Turkey Point 4
3Q/2011 Plant Inspection Findings

Initiating Events

Significance: G Jun 30, 2009
Identified By: Self-Revealing
Item Type: FIN Finding
Inadequate Evaluation Of Damaged Rod Control Extension Results In High Risk Evolution And Risk Condition Yellow
A Self-revealing Finding was identified when the licensee did not manage maintenance activities adequately to identify and repair a damaged rod control drive component on Unit 3 prior to setting the reactor vessel closure head on the reactor vessel flange. As a result, the subsequently filled reactor coolant system had to be drained again to 2 feet below the reactor vessel flange (a high risk activity) placing the unit in the licensee's risk condition Yellow for repairs. The licensee documented this in condition report (CR) 2009-10284.

The finding was more than minor because it affected the Human Performance attribute of Initiating Events cornerstone and the licensee=s risk assessment failed to anticipate that the maintenance activity could result in another plant draining evolution with its inherent risk of an initiating event of loss of inventory or shutdown cooling. With appropriate mitigating equipment available, the finding screened to be of very low safety significance (Green). The finding affected the cross cutting area of Human Performance, Work Practices, Supervisory & Management Oversight (H.4(c)) because the licensee did not appropriately provide oversight of work activities, including contractors, such that nuclear safety is supported. (1R20)

Inspection Report# : 2009003 *(pdf)*

Significance: G Jun 30, 2008
Identified By: Self-Revealing
Item Type: FIN Finding
Maintenance causes smoke and fumes to enter the control room causing fire alarms.
A Self-Revealing finding of very low safety significance was identified after smoke and welding fumes from maintenance entered the control room through the ventilation system causing smoke alarms. When identified, the licensee stopped the maintenance and entered the issue into the corrective action program as CR 2008-17166.

The Initiating Events cornerstone was affected when smoke alarms occurred requiring the operators to initiate actions to protect themselves and the plant. The event screened as Green when mitigating systems remained unaffected and would have functioned, if needed. The cause of the finding is related to the cross-cutting area of Human Performance, Work Practices, (H.4.b) when personnel did not follow procedures in developing the work package for metalizing operations outside of the control room. (1R05)

Inspection Report# : 2008003 *(pdf)*

Mitigating Systems

Significance: G Aug 12, 2011
Identified By: NRC
Item Type: NCV NonCited Violation

Failure to Verify or Check the Adequacy of Design for Safety-Related Components with Four Examples
The team identified a Green non-cited violation (NCV) of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the licensee's failure to verify or check the adequacy of design for with four examples. The licensee entered these issues into their corrective action program as ARs 1672459, 1676403, 1674790, 1675544 and 1679053, and performed evaluations to assure operability of components.

The licensee's failure to adequately perform engineering evaluations as described in the four examples was a performance deficiency. The performance deficiency was more than minor because it adversely affected the Mitigating Systems cornerstone attribute of Design Control and adversely affected the cornerstone objective to ensure the availability, reliability and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the deficiencies described above, resulted in a reasonable doubt that safety-related equipment could perform their functions under the most limiting conditions. In accordance with NRC IMC 0609.04, "Initial Screening and Characterization of Findings", the inspectors conducted a Phase 1 Significance Determination Process (SDP) screening and determined the finding to be of very low safety significance (Green) because it was a design deficiency confirmed not to result in the loss of operability or functionality. Specifically, the licensee performed evaluations that provided reasonable assurance that the components would perform their required functions when called upon. The team determined that no cross cutting aspect was applicable to this performance deficiency because this finding was not indicative of current licensee performance.
Inspection Report# : 2011008 *(pdf)*

Significance:  Aug 12, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Maintain Adequate Records to Support Acceptance Criteria in Design Calculations
. The team identified a NCV of 10 CFR Part 50, Appendix B, Criterion
XVII, "Quality Assurance Records," for the licensee's failure to maintain sufficient records to furnish evidence of activities affecting quality. Specifically, the licensee was not able to retrieve test data and calculations supporting an acceptance criterion that assures the reliability and availability of minimum MCC voltage to provide adequate voltage to MCC control circuits. The licensee entered these issues into their corrective action program as AR 1676661 and has proposed actions to (1) implement a design modification to increase the control power transformer size for three motor operated valves (MOV), (2) add the control circuits for the 3 MOVs to the site's low margin list, and (3) re-create missing analysis and test data.

The inspectors determined that the failure to have retrievable test data and calculations to support acceptance criteria for MCC control circuit voltage was a performance deficiency. The finding was more than minor because it affected the Mitigating Systems Cornerstone attribute of Design Control, and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, there was reasonable doubt as to whether safety-related MCC control circuits would have sufficient voltage to function during a degraded voltage condition. The finding was considered to be of very low safety significance (Green) since this was a design deficiency confirmed not to have resulted in a loss of operability or functionality. The team determined that no cross cutting aspect was applicable to this performance deficiency because this finding was not indicative of current licensee performance.
Inspection Report# : 2011008 *(pdf)*

Significance:  Aug 12, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Voltage Calculations
The team identified a NCV of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the licensee's failure to perform adequate voltage calculations for safety-related equipment with two examples. The licensee entered these issues into their corrective action program as ARs 1677149, 1677149-02, 1673843, 1677149-02, 1676754 and 01676641 and performed evaluations to provide reasonable assurance that components would have adequate voltage pending forma re-analysis.

The inspectors determined that the failure to perform adequate design calculations to support the setpoint of the

degraded voltage relays and the failure to perform adequate design calculations for the 120Vac instrument system was a performance deficiency. The finding was more than minor because it affected the Mitigating Systems Cornerstone attribute of Design Control, and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, there was reasonable doubt as to whether the components would have adequate voltage to perform their safety function during a degraded voltage condition. The finding was considered to be of very low safety significance (Green) since this was a design deficiency confirmed not to have resulted in a loss of operability or functionality. The team determined that no cross cutting aspect was applicable to this performance deficiency because this finding was not indicative of current licensee performance.

Inspection Report# : 2011008 *(pdf)*

Significance: G Aug 12, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Test the SBO Cross-Tie under Loaded Conditions
The team identified a NCV of 10 CFR 50.63 for the licensee's failure to test the station blackout (SBO) cross-tie components under loaded conditions. Since 1991, the licensee failed to verify the capability of the SBO cross-tie and associated components to carry the required amperage during post installation tests or subsequent periodic maintenance tests. The licensee entered these issues into their corrective action program as ARs 1676402 and 1680428 with an action to establish a method and frequency for loading the SBO cross-tie components.

The team determined that the licensee's failure to perform adequate post installation testing and periodic testing as required by the licensee's commitment to RG 1.155, "Station Blackout," was a performance deficiency. This finding was more than minor because it affected the Mitigating Systems cornerstone attribute of Equipment Performance and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems and components that respond to initiating events to preclude undesirable consequences (i.e. core damage). Specifically, since the installation of cross-tie components to meet SBO requirements, the licensee failed to test the components in a loaded condition. The lack of testing resulted in a reduced reliability of the SBO cross-tie. In accordance with NRC IMC 0609.04, "Initial Screening and Characterization of Findings," the team conducted a Phase 1 SDP screening and determined the finding to be of very low safety significance (Green) because it was not a design issue resulting in loss of function, did not represent an actual loss of a system safety function, did not result in exceeding a TS allowed outage time, and did not affect external event mitigation. The team determined that no cross cutting aspect was applicable to this performance deficiency because this finding was not indicative of current licensee performance.

Inspection Report# : 2011008 *(pdf)*

Significance: G Jun 30, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to properly perform a procedure results in damage to an RHR pump
A self-revealing, non-cited violation (NCV) of Technical Specifications 6.8.1.a, Procedures, was identified when operators did not properly align the RHR system from shutdown cooling mode to injection mode. As a result, the 4A RHR pump was left running with no suction source causing a failure of the pump mechanical seal and minor flooding in the Unit 4, A RHR pump room. The pump was not available for either injection or shutdown cooling operations until the seal was replaced. The issue was documented in the corrective action program as AR 1644427 and a root cause investigation was initiated.
Inspection Report# : 2011003 *(pdf)*

Significance: G Dec 31, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Scaffold blocked access to fire areas used in a control room evacuation event
The inspectors identified a Non-cited violation (NCV) of very low safety significance when scaffolding was placed as

a barricade against personnel access to doors to fire zones 108B and 104. The barricade impeded access to the 3B and 3A DC Equipment rooms through doors that are used in the event of a control room evacuation event and may have delayed or prevented operator actions to mitigate a potential fire. When identified to the licensee, the scaffolding was promptly removed and the problem was documented in AR 594112.

Using NRC Manual Chapter 0609, Appendix F, the inspectors assigned a moderate degradation rating to the deficiency because of the likely inability of the plant operators being able to implement the procedural actions within the licensee stipulated time, and the issue was more than minor.

A regional Senior Reactor Analyst evaluated the performance deficiency under the Phase 3 protocol of the Significance Determination Process. Based upon the results of that evaluation, the performance deficiency was characterized as of very low safety significance (Green) for both units. The evaluation was performed via hand calculation using elements of NRC Manual Chapter 0609, Appendix F, NUREG-6850 as amended by Frequently Asked Questions under the National Fire Protection Association 0805 pilot program. A simplified Reactor Coolant Pump (RCP) seal Loss of Coolant Accident (LOCA) failure probability based upon Westinghouse high temperature seals was used. Key human failure probabilities were estimated using standard techniques. Conditional core damage probabilities, due to a spurious Safety Injection, were derived from the licensee's most current model results. Major assumptions and dominant accident sequence for Units 3 and 4 were discussed and included in analysis section of 1R05 in the inspection report.

The cause of the finding was related to the cross-cutting aspect of Human Performance, Work Control (H.3.a) when the scaffold-barricade was constructed without a planned contingency or compensatory measure to assure that the fire mitigation activity could be accomplished within design time constraints. (1R05)
Inspection Report# : 2010005 *(pdf)*

Significance: G Jun 30, 2009
Identified By: NRC
Item Type: FIN Finding
Failure To Maintain Lighting Impedes Compensatory Measure For Failed Fire Detection.
The inspectors identified a Green finding for failure to correct failed lighting in a Unit 4 electrical penetration room that prevented the hourly rover from adequately compensating for fire detection that was out of service. The inspectors determined that maintaining lighting in areas of degraded fire protection features is not a specific NRC requirement. The licensee documented this in CR 2009-17533.

The finding was more than minor because it affected the External Event attribute of the Mitigating Systems cornerstone and failure to correct a problem that impacted the ability of fire watch personnel to adequately compensate for out of service fire detection equipment could reasonably be viewed as a precursor to a significant fire event. The inspectors evaluated this finding using NRC Inspection Manual Chapter 0609, Appendix F, Fire Protection Significance Determination. The finding was screened as Green because the assigned fire degradation rating was low. The finding has a cross-cutting aspect in the area of Problem Identification and Resolution, Corrective Action Program, Appropriate & Timely Corrective Actions (P.1(d)) because the licensee did not document and correct a problem that was previously identified. (1R05)

Inspection Report# : 2009003 *(pdf)*

Significance: G Sep 30, 2007
Identified By: NRC
Item Type: FIN Finding
Recurring Problems with Alternate Shutdown Communication Equipment
The inspectors identified a finding when the licensee did not identify and correct an adverse trend of recurring problems with the alternate shutdown communications system. When identified, the licensee entered the issue into the corrective actions program and initiated a review of reliability issues with the communications equipment.

The finding is more than minor because it affects the availability and reliability of the communications system used by plant operators to mitigate certain fire scenarios. The issue was of very low safety significance because an alternate

communications system (radios) was available, if needed. The cause was related to the cross-cutting area of problem identification and resolution because the adverse trend of problems with alternate shutdown communications had not been identified nor corrected by the licensee commensurate with its safety significance. (IMC 305, P.1 (d)) (4OA2)
Inspection Report# : 2007004 *(pdf)*

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

Physical Protection

Although the NRC is actively overseeing the Security cornerstone, the Commission has decided that certain findings pertaining to security cornerstone will not be publicly available to ensure that potentially useful information is not provided to a possible adversary. Therefore, the cover letters to security inspection reports may be viewed.

Miscellaneous

Significance: SL-IV Aug 12, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Update the UFSAR to Reflect Changes to the Unit 3 Fuel Oil Storage and Transfer System
The team identified a SL-IV NCV for the licensee's failure to update the Updated Final Safety Analysis Report (FSAR) for a modification affecting the Unit 3 emergency diesel generator fuel oil storage tank. Specifically, a common-mode failure method was not described in the UFSAR that required proceduralized manual actions during design bases rain events. The licensee entered these issues into their corrective action program as AR 1679078.

The failure to update the UFSAR as required by procedure ENG Q1-3.4 and 10 CFR 50.71(e) was a performance deficiency. This performance deficiency was considered as traditional enforcement because, not having an adequately updated UFSAR hinders the licensee's ability to perform adequate 10 CFR 50.59 evaluations and can impact the NRC's ability to perform its regulatory function such as, license amendment reviews and inspections. In addition, the team determined that the performance deficiency was material to safety because the modification resulted in a common-mode failure method that required proceduralized manual actions for the Unit 3 EDGs to meet their mission time during design bases rain events. This violation was determined to be a SL-IV violation using Section 6.1 of the NRC's Enforcement Policy because the erroneous information was not used to make an unacceptable change to the facility or procedures. Cross-cutting aspects are not assigned for traditional enforcement violations.

Inspection Report# : 2011008 *(pdf)*

Significance: N/A May 21, 2010
Identified By: NRC
Item Type: FIN Finding
PI&R
The team concluded that, in general, problems were properly identified, evaluated, prioritized, and corrected. The threshold for initiating condition reports (CRs) was appropriately low, as evidenced by the types of problems identified and the number of CRs entered annually into the Corrective Action Program (CAP). Employees were encouraged by management to initiate CRs. However, the team identified deficiency's associated with preventative maintenance (PM) scheduling in that a number of PMs were inadvertently scheduled past their due dates when the licensee began using the PM scheduling tool LCP.net. In addition, the team identified several examples of minor equipment issues that had not been identified by the licensee and entered into the CAP. When identified, the licensee entered these issues into the CAP. Generally, prioritization and evaluation of issues were adequate, formal root cause evaluations for significant problems were adequate, and corrective actions specified for problems were acceptable. Overall, corrective actions developed and implemented for issues were generally effective and implemented in a timely manner.
The team determined that, overall, audits and self-assessments were adequate in identifying deficiencies and areas for improvement in the CAP, and in most cases, appropriate corrective actions were developed to address the issues identified. Operating experience usage was found to be generally acceptable and integrated into the licensee's processes for performing and managing work and plant operations.
Based on discussions and interviews conducted with plant employees from various departments, the inspectors determined that personnel felt free to raise safety concerns to management and use the CAP to resolve those concerns.
Inspection Report# : 2010006 *(pdf)*

Last modified : January 04, 2012