Susquehanna 1
3Q/2004 Plant Inspection Findings

Initiating Events

Mitigating Systems

Significance: G Sep 30, 2004
Identified By: NRC
Item Type: FIN Finding
Diesel Driven Fire Pump Lack of Engine Cooling
A finding of low safety significance was identified because PPL did not adequately evaluate and correct a degraded condition associated with the high engine operating temperatures and repetitive overheating of the diesel driven fire pump (DFP) which occurred following engine shutdown.
This issue is greater than minor because it affected the Mitigating Systems cornerstone objective of ensuring the availability, reliability and capability of systems that respond to initiating events to prevent undesirable consequences. This finding is of very low safety significance, based on a Phase 1 significance determination process evaluation, because the finding did not result in the loss of a function of equipment designed as risk significant for greater than 24 hours and the finding does not increase the potential or risk of a seismic event , flood or severe weather event.
A contributing cause of this finding is related to the Problem Identification and Resolution (PI&R) cross-cutting area. PPL did not sufficiently evaluate the condition to identify and correct the reduced cooling water flow to the DFP engine. This resulted in ineffective corrective actions because the DFP was removed from service several times without taking action to correct the DFP high engine coolant temperature issue. (Section 4OA2.3)
Inspection Report# : 2004004*(pdf)*

Significance: G Sep 30, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
Reactor Building Floor and Equipment Drains Not Fully Scoped into the Maintenance Rule
The inspectors identified a non-cited violation of 10CFR 50.65 paragraph (b)(2) of the Maintenance Rule, because PPL did not scope the Unit 1 and Unit 2 reactor building (RB) equipment and floor drain systems (EFDS) into the Maintenance Rule program and as a result did not demonstrate the effectiveness of preventive maintenance for the RB EFDS. The inclusion of the RB EFDS in the scope of the monitoring program was necessary because the RB EFDS are relied upon to mitigate internal flooding events. Failure of the EFDS to function could have prevented safety-related structures, systems and components from fulfilling their safety-related function.
This finding was more than minor because it had greater significance than similar issues described in the NRC Inspection Manual Chapter 0612, "Examples of Minor Issues," Section 1.h and 1.i. In addition, the RB EFDS's performance is associated with the Equipment Performance attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. On August 18, 2004, the Unit 1 RB EFDS was unable to pass 80 gpm as assumed in the Final Safety Analysis Report during an overflow of the reactor water cleanup backwash receiving tank. Inspectors identified that system performance problems were such that a Maintenance Rule (a)(2) demonstration could not be justified. This finding was considered to have very low safety significance because the finding did not contribute to an actual loss of mitigation equipment functions, and did not increase the likelihood of a fire or flooding event.
A contributing cause of this finding was related to Problem Identification and Resolution cross-cutting area. PPL had eleven previous EFDS blockages and the evaluation of those events did not recognize that portions of the non-safety related EFDS were relied upon to mitigate accidents or transients. Therefore, PPL did not monitor the EFDS under the maintenance rule and this contributed to the degradation of the RB EFDS. (Section 1R12).
Inspection Report# : 2004004*(pdf)*

Significance: G Jun 30, 2004
Identified By: NRC
Item Type: FIN Finding
Loss of One Offsite Power Source to Unit 1 (Outage Unit)
A self-revealing finding was identified because PPL did not ensure that the contract workers cleaning the Unit 1 cooling tower maintained the required minimum distance from an energized electrical line as required by PPL's Safety Operations Safety Rule Book. Subsequently, the bucket lift contacted the 230 KV line which resulted in the loss of one of two offsite electrical power sources for Unit 1. Unit 1, shutdown for a

refuel and maintenance outage, lost one of two alternate decay heat removal systems that provide cooling for the shutdown reactor fuel.
This finding is more than minor because it affects the Mitigating Systems cornerstone attributes in that the human performance deficiency led to an actual loss of the Unit 1 fuel pool cooling system. The deficiency resulted in a loss of electrical power to an alternate decay heat removal system (spent fuel pool cooling) for the shutdown Unit 1 reactor. The error adversely affected the objective of the Mitigating Systems cornerstone to ensure the availability, reliability and capability of systems that respond to initiating events to prevent reactor core damage. The finding is of very low safety significance because the Unit 1 reactor water temperature minimally increased approximately 2 degrees Fahrenheit. (Section 1R14.1)
Inspection Report# : 2004003*(pdf)*

Significance: G Apr 23, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Identify Loose Governor Hold-Down Bolts
The inspectors identified a non-cited violation for the licensee's failure to identify loose governor mounting screws on the ‘A' EDG prior to January 2004. The loose mounting screws could have been identified in September and December 2003 when oil leaks were identified, documented, and cleaned without determining the source of the leak.
The finding is more than minor because, if not corrected, the loose governor mounting screws could have resulted in erratic operation of the diesel generator when needed to mitigate loss of offsite power scenarios.
Inspection Report# : 2004007*(pdf)*

Significance: G Apr 23, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
Maintenance Work Instructions Not Implemented to Tighten a "D" Emergency Diesel Generator Governor Bolt
The inspectors identified a non-cited violation for the licensee's failure to comply with work package instructions during replacement of the governor on the "D" emergency diesel generator (EDG). This violation is related to the failure to torque the connecting bolt between the governor output shaft arm and the fuel rack linkage, which resulted in the fuel rack linkage becoming detached in March, 2003, making the EDG inoperable. This finding is greater than minor because it affected the Mitigating System Cornerstone objective of equipment reliability, in that the function of the ‘D' emergency diesel generator was compromised when the fuel rack linkage separated. The finding is of very low safety significance because the other three divisional EDGs remained operable, and the ‘E' EDG could have been substituted for the failed ‘D' EDG. This issue also covers Human Performance cross-cutting area.
Inspection Report# : 2004007*(pdf)*

Significance: G Mar 31, 2004
Identified By: Self Disclosing
Item Type: NCV NonCited Violation
A EDG Unplanned Start due to Procedure Implementation Error
A self-revealing event resulted in a non-cited violation of Technical Specification section 5.4.1, because a non-licensed plant operator (NPO) did not implement the alternating current (AC) electrical system shutdown procedure TP-105-006, "Load Center 1B210 Outage Coordination Procedure," as written in accordance with Technical Specification 5.4.1.a. The error resulted in an unplanned start of the "A" emergency diesel generator and extended the unavailability of the "A" emergency service water (ESW) pump.
This finding is greater than minor because it adversely impacts the equipment performance attribute of the mitigating system cornerstone and adversely affects the cornerstone objective in that the finding is associated with the increased unavailability of the "A" ESW pump to support Unit 2, the operating unit. A Phase-1 significance determination evaluation screened this finding as Green because the issue does not result in an actual loss of safety function of a system, or the loss of safety function of a single train for greater than the Technical Specification allowed ESW outage time of 7 days, or the loss of safety function for a TS risk significant system for greater than 24 hours. In addition, the finding is not risk significant due to seismic, fire, flooding, or severe weather initiating events.
A contributing cause of this finding was related to the Human Performance cross-cutting area, in that a non-licensed plant operator did not follow an electrical bus shutdown procedure. As a result, an unplanned start of the "A" emergency diesel generator occurred. The untimely restoration of the electrical bus resulted in the "A" emergency service water pump unavailability time was extended by 14 hours.
Inspection Report# : 2004002*(pdf)*

Significance: G Mar 31, 2004
Identified By: Self Disclosing
Item Type: NCV NonCited Violation
Unavailability of RHR on Loss of Condensate Transfer
A self-revealing non-cited violation was identified following the loss of one offsite electrical power supply when the normal Emergency Core Cooling System (ECCS) keepfill pumps lost power. The recent ECCS passive keepfill tank modification did not properly translate the expected or the minimum ECCS system keepfill pressure into operating procedures as is required by Appendix B, Criterion III. As a result, station operators declared one loop of RHR inoperable and disabled both pumps making them unavailable for greater than 2 hours. Operating procedures did not contain the expected or minimum keepfill pressures from current design calculations and this resulted in the removal of

fully functional stand-by safety systems during a plant electrical transient.
This finding is more than minor because it is associated with both the design control and procedure quality attributes and adversely affects the objective of the Mitigating Systems cornerstone to ensure the availability, reliability and capability of systems that respond to initiating events to prevent undesirable consequences. The Phase-1 significance determination evaluation screened this finding as Green because the issue does not result in an actual loss of safety function of a system, or the loss of a safety function of a single train for greater than the Tech Spec time of 7 days or the loss of safety function for a TS risk significant system for greater than 24 hours. In addition, the finding is not risk significant due to seismic, fire, flooding, or severe weather initiating events.
The finding is related to the Human Performance cross-cutting area because PPL engineering did not adequately translate the design information (minimum ECCS keepfill pressure) into the operating procedures.
Inspection Report# : 2004002*(pdf)*

Significance: G Feb 13, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
Susquehanna did not promptly correct a condition adverse to quality associated with foaming of lubricating oil on the "D" core spray pump motors for both Units 1 and 2
A non-cited violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was identified because PPL did not adequately evaluate and promptly correct a condition adverse to quality associated with foaming of lubricating oil on the ‘D' core spray pump motors for both Units 1 and 2.
This issue is greater than minor because the ‘D' core spray pump was allowed to remain in service with a degraded condition that rendered it inoperable. Thus, the finding affected the Mitigating Systems cornerstone objective of ensuring the availability, reliability and capability of systems that respond to initiating events to prevent undesirable consequences. This finding is of very low safety significance, based on a Phase 2 significance determination process evaluation, because only one core spray train of the low pressure injection function on each unit was affected by this condition.
Inspection Report# : 2004006*(pdf)*

Barrier Integrity

Significance: G Dec 31, 2003
Identified By: NRC
Item Type: NCV NonCited Violation
PPL Did Not Adequately Implement Alarm Response Procedures for a Refuel Floor Secondary Containment Low Differential Pressure Condition
The inspectors identified a non-cited violation of very low safety significance of Technical Specification 5.4.1, because PPL did not adequately implement alarm response procedure written instructions to evaluate and correct indicated low differential pressure (D/P) for the refuel floor secondary containment.
This finding affects the Barrier Integrity cornerstone and is more than minor because it is associated with the human performance attribute and adversely affects the objective of the Barrier Integrity cornerstone to provide reasonable assurance that physical design barriers provide protection against a radiological release. This finding is of very low safety significance because the finding only represented a potential degradation of the radiological barrier function provided for the spent fuel pool.
This finding was related to the Human Performance cross-cutting area because operators did not adequately implement alarm response procedures to evaluate and correct indicated low D/P for the refuel floor secondary containment.
Inspection Report# : 2003005*(pdf)*

Significance: G Dec 31, 2003
Identified By: NRC
Item Type: NCV NonCited Violation
PPL Had Multiple Opportunities, But Did Not Identify a Condition Adverse to Quality Associated with ASME Fail-safe Closure Testing
The inspectors identified a non-cited violation of very low safety significance of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Actions," because PPL did not promptly identify a condition adverse to quality. From July to December 2003, multiple evaluations by PPL did not identify that an American Society of Mechanical Engineers (ASME) fail-safe closure test was required to be performed on main steam isolation valves. The required test had not been performed since 1994.
This finding affects the Barrier Integrity cornerstone and is more than minor because, similar to example 1.c in the NRC Inspection Manual 0612, Appendix E, "Example of Minor Issues," a required surveillance test was not performed. This finding is of very low safety significance because the finding did not represent an actual open pathway in the physical integrity of the reactor containment.
A contributing cause of this finding is related to the Problem Identification and Resolution cross-cutting area because, although PPL had multiple opportunities, PPL did not promptly identify a condition adverse to quality regarding ASME testing for the main steam isolation valves.
Inspection Report# : 2003005*(pdf)*

Significance: G Dec 31, 2003
Identified By: NRC
Item Type: NCV NonCited Violation
PPL Did Not Perform Leakage Testing on the Scram Discharge Volume Vent and Drain Valves, and Did Not Have any Test Data, Evaluations, or Radiological Consequences Analysis to Justify Their Assumption
The inspectors identified a non-cited violation of very low safety significance of Technical Specification 5.5.6, "Inservice Testing Program." Since initial plant startup, PPL did not perform valve seat leakage testing on the SDV vent and drain valves, and did not have an adequate justification that any leakage through these valves would be inconsequential.
This finding affects the Barrier Integrity cornerstone and is more than minor because, similar to example 1.c in the NRC Inspection Manual Chapter 0612, Appendix E, "Example of Minor Issues," a required surveillance test was not performed. This finding is of very low safety significance because the finding did not represent an actual open pathway in the physical integrity of the reactor containment.
A contributing cause of this finding is related to the Problem Identification and Resolution cross-cutting area because PPL's corrective actions for a similar finding were narrowly focused and limited in scope.
Inspection Report# : 2003005*(pdf)*

Significance: G Dec 31, 2003
Identified By: NRC
Item Type: NCV NonCited Violation
PPL Did Not Identify the Need to Perform an Evaluation Using the Current Probabilistic Risk Analysis and Did Not Enter the Issue into the Corrective Action Program
The inspectors identified a non-cited violation of very low safety significance of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Actions." PPL did not promptly identify a condition adverse to quality and did not enter it into its corrective action program as a condition report. Specifically, following changes made to the Probabilistic Risk Analysis (PRA), PPL did not identify the need to perform an evaluation utilizing the current PRA to verify that a 1998 change to Technical Specification 3.1.8 action statements was still valid.
This finding is more than minor because it is associated with the configuration control attribute and affects the objective of the Barrier Integrity cornerstone to provide reasonable assurance that physical design barriers provide protection against a radiological release. This finding was determined to be of very low safety significance because it did not result in an actual open pathway in the physical integrity of a fission product barrier.
A contributing cause of this finding is related to the Problem Identification and Resolution cross-cutting area in that PPL had prior opportunities to identify and correct this issue.
Inspection Report# : 2003005*(pdf)*

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

Physical Protection

Physical Protection information not publicly available.

Miscellaneous

Significance: N/A Feb 13, 2004
Identified By: NRC
Item Type: FIN Finding
PI&R Inspection Summary

The team determined that, in general, Susquehanna Steam Electric Station properly identified, evaluated and corrected problems. However, the team's findings supported the conclusion in the Annual Assessment Letter (NRC Inspection Report 50-387/2004-01) of the existence of a substantive cross cutting issue in the problem identification and resolution area. The team identified one finding that indicated deficiencies with the evaluation of issues and the effectiveness of corrective actions. Susquehanna was generally effective at identifying problems and placing them in the corrective action program. These items were screened and prioritized using established criteria, but some potentially risk-significant issues were not fully evaluated. Corrective actions were implemented in a timely manner, but some actions were not completed in a comprehensive manner or were not tracked appropriately. The team determined that workers utilized the corrective action program to address problems.
Inspection Report# : 2004006*(pdf)*

Last modified : December 29, 2004