

Susquehanna 2

1Q/2007 Plant Inspection Findings

Initiating Events

Significance:  Mar 31, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Institute Effective Measures to Assure Special Processes (Welding) are Controlled and Accomplished

The inspectors identified a non-cited violation (NCV) of 10 CFR Part 50, Appendix B, Criterion IX, "Control of Special Processes," for the failure to provide sufficiently detailed instructions for performing a reactor coolant system (RCS) pressure boundary weld on March 19, 2007, during the Unit 2 refueling outage. Lack of instructions resulted in a leak in the RCS pressure boundary. PPL entered this issue into the condition reporting system, made changes to the affected work instructions, and repaired the leak.

This finding is more than minor because it affected the Human Performance attribute of the Initiating Events cornerstone. The finding is of very low safety significance because the leak was small with sufficient mitigating equipment available in accordance with IMC 0609, Appendix G, Attachment 1, "Boiling Water Reactor (BWR) Refueling Operations Significance Determination Process." A contributing cause of this finding was related to the Resources aspect of the Human Performance cross-cutting area in that PPL did not provide complete, accurate and up-to-date documentation, procedures and work packages, which contributed to a welder breaching the RCS boundary. (Section 1R08)

Inspection Report# : [2007002](#) (*pdf*)

Mitigating Systems

Significance:  Dec 31, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate work instructions for the disassembly and inspection of IST check valves

The inspectors identified a non-cited violation (NCV) of 10 CFR 50 Appendix B, Criterion V, "Instructions, Procedures, and Drawings," because PPL did not provide adequate work instructions for the disassembly and inspection activities, required by Technical Specification 5.5.6, Inservice Testing (IST), for emergency service water (ESW) check valve 011514. Consequently, undetected degradation of the valve internals, led to the valve's failure in the full open position and the diversion of approximately 1000 gallons per minute of ESW system flow from the operating loop into the idle ESW Loop. PPL has entered the finding into the corrective action program (CR 824522) and plans to revise its maintenance instructions.

The finding is more than minor because it is associated with the Procedure Quality attribute of the Mitigating System Cornerstone and it adversely affected the cornerstone's objective to ensure the availability, reliability, and capability of systems (e.g. ESW) that respond to initiating events to prevent undesirable consequences. The finding was determined to be of very low safety significance in the Phase 1 screening conducted per Appendix A of the SDP. This finding has a cross-cutting aspect in the area of human performance because the work package was not sufficiently complete to define and implement the required disassembly and inspection of check valves (1R12).

Inspection Report# : [2006005](#) (*pdf*)

Significance:  Dec 31, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Corrective Actions for EPA Breaker Failures

Inspectors identified a non-cited violation (NCV) of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," because PPL failed to correct a long standing condition adverse to quality with regard to RPSP EPA circuit breaker problems. The

failures were attributed, in part, to PPL's inadequate prior evaluations with respect to not following recommended preventive maintenance replacement activities. PPL entered the finding into its corrective program (CR 710737) and plans to modify its preventive maintenance practices for the EPA breakers and to continue to work with the vendor to establish a permanent resolution.

The finding is more than minor because it is associated with the equipment performance attribute and affected the objective of the Mitigating Systems Cornerstone to ensure the availability, reliability and capability of equipment (e.g. the reactor protection system) that respond to initiating events to prevent undesirable consequences. The finding was determined to have very low safety significance (Green) in Phase 1 of Appendix A to the SDP because it was not a design or qualification deficiency, did not result in the loss of system safety function, did not represent the actual loss of safety function of a single train of equipment for greater than its technical specification allowed outage time, did not result in the loss of safety function of a train of risk significant non-technical specification equipment for greater than 24 hours, nor is it potentially risk significant due to seismic, flood, or severe weather initiating events. This finding has a cross-cutting aspect in the area of problem identification and resolution because PPL did not thoroughly evaluate similar breaker failures and take into account vendor information such that the extent of condition was considered and the problem resolved (4OA2).

Inspection Report# : [2006005](#) (*pdf*)

Significance:  Sep 30, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Risk Assessment

The inspectors identified a non-cited violation (NCV) of 10 CFR 50.65 (a)(4), for an inadequate risk assessment. PPL did not correctly assess the risk associated with planned maintenance activities on the "A" emergency service water pump and the diesel fire pump on August 25, 2006. PPL entered this deficiency into their corrective action program and revised the risk assessment to correctly assess plant risk.

The finding is greater than minor because it was similar to Example 7.e in IMC 0612, Appendix E, "Examples of Minor Issues," and because PPL underestimated the cumulative increase in core damage probability for ongoing planned maintenance which when correctly assessed placed Unit 2 into a higher risk category. The finding was determined to be of very low safety significance (Green) using Appendix K of Inspection Manual Chapter 0609, "Maintenance Risk Assessment and Risk Management Significance Determination Process," using Flowchart 1, because the incremental core damage probability deficit was determined to be less than 1.0 E-6 and the incremental large early release probability deficit was determined to be less than 1.0 E-7. The finding has a cross-cutting aspect in the area of human performance because PPL's planned work activities did not effectively incorporate risk insights. (Section 1R13)

Inspection Report# : [2006004](#) (*pdf*)

Significance:  Jun 30, 2006

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to Identify Material Degradation Which Resulted in a Failure of the "C" ESW Pump Breaker

A self-revealing non-cited violation of 10 CFR 50 Appendix B, Criterion XVI, Corrective Action was identified because PPL failed to adequately evaluate and correct degraded material in the "C" Emergency Service Water (ESW) pump breaker that caused a failure on April 5, 2006. PPL's corrective action for this failure included replacing the breaker with a new style breaker.

The finding was more than minor because the condition affected the Equipment Performance attribute of the Mitigating Systems Cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events. This finding is of very low safety significance because the finding was not a design or qualification deficiency, did not represent a loss of system safety function, did not represent an actual loss of safety function of a single train for greater than its Technical Specification Allowed Outage Time, did not represent an actual loss of safety function of one or more non-Technical Specification trains of equipment designated as risk significant per 10 CFR 50.65, for greater than 24 hours, and did not screen as potentially risk significant due to external events. This finding has a PI&R (evaluation) cross-cutting aspect because PPL did not perform a thorough evaluation of the problem so that the resolution addressed causes and extent of condition as necessary to prevent the subsequent failure of the 4Kv breaker due to material degradation.

Inspection Report# : [2006003](#) (*pdf*)

Significance:  Jun 30, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

Ineffective Corrective Actions to Assure Training and Qualification of Workers as Required by 10 CFR 50

Appendix B, Criterion XVI

The inspectors identified a non-cited violation of 10 CFR 50 Appendix B, Criterion XVI, "Corrective Action" because PPL did not correct long standing issues related to worker qualifications. This resulted in unqualified workers performing tasks important to safety as described by the Quality Assurance (QA) program. Inspectors observed that over a four year period, PPL took action to reconcile the qualification of the individuals involved in each event. PPL has developed a plan to address this issue and an effectiveness review of the implemented actions is scheduled for November 2006.

This finding is more than minor because if left uncorrected, the tasks being performed by unqualified workers will become a more significant safety concern. An unqualified worker calibrating safety-related equipment affected the Equipment Performance attribute of the mitigating systems cornerstone and unqualified fire brigade members affect the Protection Against External Factors attribute of the same cornerstone. The finding affects the cornerstone objective of ensuring the availability and reliability of systems that respond to initiating events. This finding is of very low safety significance because the work performed by the unqualified individual performing the recirculation flow calibration did not result in a loss of system safety function, and did not represent an actual loss of safety function of any single train of equipment. The Significance Determination Process (SDP), Appendix F, does not specifically address fire brigade issues and allows for management discretion to determine issue significance. This performance issue was reviewed by NRC management and is determined to be a finding of very low safety significance.

Inspection Report# : [2006003](#) (*pdf*)

Barrier Integrity

Significance:  Jun 30, 2006

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Inadequate Procedure Results in Elevated Reactor Coolant System Leakage

A self-revealing non-cited violation of 10 CFR 50 Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified for failure to have adequate work instructions prescribed in a maintenance procedure, which resulted in a reactor coolant system mechanical joint leak. PPL entered this condition into the corrective action program and properly reassembled the mechanical joint during the Unit 2 Spring maintenance outage.

This finding is greater than minor because the condition affected the Procedure Quality attribute of the Barrier Integrity Cornerstone and affected the cornerstone objective of providing reasonable assurance that physical design barriers (reactor coolant system) protect the public from radionuclide releases caused by accidents or events. The finding was determined to be of very low safety significance because the reactor coolant system leak would not have resulted in exceeding the Technical Specification limit for identified leakage, nor would it have likely effect other mitigation systems resulting in a total loss of their safety function.

Inspection Report# : [2006003](#) (*pdf*)

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

Physical Protection

[Physical Protection](#) information not publicly available.

Miscellaneous

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