’) in the 3A Switchgear Room (SWGR) when the Emergency Diesel Generator (EDG) 3A is operating (i.e., under Loss of Offsite Power conditions) would cause temperatures to rise above the room design temperature of 104 °F. 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 structure, system, or component (SSC), and the SSC maintained its operability or functionality. This finding was not assigned a cross-cutting aspect because the issue did not reflect present licensee performance.
Inspection Report# : 2016007 *(pdf)*

Significance: G Sep 13, 2016
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to Correct Reactor Coolant Loop Check Valve 312-A’s Failure to Fully Seat

Green: The NRC identified a non-cited violation of Title 10 CFR Part 50, Appendix B, Criterion XVI, “Corrective Actions,” for the licensee’s failure to correct an identified condition adverse to quality involving a failure of charging system check valve 3-312A to fully seat due to internal component wear. The licensee entered the issue into the corrective action program and took corrective actions to replace the valve’s internal components.
This 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 take appropriate corrective actions to address internal component degradation of check valve 3-312A adversely impacts the capability of charging system to isolate and provide back leakage protection to the Chemical Volume and Control System (CVCS) from the Reactor Coolant System (RCS). The team determined the finding to be of very low safety significance (Green) because the valve’s safety related function of opening to provide a boration flowpath to the RCS was maintained. This finding was not assigned a cross-cutting aspect because the issue did not reflect present licensee performance.
Inspection Report# : 2016007 *(pdf)*

Significance: G Jun 29, 2016
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to Correct Conditions Adverse to Quality Associated with the Eagle 21 System
Green. NRC reactor inspectors identified Green non-cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, “Corrective Action,” for a failure to correct a condition adverse to quality. The licensee identified that the ability to test the Eagle 21 was degraded but failed to take adequate corrective actions to correct the condition. The licensee entered the issue into their corrective action program as action request ARs 2023314 and 02145155.

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, not using COLR specified time-constants SR tests to demonstrate operability of the Eagle 21 system adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of the OP?T and OT?T reactor trip algorithms. The finding was determined to be of very low safety significance (Green) because of the defense in depth of the reactor protection system to cause a trip via alternate and diverse means. The inspectors determined the finding was indicative of present licensee performance and was associated with the cross-cutting aspect of human performance, in the area conservative bias, because individuals failed to evaluate a proposed action to determine if it was safe in order to proceed, rather than unsafe in order to stop (H14).

Inspection Report# : 2016002 *(pdf)*

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

Significance: G Jun 29, 2016
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to Post a High Radiation Area
Green. A self-revealing, Green, NCV of TS 6.12.1, was identified by health physicist inspectors for the failure to post a high radiation area (HRA). Specifically, on April 6, 2016, the licensee failed to post the area by the exterior wall of the U4 spent fuel pool (SFP) on the Auxiliary Building roof as a HRA.

This finding was determined to be greater than minor because it was associated with the Occupational Radiation Safety Cornerstone attribute of Human Performance and adversely affected the cornerstone objective ensuring adequate protection of worker health and safety from exposure to radiation from radioactive material during routine civilian nuclear reactor operation. Specifically, failure to post and control HRAs can allow workers to enter HRAs without knowledge of the radiological conditions in the area and receive unintended occupational exposure. The finding was evaluated using the Occupational Radiation Safety Significance Determination Process. The finding was not related to the As Low As Reasonably Achievable (ALARA) planning, did not involve an overexposure or substantial potential for overexposure, and the ability to assess dose was not compromised. Therefore, the inspectors determined the finding to be of very low safety significance (Green). This finding involved the cross-cutting aspect of Human Performance, Work Management (H.7) because the organization failed to implement its process for planning and controlling access to HRAs on the Auxiliary Building roof when fuel bundle movement were still ongoing. The violation was entered into the licensee's corrective action program (CAP) as action request (AR) no. 02123851.

Inspection Report# : 2016002 *(pdf)*

Public Radiation Safety

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.

Miscellaneous

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