Turkey Point 4
1Q/2010 Plant Inspection Findings

Initiating Events

Significance: G Jun 30, 2009
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Failure to Implement Procedures for Conducting A Valve Alignment Causes Spill of Reactor Coolant And Contamination Of A Plant Employee
A Self-revealing Non-cited Violation of Technical Specification (TS) 6.8.1 was identified for failure to follow procedures that assure that valves are maintained in the proper positions. As a result of mis-positioning of letdown system valves, a spill of reactor coolant from the Unit 3 letdown system occurred onto the auxiliary building roof and a security officer was contaminated. The licensee documented this in CR 2009-14469.

The finding was more than minor because it affected the Human Performance attribute of Initiating Events cornerstone and if failure to implement valve position controls were left uncorrected it would have the potential to lead to a more significant safety concern. The inspectors evaluated the finding using NRC Inspection Manual 0609, Attachment 0609.04, SDP Phase 1. Because the finding did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available, the finding was screened as Green. The cross-cutting element of Human Performance, Work Practices, Human Performance & Error Prevention (H.4(a)), was affected when the licensee did not properly document activities regarding the failure to position valves in accordance with a specified valve lineup. (1R04)

Inspection Report# : 2009003 *(pdf)*

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 Mar 31, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to implement design controls in a temporary modification.
The inspectors identified an NCV of 10 CFR 50, Appendix B, Criterion III, Design Control, for failing to maintain control of temporary equipment installed on unit 4 A residual heat removal pump piping when the permanent component cooling water flow indication to the pump seal failed high. Operators were using a controlotron as a compensatory measure to verify adequate cooling flow to the unit 4A residual heat removal pump seal and to assure operability of the unit 4A residual heat removal pump. If the controlotron had failed, the operators would not have received a component cooling water low flow alarm in the control room, lack of cooling flow to the pump would have gone undetected, and operability of the residual heat removal pump could have been affected. The inspectors identified the licensee failed to follow the temporary system alteration procedure to ensure design adequacy and to determine if the alteration required a 10 Code of Federal Regulations (CFR) 50.59 evaluation and NRC approval. The licensee documented this in the corrective action program as condition report 2010-479.

The finding is more than minor because it affected the configuration control attribute of the Mitigating Systems Cornerstone in that it reduced the reliability of the 4A residual heat removal pump with the permanent flow indicator out of service while using an unevaluated controlotron to determine continued operability of the 4A residual heat removal pump. The inspectors screened the finding using NRC Inspection Manual Chapter 0609, Significance Determination of Reactor Inspection Findings for At Power Operations, Phase 1 screening. The finding was of very low safety significance because the design or qualification deficiency did not result in actual loss of operability or functionality of the pump. The cross cutting aspect of Human Performance, Work Practices (H.4(b)) was affected. (1R18)

Inspection Report# : 2010002 *(pdf)*

Significance: G Jun 30, 2009
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Failure To Implement TS Requirements Resulting From Loss Of Configuration Control Of The 3C Main Steam Isolation Valve
A Self-Revealing Non-cited violation of TS 3.7.1.5 requirements was identified when the Unit 3 C main steam isolation valve (MSIV) failed to close on demand on May 4, 2009. Licensee evaluation has found the root cause of the failure to be an inadequate post maintenance test after maintenance that resulted in the air throttle valve for the MSIV being left in the closed position. When identified, the licensee placed the throttle valve in the correct position and tested the valve stroke time satisfactorily. The licensee documented this in CR 2009-13568.

The finding was more than minor because it affected the Configuration Control attribute of the Mitigating Systems cornerstone and the failure of the MSIV to close when demanded challenged the integrity of the main steam system for isolating steam system or generator tube ruptures. The inspectors evaluated the finding using NRC Inspection Manual 0609, Attachment 0609.04, SDP Phase 1 and SDP Phase 2. An initial SDP Phase 2 screening of the finding revealed a greater than green result for Large Early Release Probability (LERF) and Phase 3 was required. A Regional Senior Reactor Analyst performed a Phase 3 evaluation of the performance deficiency and classified the finding of very low safety significance (Green). The major assumption was predicated on the information in NUREG 1806, Technical Basis for Revision of the Pressurized Thermal Shock (PTS) Screening Limit in the PTS Rule (10CFR50.61), which indicated that the possibility of core damage was remote following an extreme cool down due to a Main Steam Line Break without isolation. The cross-cutting aspect of Human Performance, Work Practices, Human Performance & Error Prevention (H.4(a)) was affected when personnel did not practice error prevention techniques such as self and peer checking, and properly document activities. (1R04)

Inspection Report# : 2009003 *(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 Jun 30, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Failure To Assure That Design Controls Were Maintained During Maintenance On The 3B Main Steam Isolation Valve (MSIV).
The inspectors identified a Non-cited violation of 10 CFR50, Appendix B, Criterion III, Design Control when maintenance personnel failed to follow procedure during reassembly of 3B main steam isolation valve and did not maintain proper configuration of a safety-related component. The licensee documented this in CR 2009-11481.

The finding was determined to be more than minor because it was associated with the Design Control attribute of the Mitigating Systems cornerstone, and it affected the cornerstone objective to ensure the reliability of systems that respond to initiating events to prevent undesirable consequences, such as the 3B MSIV. Using Manual Chapter 0609, Attachment 0609.04, Phase 1 screening, this issue was determined to be of very low safety significance because the design deficiency did not result in loss of operability. The cross-cutting element of Human Performance, Work Practices (H.4.(b)) was affected when the licensee did not effectively communicate expectations regarding procedural compliance and contractor personnel did not follow procedures. (1R12)

Inspection Report# : 2009003 *(pdf)*

Significance: G Jun 30, 2009
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Failure to Implement Design Controls When Modifying Safety Equipment During Painting Activities
A Self-revealing Non-cited violation (NCV) of 10 CFR 50, Appendix B, Criterion V was identified for failing to implement procedures that assure design control during an alteration to the 4C intake cooling water pump motor, a safety-related component. As a result, the running Unit 4 C intake cooling water pump experienced a high temperature condition and was stopped by operators. The pump may not have been able to complete its design function with the alteration that restricted the cooling air flow for the motor during painting activities. The licensee documented this in CRs 2009-15970 and 2009-16336.

The finding was more than minor because it affected the Human Performance attribute of the Mitigating Systems cornerstone and the licensee did not complete an engineering evaluation of the modification causing a high temperature condition on the motor to assure that the motor could perform its design functions. Also, NRC Inspection Manual Chapter 0612, Appendix E, Example 4.a was applicable (failure to perform an engineering evaluation with missed opportunities for licensee identification) and the finding was more than minor. The finding screened as Green using NRC Inspection Manual Chapter 0609, Attachment 0609.04, SDP Phase 1 screening because the finding did not result in a loss of function of a single train of TS equipment for greater than the allowed outage time of 14 days. The finding affected the cross-cutting area of Human Performance, Work Practices, Supervisory & Management Oversight (H.4(c)) because the licensee did not ensure supervisory oversight of work activities, including contractors, such that nuclear safety is supported. (1R18)

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

Significance: G Jun 30, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to implement TS requirements Regarding structural integrity of code class 2 main steam isolation components
The inspectors identified a Non-cited violation of TS 3.4.10 requirements on Unit 3 regarding required components, when plant operation continued although a structural flaw in Class 2 main steam isolation valve steam trap piping had been identified. As a result of using an incorrect drawing in assessing the leak, plant operation continued although a plant shutdown should have been initiated. The licensee documented this in CR 2009-15284.

The finding was more than minor because it affected the RCS equipment and barrier performance attribute of the

Barrier Integrity cornerstone and the un-isolable through wall leak challenged the integrity of the main steam system for isolating steam generator tube ruptures. Using Manual Chapter 0609, Attachment 0609.04, Phase 1 screening, this finding was determined to be of very low safety significance because all containment barrier characterization answers marked as No. The cross-cutting element of Human Performance, Decision Making, Conservative Assumptions & Safe Actions (H.1 (b)) was affected when the licensee did not use conservative assumptions in evaluating a Class 2 component flaw and its TS implications, and did not demonstrate that continued operation with the crack was safe in order to proceed.
(1R20)

Inspection Report# : 2009003 *(pdf)*

Emergency Preparedness

Occupational Radiation Safety

Significance:  Dec 30, 2009
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Failure to Implement Required TS Controls for a High Radiation Area with Dose Rates in Excess of 1000 mrem/hr
A Self-revealing Non-cited Violation of Technical Specification (TS) 6.12.2, was identified for failure to meet high radiation area (HRA) control requirements for an accessible location, i.e., Unit 4 (U4) reactor auxiliary building (RAB) roof, with radiation levels greater than 1000 millirem per hour (mrem/hr) during refueling activities. Specifically, on November 3, 2009, general area dose rates exceeding 1000 mrem/hr were identified outside of an established HRA posted barricade on the RAB roof adjacent to the outside wall of the Spent Fuel Pool (SFP) building. The HRA posted barricade, i.e., locked-HRA (LHRA) barrier, was established to delineate an area outside of which dose rates would not exceed 1000 mrem/hr. The licensee documented this issue in condition report (CR) 2009-31494.

The finding was more than minor because it affected the Program and Process (exposure control) attribute of the Occupational Radiation Safety cornerstone and the failure of the licensee to implement proper HRA controls which could have led to unanticipated worker exposures. The inspectors evaluated the finding using the Occupational Radiation Safety Significance Determination Process and determined the issue to be of very low safety significance (Green) based on High Radiation Area controls in place for the subject area. The cross-cutting element of Human Performance, Decision-Making (H.1(b)) was affected when the licensee failed to conduct adequate radiological surveys needed to demonstrate compliance with TS HRA requirements for locations potentially having dose rates exceeding 1000 mrem/hr during current Unit 4 refueling activities (2OS1).

Inspection Report# : 2009005 *(pdf)*

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 Dec 31, 2008
Identified By: NRC
Item Type: VIO Violation
Failure to Accomplish An Activity Affecting Quality in Accordance with Procedures

Inspection Report# : 2008005 *(pdf)*

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