Turkey Point 3
4Q/2013 Plant Inspection Findings

Initiating Events

Significance: G Sep 30, 2013
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Inadequate procedure to vent 3B SGFP results in AFW actuation
A self-revealing non-cited violation of Technical Specification 6.8.1, "Procedures," was identified for the licensee's failure to maintain an adequate procedure for venting the 3B steam generator feed pump (SGFP). Specifically, the licensee had failed to remove temporary instructions in Section 5.4 of procedure 3-NOP-074, "Steam Generator Feedwater System," to jumper the contacts on the 3B SGFP breaker such that the breaker appeared 'open' to the auxiliary feedwater (AFW) actuation logic, and as a result, AFW was inadvertently actuated and had to be secured by operators during a start of the 3B SGFP from the control room. The licensee entered the issue into the corrective action program as action request 1855704 and took corrective actions to revise 3-NOP-074 by removing the jumper installation steps from the procedure.

The inspectors determined that 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 remove the procedural instructions for installing a jumper in the 3B SGFP control circuit resulted in an inadvertent AFW actuation and required operators to take action to temporarily secure the ability of AFW to feed the steam generators. 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 resources component of the human performance area because the licensee failed to ensure an accurate and up-to-date procedure was maintained for operation of the feedwater system [H.2(c)]. (Section 4OA2)

Inspection Report# : 2013004 *(pdf)*

Significance: G Sep 30, 2013
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Failure to follow procedure to switch running SGFPs results in AFW actuation
A self-revealing non-cited violation of Technical Specification 6.8.1, "Procedures," was identified for the licensee's failure to implement Section 2.0 of procedure 3-NOP-074, "Steam Generator Feedwater System," for starting the 3A steam generator feedwater pump (SGFP). Specifically, the licensee failed to implement 3-NOP-074 and ensure that a second condensate pump (CP) was running before starting a second SGFP which resulted in a loss of normal feedwater to the steam generators and an actuation of auxiliary feedwater (AFW). Operators took action to secure AFW flow to the steam generators to limit plant cool down and opened the reactor trip breakers to obtain additional reactivity shut down margin. Operators also took action to start the A standby steam generator feed pump (SBSGFP) to maintain level in the SGs and both trains of AFW were returned to operable standby status. The licensee entered the issue into their corrective program as action request 1856476.

The inspectors determined that 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 power operations. Specifically, the failure to ensure that a second CP was running prior to starting 3A SGFP resulted in the trip of the running SGFP 3B and AFW actuation in response to the loss of normal feedwater supply. 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 failed to ensure proper supervisory oversight of work activities related to nuclear safety and prevent the loss of running SGFPs [H.4(c)]. (Section 4OA2)

Inspection Report# : 2013004 *(pdf)*

Significance: G Sep 30, 2013
Identified By: Self-Revealing
Item Type: FIN Finding
Failure to provide adequate instructions during maintenance on the gland seal steam system
A self-revealing finding was identified due to the licensee's failure to provide adequate work instructions for throttling the Unit 3 gland seal steam bypass valve. As a result of the licensee's inadequate work instructions, an operator opened the spill bypass valve on the gland seal steam system until system steam pressure dropped and allowed air in-leakage through the turbine gland seals. This resulted in a reactor trip and the main condenser was unavailable for reactor decay heat removal until vacuum could be restored. The licensee entered this issue into their corrective action program as action request 1847369 and revised the system operating procedure to address operation of the bypass line around the spillover control valve.

The inspectors determined the performance deficiency was more than minor because it 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 provide adequate work instructions for the operation of the gland seal steam spillover bypass valve resulted in a reactor trip with the main condenser unavailable for reactor decay heat removal until vacuum could be restored. The inspectors screened the finding and determined that the finding was a transient initiator contributor which required a detailed risk analysis because the finding resulted in a reactor trip with a loss of condenser vacuum. A bounding analysis was performed by a regional Senior Reactor Analyst who concluded that the finding resulted in an increase in core damage frequency of less than 1E-6/year and, therefore, was a Green finding of very low safety significance. The finding was associated with a cross-cutting aspect in the work control component of the human performance area because the licensee did not adequately incorporate the need for planned contingencies, compensatory actions or abort criteria to ensure that throttling the gland seal steam spillover bypass valve would not result in a reactor trip and loss of the main condenser [H.3(a)]. (Section 4OA2)

Inspection Report# : 2013004 *(pdf)*

Significance: G Sep 30, 2013
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Safety injection flow path not isolated due to manual valve out of position
The inspectors identified a self-revealing non-cited violation of the limiting condition for operation specified by Unit 3 Technical Specification (TS) 3.4.9.3, "Overpressure Mitigating Systems," which occurred as a result of the licensee's failure to locally verify the closed position of manual valve 3-990 in accordance with OP-AA-100-1000, "Conduct of Operations." The licensee's failure to locally verify the closed position of manual valve 3-990 resulted in

an unisolated high pressure safety injection flow path to the RCS for eight hours and 40 minutes which was greater than the TS 3.4.9.3 allowed outage time of four hours. Compliance with the TS was restored when the licensee isolated the flow path at the completion of in-service testing on February 28, 2013. Additionally, the licensee took corrective actions to fix the reach rod assembly and revised the procedures for verifying valve position and work order planning. The issue was entered into the licensee's corrective action program as action request 1852222.

The performance deficiency was more than minor because it was associated with the configuration control attribute of the initiating events cornerstone and adversely impacted the cornerstone objective of limiting the likelihood of events that upset plant stability and challenge critical safety functions during shutdown operations. Specifically, the performance deficiency resulted in an open high pressure flow path to the reactor coolant system that degraded the overpressure mitigating system's ability to prevent a low temperature overpressure (LTOP) event. The inspectors assessed the finding using the initiating events cornerstone and evaluated the significance of the finding using Appendix G, "Shutdown Operations Significance Determination Process," of Manual Chapter 0609. The inspectors determined that the finding required a detailed risk assessment because it was associated with a non-compliance with an LTOP technical specification. A Senior Reactor Analyst in NRC headquarters determined that the risk significance of the issue was very low (i.e., Green). The dominant accident sequence was an over-pressurization event caused by an inadvertent safety injection actuation, where the power-operated relief valves fail resulting in a through wall crack of the reactor coolant system. The finding was associated with a cross-cutting aspect in the resources component of the human performance area because the licensee failed to ensure that the work package contained adequate instructions for installation of roll pins instead of set screws in the reach rod assembly for valve 3-990 [H.2(c)]. (Section 4OA3)

Inspection Report# : 2013004 *(pdf)*

Mitigating Systems

Significance: G Jun 30, 2013
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Promptly Identify and Correct a Pressure Boundary Through Wall Leak on the 3A CCW Pump Casing Vent Pipe
The NRC identified a Green non-cited violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," for the licensee's failure to identify and correct a through wall pressure boundary leak on the 3A component cooling water (CCW) pump casing vent piping that affected system operability. The inspectors determined that the licensee's failure to identify and correct a through wall leak on an ASME Code Class pressure boundary was a performance deficiency. The condition was entered in the licensee corrective action program (CAP) as action request 01883690 and the pipe was replaced.

The performance deficiency was determined to be more than minor in accordance with IMC 0612, Power Reactor Inspection Reports, Appendix B, Issue Screening, dated September 7, 2012, because it was associated with the mitigating systems cornerstone attribute of equipment performance and adversely affected the cornerstone objective to ensure the reliability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the inspectors determined that the licensee's failure to identify a system pressure boundary leak precluded evaluations and repairs necessary to assure the reliability of the component cooling water system. The inspectors evaluated the finding using IMC 0609, Significance Determination Process, Attachment 0609.04, Initial Characterization of Findings, Tables 2 and 3, dated June 19, 2012, and Appendix A, The Significance Determination Process (SDP) for Findings At-Power, Exhibit 2 for the Mitigating Systems Cornerstone, dated June 19, 2012. The inspectors answered "yes" to

the Exhibit 2 question A.1 because the system maintained its functionality. As a result, the inspectors determined the finding to be of very low safety significance (Green). This finding was associated with a cross-cutting aspect in the corrective action program component of the problem identification and resolution area. Specifically, the licensee failed to consider the potential for system pressure boundary leakage when evaluating the operability of the component cooling water system [P.1(c)].
Inspection Report# : 2013003 *(pdf)*

Significance: G Jun 28, 2013
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to ensure that structural steel that was part of a fire barrier was provided with a three hour fire proofing
An NRC-identified non-cited violation (NCV) of Turkey Point Unit 3 operating license condition (OLC) 3.D, Fire Protection, was identified for the failure to ensure that structural steel that was part of a fire barrier for fire zone (FZ) 104 was provided with a three-hour rated fire proofing as required by the approved fire protection program. The licensee entered the issue into their corrective action program as AR-1886074 and supplemented existing hourly fire watch patrol compensatory measures in FZ 104.

Failure to comply with the requirements of the Turkey Point Fire Protection Program for ensuring that structural steel that was part of a fire barrier was provided with a three hour fire proofing was a performance deficiency. The performance deficiency was more than minor because it adversely affected the Mitigating Systems cornerstone objective of protection against external events. The inspectors determined the finding to be of very low safety significance (Green) because it was determined, through independent calculations, that the affected structural fireproofing in FZ 104 would provide more than 20 minutes of fire endurance despite the lack of fire test results or engineering evaluations documenting the fire rating of the structural steel fire proofing. The inspectors determined that no cross cutting aspect was applicable to this performance deficiency because this finding was not indicative of current licensee performance.
Inspection Report# : 2013007 *(pdf)*

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)*

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

Significance: G Mar 31, 2013
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Noncompliance with Radiological Barrier
A Green self-revealing non-cited violation (NCV) of Technical Specification (TS) 6.12.1 was identified when a worker did not comply with a radiological barrier and entered a high radiation area (HRA) without proper authorization. Specifically, the worker entered the HRA without receiving a HRA briefing, and subsequently received a dose rate alarm. Upon identification, the licensee immediately restricted the worker's access to the Radiological Controlled Area (RCA). This condition has been placed into the licensee's Corrective Action Program (CAP), under Action Request (AR) 01852456. The finding was determined to be more than minor because it was related to the Occupational Radiation Safety cornerstone attribute of Program and Process, and adversely affected the cornerstone attribute to ensure the adequate protection of worker health and safety, because the worker was not made knowledgeable of the radiological conditions. Additionally, the finding was similar to IMC 0612, Appendix E, Example 6.h, which describes an improper entry into an HRA. 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. The inspectors determined that this issue had a cross-cutting aspect in the Work Practices component of the Human Performance area because the licensee did not communicate radiological conditions to the worker through a pre-job brief [H.4(a)].
Inspection Report# : 2013002 *(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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