Turkey Point 3
3Q/2015 Plant Inspection Findings

Initiating Events

Significance: G Dec 31, 2014
Identified By: Self-Revealing
Item Type: FIN Finding
Failure to Perform an Adequate Design Verification
Green: A self-revealing finding was identified for the licensee's failure to ensure an adequate design change was implemented during Unit 3 and Unit 4 instrument air compressor system upgrade modifications completed in 2013. Specifically, plant modifications EC 246991 and EC 246990 were accepted and placed in service by the licensee without verifying the control logic configuration would function properly and load under all conditions. As a result, the diesel-driven compressors would not load and pressurize the instrument air header in the event of a loss of instrument air pressure while in the standby mode of operation. Corrective actions included an immediate modification to the standby compressor loading control circuit to ensure the machine loaded automatically and revising general procedural guidance for compressor operation. The licensee entered this performance deficiency in their corrective action program as AR 01983607.

The performance deficiency was more than minor because it was associated with the design control 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 have an adequate design for controlling the operation of the standby instrument air compressor resulted in a reactor trip due to the loss of instrument air pressure. The inspectors screened the issue under the initiating events cornerstone using Attachment 4 (June 19, 2012) and Exhibit 1 (June 19, 2012) of Appendix A to Inspection Manual Chapter (IMC) 0609, "Significance Determination Process" (June 2, 2011). The inspectors concluded that a detailed risk evaluation would be required because the finding was associated with the loss of a support system that resulted in a reactor trip and affected equipment that could be used by plant operators to mitigate the resulting plant transient. A senior reactor analyst (SRA) performed a detailed risk evaluation of this issue. The NRC model for Turkey Point was adjusted by: 1) increasing the initiating event frequency for a loss of instrument air (LOIA) event by one order-of-magnitude, and 2) the failure-to-run probability of the backup air compressors was set equal to 1.0. The change in core damage frequency results were below the 1E-6 threshold and the issue was determined to be of very low risk significance (Green). The finding was associated with a cross-cutting aspect in the resources component of the human performance area because the licensee failed to ensure instrument air system equipment was available and adequate to support nuclear safety (H.1).

Inspection Report# : 2014005 *(pdf)*

Significance: G Dec 31, 2014
Identified By: Self-Revealing
Item Type: NCV Non-Cited Violation
Failure to Fully Implement Emergency Operating Procedure 3-EOP-ES-0.1, Reactor Trip Response
Green: A self-revealing non-cited violation (NCV) of TS 6.8.1, Procedures, was identified when the licensee failed to fully implement procedure 3-EOP-ES-0.1, "Reactor Trip Response." Specifically, the licensee failed to take effective action to implement Step 25 of 3-EOP-ES-0.1 and maintain pressurizer pressure and level within their required bands

in order to stabilize plant conditions following a loss of instrument air and a reactor plant trip. Corrective actions included training licensed operators on the implementation of EOP-ES-0.1. The licensee entered this performance deficiency in their corrective action program as action request 1983618.

The performance deficiency was more than minor because it was associated with the human performance 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 shutdown as well as power operations. The inspectors screened the issue under the initiating events cornerstone using Attachment 4 (June 19, 2012) and Exhibit 1 (June 19, 2012) of Appendix A to IMC 0609, “Significance Determination Process” (June 2, 2011). The inspectors concluded that a detailed risk evaluation would be required by a senior reactor analyst (SRA) because the finding was associated with a transient initiator and operator actions to utilize equipment to mitigate the associated plant transient. The NRC model for Turkey Point was adjusted by setting the failure probability of the power-operated relief valve (PORV) to remain closed during an event equal to 1.0. This represented the impact of failing to follow the emergency operating procedures resulting in lifting the PORVs during the event. The change in core damage frequency results were below the 1E-6 threshold and the issue was thus determined to be of very low risk significance (Green). This finding was associated with a cross-cutting aspect in the training component of the human performance area because the licensee failed to ensure licensed operator training provided knowledge that the reactor coolant pump seals could operate for a short period of time without seal flow (H.9).

Inspection Report# : 2014005 *(pdf)*

Mitigating Systems

Significance: G Feb 23, 2015
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to Establish a Reasonable Maintenance Effectiveness Demonstration for Unit 3 Containment Atmospheric Temperature System
Green: The NRC identified a Green non-cited violation (NCV) of 10 CFR 50.65, “Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants,” for the licensee’s failure to adequately monitor the performance or condition of the Unit 3 containment atmospheric temperature system against licensee established goals or demonstrate that the performance of the containment atmospheric temperature system was being effectively controlled through preventive maintenance, such that the system remained capable of performing its intended function. Specifically, there were multiple individual component failures on both units since March 2011 and the Unit 3 containment atmospheric temperature system was non-functional from November 5, 2014, to January 17, 2015. In response to the NRC identified issue, the licensee initiated action report (AR) 02023116, and classified the temperature elements into 10 CFR 50.65(a)(1) status on February 23, 2015, under AR 02004990.

The inspectors determined that the performance deficiency was more than minor because it affected the Equipment Performance attribute of the Mitigating Systems cornerstone objective. The licensee did not ensure the availability, reliability, and capability of the Unit 3 containment atmospheric temperature system that was used for emergency operating procedures. The inspectors determined the finding to be of very low safety significance (Green) because it was not a deficiency affecting the design or qualification of a mitigating

structure, system, or component (SSC), it did not represent the loss of a system and/or function, it did not represent an actual loss of function of at least a single train or two separate safety systems out-of-service for greater than its Technical Specifications (TS) allowed outage time, and it did not represent an actual loss of a non-TS equipment designated as high safety-significant in accordance with the licensee's maintenance rule program for greater than 24 hours. The inspectors determined the finding was indicative of present licensee performance and was associated with the cross-cutting aspect of Evaluation, in the area of Problem Identification and Resolution. Specifically, the licensee failed to thoroughly evaluate issues that were identified in the last three years associated with containment atmospheric temperature system failures to ensure that resolutions addressed causes and extent of conditions commensurate with their safety significance. [P.2]
Inspection Report# : 2015007 *(pdf)*

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

Significance: G Dec 31, 2014
Identified By: Self-Revealing
Item Type: NCV Non-Cited Violation
Non Compliance With HRA Entry Requirements
Green: A self-revealing NCV of Technical Specification (TS) 6.12.1, High Radiation Area, was identified when a worker did not comply with a radiological barrier and entered a high radiation area (HRA) without proper authorization. Specifically, on March 24, 2014, a worker entered a HRA without a survey meter, without being made aware of radiological conditions in the area, and without a health physics technician (HPT) escort and subsequently received a dose rate alarm. Upon identification, the licensee immediately restricted the worker's access to the Radiologically Controlled Area (RCA) and put out a site wide information notice to increase worker awareness of HRA entry requirements. This condition has been placed into the licensee's corrective action program as action request (AR) 01951254.

The finding was determined to be more than minor because it was related to the Occupational Radiation Safety cornerstone attribute of Human Performance (radiation worker proficiency) and adversely affected the cornerstone attribute to ensure the adequate protection of worker health and safety. Specifically, because the worker failed to comply with TS requirements for entry into a HRA he was not knowledgeable of area radiological conditions. The finding was evaluated in accordance with IMC 0609, Appendix C, where it was determined to be Green because it did not involve ALARA planning or work controls, was not an overexposure, did not contain a substantial potential for an overexposure, and the ability to assess dose was not compromised. This finding involved the cross-cutting aspect of Human Performance, Avoid Complacency (H.12) because the worker failed to apply the human performance tools of self and peer checks prior to entering into an HRA.

Inspection Report# : 2014005 *(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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