Turkey Point 4
1Q/2013 Plant Inspection Findings

Initiating Events

Significance: G Dec 31, 2012
Identified By: NRC
Item Type: FIN Finding
Failure to verify 1B feedwater heater drain valve closed
A self-revealing finding was identified when the licensee failed to follow procedure 0-ADM-222, Drain and Vent Rig Controls, while installing a temporary drain hose on Turkey Point Unit 4 in-service equipment. Operations and maintenance workers failed to verify a drain line flow path was isolated on the 1B feed water heater prior to removing a pipe valve cap that resulted in an unexpected lowering of condenser vacuum. Operators took action to close the open drain line isolation valve and terminate the plant transient. The licensee captured this condition in their corrective action program as AR 1819010.

The licensee's failure to verify the closed position of 1B feed water heater drain valve 4-30-128, as required by procedure 0-ADM-222, prior to removing the pipe cap was a performance deficiency. The inspectors determined the performance deficiency was more than minor using IMC 0612, Appendix B, Issue Screening, because the performance deficiency was associated with the configuration 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 verify the position of 4-30-128 resulted in lowering condenser vacuum that could have led to a reactor trip and the unavailability of the main condenser. The inspectors evaluated the finding using the significance determination process for findings at power of IMC 0609, Appendix A, Exhibit 1, Transient Initiators. The inspectors determined the finding was of very low safety significance (Green) because the finding did not result in a reactor trip and a loss of mitigation equipment relied upon to transition the plant to a stable shutdown condition. The finding was associated with a cross-cutting aspect in the work practices component of the human performance area because the licensee did not define and effectively communicate expectations, or follow the procedural requirement to physically verify valve position during the drain hose installation work [H.4(b)]. (Section 1R11.2)

Inspection Report# : 2012005 *(pdf)*

Mitigating Systems

Significance: G Mar 31, 2013
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Implement Timely Corrective Actions to Test Molded Case Circuit Breakers
The NRC identified a Green non-cited violation of 10 CFR 50, Appendix B, Criterion XVI, Corrective Action, for the licensee's failure to establish a test program to demonstrate that safety-related 120 VAC and 125 VDC molded case circuit breakers (MCCBs) would be able to reliably perform their intended safety functions, specifically protective tripping. The team identified that since 2005 and 2006, when the lack of periodic testing of the molded case circuit

breakers was identified; no interim measures were taken to correct the nonconforming condition. Additionally, the team identified that the licensee failed to scope the protective tripping function of the MCCBs in the maintenance rule program. Upon identification by the team, the licensee entered these issues into their correction action program as ARs 1675539, 1676808, 1788355, and 1852219. As immediate corrective actions, the licensee tested 35 breakers which performed satisfactorily. The results of this testing and an action to develop a long-term test program for the entire 120 VAC and 125 VAC MCCBs were documented in AR 1852219. A license amendment will also be pursued to allow for more TS outage time in order to remove and replace the more difficult MCCBs. The licensee's failure to implement prompt and effective corrective actions to ensure that safety-related molded case circuit breakers were adequately tested was a performance deficiency. The performance deficiency was more than minor because it adversely affected the mitigating systems cornerstone attribute of equipment performance and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. In accordance with NRC Inspection Manual Chapter 0609.04, Initial Screening and Characterization of Findings, the inspectors conducted a Phase 1 Significance Determination Process screening using Exhibit 2 of Appendix A to Manual Chapter 0609 and determined the finding to be of very low safety significance (Green) because it was a qualification deficiency confirmed not to result in the loss of operability or functionality. Because the licensee did not ensure that the necessary resources were available and adequate to maintain long term plant safety through the minimization of preventative maintenance deferrals, this finding is assigned a cross-cutting aspect in the resources component of the human performance area [H.2(a)].
Inspection Report# : 2013002 *(pdf)*

Significance: G Mar 31, 2013
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Failure to Correct Flow-Induced Vibration Leads to CCW Piping Weld Failures
A Green self-revealing non-cited violation (NCV) of 10 CFR 50 Appendix B, Criterion XVI, Corrective Action, was identified when the licensee failed to implement corrective actions that addressed low stress high cycle fatigue of component cooling water (CCW) relief valve RV-4-747B piping caused by flow induced vibration. As a result, CCW system flow induced vibration resulted in weld cracks and system pressure boundary leakage in November 2012. The licensee repaired the weld failures and installed a pipe support on the line to minimize flow induced vibration on the associated pipe in February 2013 during a scheduled refueling outage. The licensee documented this condition in their corrective action program as action request (AR) 1824939. The performance deficiency was more than minor because it was associated with the equipment performance attribute of the mitigating systems cornerstone and affected the cornerstone objective to ensure availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the failure to implement corrective actions to address CCW system flow induced vibration resulted in weld cracks and CCW system pressure boundary leakage in November 2012. The inspectors evaluated the finding under the mitigating systems cornerstone and used Inspection Manual Chapter (IMC) 0609, Appendix G, Attachment 1, Shutdown Operations Significance Determination Process Phase 1, Checklist 4, PWR Refueling Operation, dated May 25, 2004. The inspectors determined the finding was of very low safety significance (Green) because the finding did not require a quantitative assessment of risk significance since each item on the Checklist 4 was met during the time the condition existed and while the 4B residual heat removal (RHR) train was removed from service to repair the weld leak. The finding was associated with a cross-cutting aspect in the corrective action program component of the problem identification and resolution area because the licensee did not complete engineering evaluations necessary to support modifications that would prevent CCW system RV-4-747B piping weld failures caused by flow induced vibration. [P.1(c)]
Inspection Report# : 2013002 *(pdf)*

Significance: G Aug 02, 2012
Identified By: NRC
Item Type: NCV NonCited Violation

Failure to Translate Design Basis Requirements into Plant Procedures and Calculations for CCW Heat Balance Equation
An NRC identified non-cited violation (NCV) of 10 CFR 50, Appendix B, Criterion III, Design Control, was identified for the licensee's failure to translate the worse case total post accident ICW flow rate for CCW heat exchangers, as documented in calculation PTN-4FSM-04-003 Revision 2, into surveillance, 3/4-OSP-030.4, CCW Heat Exchanger (HX) Performance Test. In addition, the licensee failed to incorporate seasonal salinity variances into calculation PTN-BFJM-96-004, "HX3 and HX4 Computer Code Verification." The effects of these two discrepancies was a reduction in maximum allowed canal temperature margin by approximately 1.5% or 1.5 degrees Fahrenheit. The licensee entered this issue into their corrective action program (CAP) as Condition Report (CR) 1789995. The failure to maintain the CCW heat balance calculation to ensure the plant could meet their design basis to perform heat removal for normal cool down of the facility, and to mitigate the effects of accident conditions within acceptable limits is a performance deficiency. The inspectors determined that the performance deficiency was more than minor because the calculation errors impacted the Mitigating Systems cornerstone objective to ensure the capability of the CCW system to respond to initiating events to prevent undesirable consequences and affected the cornerstone attribute of Design Control. The inspectors determined that this finding did not have a cross-cutting aspect, because the finding was determined not to be indicative of current licensee performance.
Inspection Report# : 2012011 *(pdf)*

Significance: G Aug 02, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Corrective Actions Following Identification of a Non-conservative Technical Specification
An NRC identified non-cited violation of 10 CFR 50, Appendix B, Criterion XVI, Corrective Action, was identified when the licensee's failure to take timely corrective action to address a nonconforming condition of Technical Specification (TS) 3/4.5.2 S R4.5.2a. The non-conservative TS was identified and placed in the corrective action program in 2006 as CR 2006-22868. TS 3.5.2 SR 4.5.2a was determined to be non-conservative and the corrective action to submit a TS amendment to address the non-conservative TS was not implemented. The licensee is scheduled to submit the license amendment in the fourth quarter of 2012, as referenced in AR 1790829. The inspectors determined that the licensee's failure to timely correct a condition adverse to quality associated with the non-conservative TS was a performance deficiency. The performance deficiency was more than minor because if left uncorrected the failure to implement timely corrective actions has the potential to lead to a more significant safety event in that the unit could be placed in an unanalyzed condition for up to 24 hours. The inspectors determined that the finding was of very low safety significance because there has been no loss of safety system function. The inspectors determined that this finding directly involved the crosscutting area of Problem Identification and Resolution, component of the CAP and an aspect in taking appropriate corrective actions to address safety issues in a timely manner, commensurate with their safety significance and complexity. [P.1(d)]
Inspection Report# : 2012011 *(pdf)*

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

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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