

Turkey Point 3

1Q/2010 Plant Inspection Findings

Initiating Events

Significance: **W** Dec 30, 2009

Identified By: NRC

Item Type: VIO Violation

Violation of Technical Specification 5.5.1.1 regarding Unit 3 spent fuel storage with degrading Boraflex poison

The inspectors identified an apparent violation of Technical Specification 5.5.1.1 requirements regarding storage of fuel assemblies in the Unit 3 spent fuel pool when Keff limits for fuel configurations were not maintained using methods described in the Final Safety Analysis Report, potentially leading to a loss of shutdown margin should a dilution event occur in the pool. When identified to the licensee, the spent fuel pool boron concentration was administratively increased and other actions were planned to restore compliance.

This finding was considered more than minor because the design control attribute that assured fuel assemblies remain subcritical in the spent fuel pool was affected. The finding was determined to potentially have greater significance because of the lack of both criticality monitoring capability in the spent fuel pool and procedures for responding to an inadvertent criticality. The inspectors evaluated this finding against NRC IMC 0609 Phase 1 Screening Worksheet for Initiating Events, Mitigation Systems, and Barriers Cornerstones. The inspectors determined that IMC 0609, Appendix M is required to determine the level of safety significance of this finding because the existing SDP guidance is not adequate to provide reasonable estimates of the finding significance within the established SDP timeliness goal of 90 days. NRC staff is currently reviewing this finding to determine the level of safety significance or enforcement aspect of the issue. (4OA2)

(IR# 05000250, 251/2009005 dated January 28, 2010).

The finding was determined to be of low to moderate safety significance (White) because the finding involving: (1) the failure to comply with the TS 5.5.1.1.a requirement to assure that Keff would be maintained less than 1.0, for all cases in the Unit 3 SFP when flooded with unborated water, and (2) the failure to implement effective corrective actions as required by 10 CFR Part 50, Appendix B, Criterion XVI, for the degradation of Boraflex neutron absorber material below the administrative limits. This was identified as VIO05000250/201009-01, Failure to properly manage known Turkey Point Unit 3 Boraflex spent fuel pool degradation and the cross-cutting aspect associated with this finding in the area of Effective Corrective Actions, P.1 (d).

(IR# 05000250/2010009 dated June 21, 2010)

Inspection Report# : [2009005](#) (*pdf*)

Significance: **W** Dec 30, 2009

Identified By: NRC

Item Type: VIO Violation

Failure to implement corrective actions regarding the Unit 3 spent fuel pool operation with degrading Boraflex

The inspectors identified an apparent violation of 10 CFR Part 50, Appendix B, Criterion XVI, Corrective Actions, when the FPL Nuclear Fuels Department did not implement an approved Boraflex remedy for a Unit 3 spent fuel pool storage cell that exceeded Boraflex panel loss limits (L38) nor establish a date that the cell was prohibited from use. As a result, shutdown margin for the cell could not be assured in all cases. When identified to the licensee by the NRC, condition report 2009-32948 was written to document the non-compliance and an analysis was performed to assure adequate shutdown margin for the storage location.

(IR# 05000250, 251/2009005 dated January 28, 2010)

This finding was more than minor because the design control attribute that assured fuel assemblies remain subcritical in the spent fuel pool was affected. The inspectors evaluated this finding against NRC IMC 0609 Phase 1 Screening Worksheet for Initiating Events, Mitigation Systems, and Barriers Cornerstones. The inspectors determined that IMC 0609, Appendix M is required to determine the level of safety significance of this finding because the existing SDP guidance is not adequate to provide reasonable estimates of the finding significance within the established SDP timeliness goal of 90 days. NRC staff is currently reviewing this finding to determine the level of safety significance or enforcement aspect of the issue. (40A2)

The finding was determined to be of low to moderate safety significance (White) because the finding involving: (1) the failure to comply with the TS 5.5.1.1.a requirement to assure that Keff would be maintained less than 1.0, for all cases in the Unit 3 SFP when flooded with unborated water, and (2) the failure to implement effective corrective actions as required by 10 CFR Part 50, Appendix B, Criterion XVI, for the degradation of Boraflex neutron absorber material below the administrative limits. This was identified as VIO05000250/201009-01, Failure to properly manage known Turkey Point Unit 3 Boraflex spent fuel pool degradation and the cross-cutting aspect associated with this finding in the area of Effective Corrective Actions, P.1 (d).
(IR# 05000250/2010009 dated June 21, 2010)

Inspection Report# : [2009005](#) (pdf)

Significance:  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:  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:  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:  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:  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:  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:  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:  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:  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

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-III Dec 30, 2009

Identified By: NRC

Item Type: VIO Violation

Failure to report Unit 3 spent fuel pool operation with degrading Boraflex

The inspectors identified an apparent violation of 10 CFR Part 50.73(a)(2)(B), when a condition prohibited by Technical Specifications was not reported to the NRC after testing of Boraflex panels in 2004 in the Unit 3 spent fuel pool revealed degradation greater than assumed in criticality analyses. Because the FPL program for determining degradation of cells was a sampling program, the state of other cells could not be determined. When identified to the licensee by the NRC, condition report 2009-30043 was written to evaluate and report the non-compliance with Technical Specifications to the NRC.

The finding was more than minor because it impacted the regulatory process which depends on plant activities being properly reported. The inspectors evaluated this finding against NRC IMC 0609 Phase 1 Screening Worksheet for Initiating Events, Mitigation Systems, and Barriers Cornerstones. The inspectors determined that IMC 0609, Appendix M is required to determine the level of safety significance of this finding because the existing SDP guidance is not adequate to provide reasonable estimates of the finding significance within the established SDP timeliness goal of 90 days. NRC staff is currently reviewing this finding to determine the level of safety significance or enforcement aspect of the issue. (40A2)

(IR# 05000250, 251/2009005 dated January 28, 2010)

FPL failed to provide notification to the NRC in accordance with the requirements of 10 CFR § 50.73 when testing and evaluation of Boraflex panels in the Unit 3 SFP racks revealed Boraflex degradation beyond minimum design values specified in the UFSAR. The NRC considers the failure to provide the required notification to be a significant matter because it impacted the NRC's ability to review and assess FPL's corrective actions for managing SFP Boraflex degradation. In accordance with the Enforcement Policy, a base civil penalty in the amount of \$70,000 is considered for a Severity Level III violation.

(IR# 05000250/2010009 dated June 21, 2010)

Inspection Report# : [2009005](#) (*pdf*)

Significance: N/A Dec 30, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to maintain FSAR description of Unit 3 spent fuel pool activities.

The inspectors identified an apparent violation of 10 CFR Part 50.71(e) requirements to periodically update the final safety analysis report so that the report contains effects of changes made to the facility such that the FSAR is complete and accurate. As of December 2009, changes made to manage the Unit 3 spent fuel pool since 2001, including neutron attenuation testing methods and results, use of computer programs such as RACKLIFE, and the use of alternate means of assuring that the spent fuel remains shutdown, such as rod control cluster assembly inserts and water holes, were not described in the FSAR. When identified to the licensee by the inspectors, the licensee documented the condition in condition report 2009-34470, and informed the NRC (in letter L-2009-295, dated December 31, 2009) of plans to make appropriate updates to the FSAR descriptions by March 15, 2010.

The finding was more than minor because it impacted the regulatory process which depends on plant activities being properly documented. The inspectors evaluated this finding against NRC IMC 0609 Phase 1 Screening Worksheet for Initiating Events, Mitigation Systems, and Barriers Cornerstones. The inspectors determined that IMC 0609, Appendix M is required to determine the level of safety significance of this finding because the existing SDP guidance is not adequate to provide reasonable estimates of the finding significance within the established SDP timeliness goal of 90 days. NRC staff is currently reviewing this finding to determine the level of safety significance or enforcement aspect of the issue. (4OA2)

(IR# 05000250, 251/2009005 dated January 28, 2010)

A Non-cited Violation 05000250/201009-03 was identified for failure to update the FSAR in accordance with 10 CFR §50.71(e) so that the report accurately reflects significant changes made to the facility.

(IR# 05000250/2010009 dated June 21, 2010).

Inspection Report# : [2009005](#) (*pdf*)

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*)

Last modified : June 24, 2010