

Turkey Point 3

3Q/2010 Plant Inspection Findings

Initiating Events

Significance: **G** Sep 30, 2010

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to provide adequate instructions when working on the reactor protection system results in reactor trip

A self-revealing non-cited violation (NCV) of 10 CFR 50 Appendix B, Criterion V, Instructions, Procedures, and Drawings, was identified when the licensee started corrective maintenance on the Unit 4 reactor protection system with an inadequate procedure. As a result, a reactor trip occurred when a reactor trip circuit was not placed on bypass as an initial condition needed to safely complete the work. During the event investigation, the licensee determined that neither the work order, nor the pre-job review identified the need to place the affected train of the reactor protection system on the bypass breaker.

The finding was determined to be more than minor because it affects the Initiating Events cornerstone attribute of procedure quality and adversely affected the cornerstone objective to limit the likelihood of an event that upsets plant stability by resulting in a reactor trip. The finding was evaluated in accordance with IMC 0609, Attachment 4, and determined to be of very low safety significance (Green) per SDP Phase 1 determination 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. This finding has a cross-cutting aspect in the area of Human Performance, Work Control H.3(b) because the licensee did not appropriately coordinate work activities by incorporating actions to address the need to keep personnel apprised of the operational impact of work and plant conditions that may affect work activities, resulting in a reactor trip. (1R12)

Inspection Report# : [2010004](#) (*pdf*)

Significance: **G** Jun 30, 2010

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to implement TS requirements regarding rod position indication

A Self-Revealing Non-cited Violation of Technical Specification 3.1.3.1.b requirements was identified on Unit 3 when position indication for two rod control cluster assemblies (RCCs) drifted out of tolerance with the associated rod group position indication. Contrary to technical specification requirements, rod positions were neither re-aligned with the group counter nor was reactor power reduced to less than 90 percent within the allowed one hour action time with a potential consequence of challenging accident analysis assumptions. The issue was documented in the corrective action program as CR 2010-14724.

The finding was more than minor because if inaccurate rod position indication was left uncorrected, there was a possibility of an adverse affect of an actual rod misalignment beyond that assumed in accident analyses. The Initiating Events cornerstone was affected because rod position alignment assures that accident analysis assumptions are maintained. The inspectors evaluated the finding using NRC Inspection Manual 0609, Attachment 0609.04, Initial Screening and Characterization of Findings and classified the finding of very low safety significance (Green) using the Transient Initiator tool. The cross-cutting aspect of Human Performance, Decision Making (H.1.a) was affected when supervisory personnel did not implement their roles and authorities to ensure safety by implementing Technical Specification requirements. (4OA3)

Inspection Report# : [2010003](#) (*pdf*)

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: N/A 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. (4OA2)

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: 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:  May 21, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate procedure implementation resulting in snubber failure.

The NRC identified a non-cited violation of 10 CFR 50, Appendix B, Criterion V, for the licensee's failure to implement procedures during a visual inspection of safety related seismically qualified snubber SN-4-1039. Specifically, the licensee failed to identify missing, detached, loosened support items, or full thread engagement of all mechanical connections that led to a snubber failure as prescribed in procedure 0-OSP-105.1, Visual Inspection, Removal and Reinstallation of Mechanical Shock Arrestors, section 7.2.1.3.d. The snubber would not have been able to perform its design function to arrest shocks of the main steam piping to the C Steam Generator during seismic events or transients, such as sudden isolation of the main steam isolation valve. The licensee implemented immediate corrective actions which included replacing the snubber in containment, adding specific instructions in procedure 0-OSP-105.1 to specifically inspect the locking ring and correct installation, and to include emphasis on FPL expectations from vendor provided snubber inspection services. The licensee documented this in condition report CR 2008-31372.

The performance deficiency was more than minor because it affected the equipment performance attribute of the Mitigating Systems cornerstone in that the licensee did not ensure reliability of the snubber to respond to initiating events to prevent undesirable consequences in that the snubber would not have been able to perform its design function to arrest shocks of the main steam piping to the C Steam Generator during seismic events or transients. The finding was screened using Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," and was determined to have a very low safety significance (Green) because the system remained operable and capable of meeting its design function with no loss of safety function of the C main steam system. This finding was reviewed for cross-cutting aspects and none were identified. (4OA2).

Inspection Report# : [2010006](#) (*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:  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

Significance:  Jun 30, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to perform adequate surveys to ensure proper estimation of radionuclide concentrations in mechanical filter waste shipments

The inspectors identified a Green non-cited violation (NCV) of 10 CFR Part 20.1501(a) for the failure to perform adequate surveys to meet the requirements of 10 CFR Part 20 Appendix G. 10 CFR Part 20 Appendix G states that shippers of radioactive waste must identify and quantify radionuclides contained in each waste container. Specifically, the inspectors determined that the use of resin samples to characterize three shipments of mechanical filters in calendar years 2008 and 2009 was inadequate to ensure proper identification and quantification of the radionuclides present in each container. The licensee entered the issue into their corrective action program as condition report (CR) number 2009-32955.

The finding is more than minor because it is associated with the Public Radiation Safety cornerstone attribute of Programs and Processes and adversely affects the cornerstone objective of ensuring adequate protection of public health and safety from exposure to radioactive materials released into the public domain as a result of routine civilian nuclear reactor operation. The finding was assessed using the Public Radiation Safety Significance Determination Process (SDP). Based on the fact that subsequent follow up analyses demonstrated that none of the filter waste was under-classified, the finding was determined to be of very low safety significance (Green). This finding has a crosscutting aspect of Human Performance, Decision Making [H.1(b)], because the decision to use resin samples to characterize filter shipments was based on incorrect assumptions, i.e., that spent resin samples would be representative of the filter waste stream, and those assumptions were not demonstrated to be conservative prior to implementation. (Section 2RS8)

Inspection Report# : [2010003](#) (pdf)

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: 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*)

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. (4OA2)

(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: SL-IV 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*)

Last modified : November 29, 2010