

Susquehanna 1

4Q/2011 Plant Inspection Findings

Initiating Events

Significance:  Mar 31, 2011

Identified By: Self-Revealing

Item Type: FIN Finding

Inadequate Corrective Actions Result in Loss of Drywell Cooling and Downpower

A self-revealing Green finding of NDAP-QA-0702, "Action Request and Condition Report Process," Revision 27, was identified when inadequate corrective action from the July 2010 flooding event resulted in endbell leakage from the '1A' Reactor Building (RB) chiller during a post-maintenance test (PMT) that wetted and tripped the redundant '1B' RB chiller. The loss of both chillers resulted in elevated drywell temperatures and off-normal procedure entries, and also required a power reduction of approximately 40 percent rated thermal power (RTP). PPL's corrective actions from this event included updating MT-GM-015, "Torquing Guidelines," Revision 23, Section 8.4, "Joints Using Elastomer Gaskets," to require a torque recheck after one hour. Another corrective action required that equipment work instructions include correction of any adverse sealing surfaces on epoxy-coated flange faces identified. PPL entered this issue into their corrective action plan (CAP) as CR 1381163.

The finding was more than minor due to its adverse affect on the Initiating Events cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations and was associated with its configuration control and equipment performance attributes. Specifically, the operating RB chiller's lineup and availability were impacted by being wetted and tripping during maintenance of the '1A' RB chiller and resulted in reactivity manipulations to control drywell parameters. The finding was evaluated in accordance with IMC 0609 Attachment 4, "Initial Screening and Characterization of Findings," and determined to be a transient initiator contributor. However, while the finding contributed to the likelihood of a reactor trip, it did not contribute to the likelihood that mitigation equipment or functions would not be available, and, therefore, screened as Green. The finding was determined to have a cross-cutting aspect in PI&R area, CAP, for which a licensee thoroughly evaluates problems such that the resolutions address causes and extent of conditions. Specifically, following the Unit 1 July 2010 internal flooding event, PPL did not thoroughly evaluate the problems of torque relaxation and coating irregularities such that corrective actions addressed the actual extent of cause and conditions.

Inspection Report# : [2011002](#) (*pdf*)

Significance:  Mar 31, 2011

Identified By: Self-Revealing

Item Type: FIN Finding

Inadequate Maintenance Procedure Results in Steam Leak and Manual Scram

A self-revealing finding of very low safety significance (Green) was identified when PPL personnel did not have adequate procedures to perform maintenance on a threaded connection on the '5C' feedwater heater (FWH) extraction steam bleeder trip valve, (BTV)10245C. Specifically, existing maintenance procedures did not ensure that a threaded vent plug was reinstalled properly following maintenance. As a result, on January 25, 2011, the threaded plug was ejected from the vent hole resulting in a steam leak that was un-isolable without removing the main turbine from service. The steam leak caused malfunctions of non-safety-related electrical systems and ultimately led to a manual reactor scram by control room operators. PPL entered this issue in their CAP as condition report CR 1346952.

The finding was more than minor because the finding was associated with the Initiating Events cornerstone attribute of Equipment Performance, and affected the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during power operation. Specifically, failure of the pipe plug resulted in an un-isolable steam leak that ultimately led to a manual scram. The inspectors evaluated the finding using IMC 0609, Attachment 4, "Initial Screening and Characterization of Findings," and determined 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. In this case, the main condenser was available as mitigation equipment once the turbine was tripped and

the leak was isolated. Consequently, the finding is of very low safety significance (Green). This finding is related to the cross-cutting area of Human Performance – Resources, because PPL did not ensure that personnel, equipment, procedures, and other resources were available and adequate to assure nuclear safety. Specifically, PPL did not ensure that complete, accurate and up-to-date procedures were available to reinstall a threaded plug on a BTV in the FWH extraction steam line.

Inspection Report# : [2011002](#) (pdf)

Significance: **W** Sep 30, 2010

Identified By: Self-Revealing

Item Type: FIN Finding

Procedural Inadequacies Result in Reactor Scram and Loss of Normal Heat Sink

A self-revealing preliminary White finding regarding procedure NDAP-QA-0008, “Procedure Writer’s Guide,” Revision 8, was identified following a July 16, 2010, flooding event in the Unit 1 condenser bay which resulted in a manual reactor scram and loss of the normal heat sink. There were three instances of inadequate procedures identified. The first instance involved maintenance procedure MT-043-001 which provided inadequate instructions regarding installation of the condenser waterbox gaskets and led to the event. In addition, two other off-normal procedures were inadequate in that they complicated operator response to the event. Specifically, operators used a diagram in off-normal procedure ON-100-003, “Chemistry Anomaly,” to identify and isolate the leak which was incorrect, delayed leak isolation, and resulted in a manual reactor scram in anticipation of a loss of the normal heat sink. Finally, ON-142-001, “Circulating Water (CW) Leak,” did not contain specific instructions to isolate a condenser waterbox leak which contributed to operators using ON-100-003 which was not intended to be used to isolate the condenser box during flooding conditions. PPL corrected the diagram error, dewatered and repaired affected equipment, and entered this issue into their CAP (1282128).

This finding was determined to be more than minor as it affected the Initiating Events cornerstone attribute of Procedure Quality and its objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during power operation. The finding was evaluated using Phases 1, 2, and 3 of the Significance Determination Process. The conclusion of the Phase 3 analysis was an estimated change in core damage frequency (CDF) of 1.1E-6/yr (White) and an estimated change in large early release frequency (LERF) of 2.6E-7/yr (White). The finding is related to the cross-cutting area of Problem Identification and Resolution, Corrective Action Program, in that PPL did not thoroughly evaluate problems such that the resolutions address the causes and extent of condition, as necessary. Specifically, PPL did not appropriately evaluate and correct a known issue in an off-normal procedure or adequately evaluate previous CW system waterbox manway gasket leaks to ensure that future occurrences could be prevented.

Final SDP issued 12/16/2010. IR 2010-008

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

Inspection Report# : [2010008](#) (pdf)

Mitigating Systems

Significance: **G** Dec 31, 2011

Identified By: NRC

Item Type: FIN Finding

Failure to Properly Implement Work Instructions Results in C EDG Inoperability

An NRC-identified Green finding of TS 5.4.1, “Procedures,” due to PPL’s failure to properly plan and implement work instructions and Quality Control (QC) hold point inspections associated with a modification to the ‘C’ Emergency Diesel Generator (EDG) fuel pump assemblies was identified. The error resulted in the failure of the ‘C’ EDG to continue running during surveillance testing on December 6, 2011. This resulted in PPL failing to meet the requirements of TS 3.8.1, “AC Sources- Operating”, when it was determined that the ‘C’ EDG was inoperable from September 19, 2011, following restoration from its maintenance outage, until December 6, 2011, when the operable ‘E’ EDG was substituted for the ‘C’ EDG. Additionally, the failure to implement work instructions resulted in PPL

failing to meet the requirements of 10 CFR Part 50, Appendix B, Criterion X, "Inspection," which requires, in part, that licensees execute a program for inspection of activities affecting quality to verify conformance with the documented instructions, procedures, and drawings for accomplishing the activity. The deficiency was entered into PPL's corrective action program (CAP) as condition Report (CR) 1506105 and a root cause analysis (RCA) was performed.

The performance deficiency was determined to be more than minor because the finding was associated with the Mitigating Systems cornerstone attribute of Human Performance, and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). The finding was evaluated using Phase 1 and inspectors determined the finding was potentially greater than very low safety significance because the finding represented an actual loss of safety function of a single train for greater than its TS Allowed Outage Time. The Phase 2 analysis determined the finding was potentially greater than very low safety significance given an exposure time of 75 days. A Phase 3 analysis was conducted by an NRC Senior Reactor Analyst (SRA). This analysis indicated an increase in core damage frequency (? CDF) for internal initiating events in the range of 1 core damage accident in 40,000,000 years of reactor operation, in the low E-8 range per year for each unit. The dominant core damage sequences included losses of offsite power with the failure of all EDGs, due to common cause, resulting in a station blackout, followed by operator failure to extend RCIC operation with loss of DC power, failure to depressurize the reactor and failure to recover offsite power within 4 hours. The finding is related to the CCA of Human Performance, Work Practices, in that PPL personnel did not use human error prevention techniques, such as holding pre-job briefings, self and peer checking, and proper documentation of activities, commensurate with the risk of the assigned task, such that work activities are performed safely. Specifically, PPL did not perform adequate human error prevention techniques such that the incorrect assembly of delivery valve springs and stops avoided. (H.4(a)) (Section 1R13)

Inspection Report# : [2011005](#) (*pdf*)

Significance: SL-IV Nov 08, 2011

Identified By: NRC

Item Type: VIO Violation

Violation of 10CFR55.25, Failure to Notify NRC of a Change in Medical Status and Request a Conditional License

The inspectors identified a SL IV NOV of 10 CFR 55.25, "Incapacitation Because of Disability or Illness," for PPL failing to notify the NRC of a known permanent change in medical status of a licensed operator, and 10 CFR 55.3, "License Requirements," for failing to ensure that an individual license holder, in the capacity of a reactor operator (RO), met the medical prerequisites prior to performing licensed operator duties. Specifically, an RO failed a medical examination in both 2009 and 2011 which identified a disqualifying condition and performed licensed duties without an NRC-approved, amended license. He performed the function of an RO while on watch from April 2009 through August 2011, when the NRC identified this issue. However, the operator did wear corrective lenses while standing watch since April 2009. Upon notification PPL submitted, and the NRC approved, a conditional license to address the disqualifying medical condition. PPL entered this issue into their corrective action program (CAP) as condition report (CR) 1450138.

The inspectors determined that PPL's failure to notify the NRC of a known permanent change in a licensed operator's medical status and request an amended license in order to assume licensed duties was a performance deficiency. This finding was evaluated using the traditional enforcement process because the issue had the potential to impact or impede the regulatory process. Specifically, there was a potential for license termination or the issuance of a conditional license to accommodate for a medical condition. The RO performed licensed duties from April 2009 through August 2011 with a disqualifying condition that required his license to be amended. Using the NRC Enforcement Policy, this violation was characterized at SL IV, in accordance with Section 6.4.

This violation is being cited in the enclosed Notice in accordance with NRC Enforcement Manual Section 3.1.2, because the violation was determined to be repetitive of NRC Enforcement Action (EA) 09-248 dated January 28, 2010, an SLIII Notice of Violation related to a Senior Reactor Operator (SRO) standing watch without meeting a medical qualification requirement. The medical conditions in both the former and current cases were similar; therefore, it was reasonable that an adequate extent of condition review for EA-09-248 should have identified the additional discrepancy.

This significance of the associated performance deficiency was screened against the Reactor Oversight Process (ROP)

per the guidance of IMC 0612, Appendix B. No associated ROP finding was identified and no cross-cutting aspect was assigned. (Section 1R11)

Inspection Report# : [2011004](#) (*pdf*)

Significance:  Jun 30, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Implement Risk Management Actions during Dual Unit Elevated Risk

The inspectors identified a Green NCV of 10 CFR 50.65a(4) when PPL failed to manage risk as assessed on June 1, 2011. During a period of dual unit Orange risk, PPL did not adequately implement protected equipment risk management actions (RMAs) designated in its risk assessment. During a walkdown, the inspectors identified that none of the core spray divisions or safety relief valves (SRVs) on either unit had been protected. They also identified that Unit 1 Division II low pressure coolant system (LPCI) had not been protected and Unit 2 Division I LPCI was only partially protected. Finally, the inspectors identified that some Unit 1 Division II residual heat removal (RHR) shutdown cooling equipment listed as protected in the Station Leadership Report had not been protected. This issue was documented in PPL's CAP as Condition Report (CR) 1417135.

The inspectors determined that the performance deficiency was more than minor due to its similarity to examples 3.j and 3.k of IMC 0612 Appendix E, "Examples of Minor Issues." The issue also affected the Mitigating Systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences and its human performance attribute. Specifically, the issue was programmatic based on the extent of protected equipment deficiencies, five consecutive quarters of 10 CFR 50.65a(4) violations, the timing of the violation during dual unit Orange risk, and that if left uncorrected could lead to more significant issues such as pre-event human error that impacts mitigating equipment availability during a subsequent initiating event with already elevated plant risk. Since the exposure time of the deficiency was limited to four hours and with due consideration of the other RMAs taken by PPL, this finding is determined to be of very low safety significance (Green). This finding was determined to have a cross-cutting aspect in Problem Identification and Resolution, (PI&R) CAP. Specifically, although PPL had recognized the negative trend with execution of a root cause analysis (RCA), interim corrective actions for the adverse trend of 10 CFR 50.65 a(4) violations proved inadequate to prevent another violation of this regulation for the fifth consecutive quarter. (P.1 (d)) (1R13)

Inspection Report# : [2011003](#) (*pdf*)

Significance:  Jun 30, 2011

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to Establish Design Control Measures Associated with Installation of a Gland Liner in the HPCI Steam Supply Inboard Isolation Valve

A self-revealing Green NCV of 10 CFR 50, Appendix B, Criterion III, "Design Control," occurred when a brass gland liner was installed in the gland for HV155F002, the high pressure coolant injection (HPCI) steam supply inboard isolation valve, without appropriately evaluating the material and design of the liner for its potential impact on the valve packing system. Inappropriate design and fabrication of the gland liner resulted in numerous steam leaks since its installation and ultimately led to a significant steam leak that resulted in the inoperability of the primary containment isolation valve (PCIV), necessitating isolation of the HPCI system. PPL entered this issue into their CAP as 1361274.

The finding is more than minor because it is associated with the design control attribute of the Mitigating Systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, inappropriate design of the gland liner resulted in numerous steam leaks since its installation and ultimately led to the significant steam leak that resulted in the inoperability of the PCIV and isolation of the HPCI system. The finding was evaluated for significance using IMC 0609, Attachment 4, "Phase 1 - Initial Screening and Characterization of Findings." The inspectors answered "Yes" to the screening question, "Does the finding represent a loss of system safety function?" since the HPCI system is a single train high pressure injection system. Therefore, a Phase 2 SDP evaluation was performed using IMC 0609, Appendix A, "Determining the Significance of Reactor Inspection Findings for At-Power Situations." The pilot Phase

2 evaluation conducted using the SDP interface and the SRA conducted Phase 3 evaluation, assuming that HPCI was inoperable for 5 days, indicated a ?CDF in the low E-7 per year range. The dominant core damage sequence was a medium loss of coolant accident followed by a failure of high pressure cooling and failure of the operators to depressurize to allow use of low pressure core cooling systems. Given the delta CDF, in the low E-7 range, the SRA determined that the increase in large early release frequency (?LERF) would not be greater than very low significance because of the 0.3 high pressure core damage sequence factor applied for BWR Mark II containments in IMC 0609 Appendix H. Further the SRA determined that external events were not of concern given the very short < 5 day, exposure period. This issue was determined to not have a cross-cutting aspect as this issue was not reflective of current performance. This was based on the age of design modification, which was installed in 1996 and re-evaluated in 1998. (4OA2)

Inspection Report# : [2011003](#) (pdf)

Significance:  Mar 31, 2011

Identified By: NRC

Item Type: FIN Finding

RWST Level Transmitter Failure Not Entered in CAP

Inspectors identified a Green finding of MT-AD-605, “Maintenance and Calibration of Installed Plant Instrumentation (IPI),” Revision 11, when as-found calibration results of the refueling water storage tank (RWST) level transmitter were discovered outside tolerance and not captured in the CAP. Consequently, RWST level was later discovered to be 25 percent lower than indicated in the control room and below emergency operating procedure (EOP) procedural expectations. The inspectors concluded that finding the level transmitter out of tolerance by more than twice the as-found tolerance should have been entered into the CAP as a Level 3 condition adverse to quality (CAQ) Cause CR with a due date not to exceed September 28, 2010, and that the CR would have directed PPL to investigate the issue earlier, avoided inaccurate level indications to control room operators, and prevented RWST level from ultimately lowering below EOP normal levels. This issue was entered into PPL’s CAP as CR 1371594.

The finding was more than minor since it affected the Mitigating Systems cornerstone objective to maintain the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences and was associated with its equipment performance and configuration control attributes. Specifically, the lack of accurate level indication caused operators to believe that more RWST inventory was available than actually present and an EOP procedural decision is based, in part, on the available RWST inventory. The finding was determined to be of very low safety significance in accordance with IMC 0609, Appendix A, “Determining the Significance of Reactor Inspection Findings for At-Power Situations” using SDP Phases 1, 2, and 3. Phase 1 screened the finding to Phase 2 because it represented an actual loss of safety function to makeup to the condensate storage tank (CST) from the RWST per 10CFR50.65, for greater than 24 hours. A Region I Senior Reactor Analyst (SRA) conducted a Phase 3 analysis because the Phase 2 analysis, conducted by the inspectors using the Susquehanna pre-solved Risk-Informed Inspection Notebook, indicated that the finding could be of more than very low safety significance. In conducting the Phase 3 analysis the SRA determined that refilling the CST from the RWST was not modeled in the Susquehanna Standardized Plant Analysis Risk (SPAR) model, Revision 8.15. The SRA reviewed a PPL-completed risk significance analysis which included the increase of both core damage and large early event release frequencies (i.e., delta CDF and delta LERF) assuming that the RWST was not available for a year. This PPL analysis, which appeared conservative given the actual volume of water in the RWST during the approximately 6 months that the RWST level instruments were not functioning properly, indicated that the delta CDF and delta LERF were in the very low safety significance range.

The finding was determined to have a cross-cutting aspect in Human Performance, Work Practices, in that the licensee defined and communicated expectations regarding procedural compliance, however, personnel did not follow procedures. Specifically, PPL technicians did not enter the out-of-tolerance level instrument calibration into the CAP in accordance with procedures.

Inspection Report# : [2011002](#) (pdf)

Significance:  Mar 31, 2011

Identified By: NRC

Item Type: FIN Finding

B CS Chiller Inoperable due to Refrigerant Stacking

The inspectors identified a Green finding for failure to evaluate the condition of the ‘B’ control structure (CS) chiller

after completion of SE-054-301, "Emergency Service Water/Control Structure Chilled Water System Leakage Test," Revision 12. Specifically, personnel failed to evaluate whether system parameters were restored to normal prior to restoring the chiller to an operable status and, when maintenance subsequently reported that refrigerant level was non-visible, failed to appropriately evaluate the degraded condition with regard to equipment operability. PPL entered this issue into their CAP as CR 1382448.

The finding is more than minor because it is associated with the equipment performance attribute of the Mitigating systems cornerstone and affected its objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, the condition of refrigerant stacking that occurred affected the reliability of the 'B' CS Chiller. The finding was evaluated for significance using IMC 0609, Attachment 4, "Phase 1 - Initial Screening and Characterization of Findings." Since the finding did not result in a loss of safety function or the loss of a train for greater than its Technical Specification (TS) allowed outage time, and was not potentially risk significant due to external event initiators, the finding was determined to be of very low safety significance (Green). This finding is related to the cross-cutting area of PI&R – CAP, because PPL did not thoroughly evaluate problems such that the resolutions address the causes and extent of conditions, to include properly classifying, prioritizing and evaluating for operability. Specifically, PPL failed to appropriately evaluate the effect that refrigerant stacking had on the operability of the CS chiller and subsequently, failed to evaluate the CAQ and assign corrective actions.

Inspection Report# : [2011002](#) (pdf)

Significance:  Mar 31, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Replace Piping on B CS Chiller

An NRC-identified, Green NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Actions," was identified because PPL failed to correct a condition adverse to quality, an adverse trend of Freon leaks, by identifying that previous work orders (WOs) have not been implemented as required prior to new leaks occurring. Three separate refrigerant leaks were identified that collectively led to the inoperability of the 'B' CS chiller due to an inability to meet its mission time. The leaks occurred on a section of pipe that was prescribed to be replaced as part of the extent of condition review of similar Freon leaks. However, the corrective actions to replace the line were not implemented as planned. PPL entered this issue into their CAP as CR 1387934.

The finding was more than minor since it was associated with the equipment performance attribute of the Mitigating systems cornerstone and affected its objective to ensure the availability, reliability and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the availability and reliability of the control room emergency outside air supply (CREOAS) and CR floor cooling systems was impacted by the 'B' CS chiller failure. In accordance with IMC 0609, Appendix A, "Determining the Significance of Reactor Inspection Findings for At-Power Situations," the finding was determined to be of very low safety significance (Green) because the finding was not a design or qualification deficiency, did not represent a loss of a system/train safety function and did not screen as potentially risk significant due to external events. This finding is related to the cross-cutting area of PI&R – CAP, because PPL did not thoroughly evaluate problems such that the resolutions address the causes and extent of conditions, to include properly classifying, prioritizing, and evaluating for operability. Specifically, despite four condition reports generated in 2010 that identified adverse trends in Freon leaks or chiller performance issues, PPL failed to appropriately evaluate the trend so as to identify causes, evaluate the effectiveness of past corrective actions, include similar equipment in extent of condition reviews, or identify that the 'B' CS chiller filter/dryer line was not replaced as planned.

Inspection Report# : [2011002](#) (pdf)

Significance:  Dec 31, 2009

Identified By: NRC

Item Type: FIN Finding

Scenarios for NRC Annual Operating Examinations Did Not Meet Quantitative Standards for Total Malfunctions

The inspectors identified greater finding in that 20% of the NRC annual operating exam simulator scenarios reviewed did not meet the quantitative standard for total malfunctions, 4 to 8 for a single scenario, and 10 to 14 for a scenario set established in NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Form ES-604-1,

“Simulator Scenario Review Checklist.” In addition, the licensee’s procedures NTP-QA-31.11, “Operator Requalification Exam Preparation and Implementation” and NTP-QA-31.7, “Simulator Scenario Writers Guides,” recommend these same quantitative standards. The quantitative guidelines for malfunctions is an important metric because it establishes an objective standard used throughout the nuclear industry to ensure that the simulator portion of the NRC-required annual operating exams are written at an appropriate level of difficulty. As an immediate corrective action, the licensee entered this finding into their corrective action process (CR 1187760).

This finding was more than minor because it was associated with the Human Performance attribute of the Mitigation Systems cornerstone and affected the objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the finding affected the level of difficulty of simulator operating exams which potentially impacted PPL’s ability to appropriately evaluate licensed operators. A review of the possible cross-cutting aspects was performed and no cross-cutting aspect was identified that would be considered a contributor to the cause of the finding.

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

Barrier Integrity

Significance:  Nov 08, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Surveillance Procedure Results in Missed Technical Specification Surveillance Requirements for Secondary Containment

An NRC-identified Green NCV of Susquehanna Unit 1 and 2 TS 5.4.1, “Procedures,” was identified for an inadequate surveillance procedure for implementing Technical Specifications (TS) Surveillance Requirement (SR) 3.6.4.1.4 and 3.6.4.1.5. Specifically, the implementing procedure was revised allowing the SR to be missed and subsequently required entry into SR 3.0.3. PPL entered this issue in their CAP as CR 1460362.

The finding is more than minor because it was similar to example 3.d in IMC 0612 Appendix E, “Examples of Minor Issues” in that the failure to implement the TS SR as required is not minor if the surveillance had not been conducted. In this case, the SR had not been completed for all configurations of secondary containment and required both Unit 1 and Unit 2 to enter SR 3.0.3 for a missed surveillance. Additionally, it is associated with the procedure quality attribute to maintain functionality of containment and the Barrier Integrity cornerstone objective to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Specifically, the inadequate surveillance procedure resulted in missed surveillances, SRs 3.6.4.1.4 and 3.6.4.1.5 and entry into SR 3.0.3 for missed surveillances. The finding was evaluated for significance using IMC 0609, Attachment 4, “Phase 1 - Initial Screening and Characterization of Findings.” Since the finding only represented a degradation of the radiological barrier function provided for the reactor building (RB) (i.e. secondary containment), the finding was determined to be of very low safety significance (Green). This finding is related to the cross-cutting area of Human Performance – Resources because PPL did not ensure that personnel, equipment, procedures, and other resources were available and adequate to assure nuclear safety. Specifically, the procedures did not ensure surveillance requirements (SRs) required by TS 3.6.4.1 were implemented.

Inspection Report# : [2011004](#) (*pdf*)

Significance: SL-IV Nov 08, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Inaccurate RCS PI Data Submittal

An NRC-identified SL-IV NCV of 10 CFR 50.9(a), “Completeness and Accuracy of Information,” occurred when PPL inaccurately reported reactor coolant system (RCS) leakage values under the RCS leakage performance indicator (PI) for both units since inception of the PI in April 2000. PPL entered the issue in their CAP as CR 1441824, completed an apparent cause evaluation, and plans to revise PI data previously submitted. No performance indicator crossed the Green/White threshold once the values were updated.

Because violations of 10 CFR 50.9 are considered to potentially impede or impact the regulatory process, they are dispositioned using the traditional enforcement process. The inspectors concluded that PPL had reasonable opportunity to foresee and correct the inaccurate information prior to the information being submitted to the NRC. PPL's failure to identify and correct the recurring errors over this period of time indicated the existence of a programmatic issue. Additionally, verification of the corrected PI data in a subsequent inspection will have more than an insignificant regulatory impact on the NRC. Accordingly, although none of the affected PIs in this case would have crossed the threshold, the NRC has determined that the violation is of more than minor significance. The finding was not considered to be more significant since had this information been accurately reported, it would not have likely caused the NRC to reconsider a regulatory position or undertake a substantial further inquiry. The significance of the associated performance deficiency was screened against the ROP per the guidance of Manual Chapter 0612, Appendix B. No associated ROP finding was identified and no cross-cutting aspect was assigned

Inspection Report# : [2011004](#) (*pdf*)

Significance:  Jun 30, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Surveillance Procedure Results in Failure to Meet Required Action of Technical Specifications for Secondary Containment Isolation Valves

The inspectors identified a Green NCV of Susquehanna Unit 1 and 2 TS 3.6.4.2, "Secondary Containment Isolation Valves" and TS 5.4.1, "Procedures" for an inadequate surveillance procedure for implementing TS Surveillance Requirements and Action Statements. Specifically, the procedure failed to ensure that SCIVs were verified administratively when in a high radiation areas as required. PPL entered this issue in their CAP as 1421356 and 1431750.

The finding is more than minor because it was similar to example 3.d in IMC 0612 Appendix E, "Examples of Minor Issues" in that the failure to implement a requirement of TSs is not minor if the action had not been conducted. In this case, the valves inside of high radiation areas had not been verified in their closed position as required by TS 3.6.4.2 Required Action A.2. Additionally, it is associated with the procedure quality attribute of the Barrier Integrity cornerstone objective to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Specifically, the inadequate surveillance procedure resulted in a violation of TS 3.6.4.2, "SCIVs" since valves that were closed to isolate a pathway due to an inoperable blind flange were not verified in the correct position as required. The finding was evaluated for significance using IMC 0609, Attachment 4, "Phase 1 - Initial Screening and Characterization of Findings." Since the finding only represented a degradation of the radiological barrier function provided for the reactor building (RB) (i.e. secondary containment), the finding was determined to be of very low safety significance (Green). This finding is related to the cross-cutting area of Human Performance – Resources because PPL did not ensure that personnel, equipment, procedures, and other resources were available and adequate to assure nuclear safety. Specifically, the surveillance procedures SO-000-010, Revision 23, "Monthly Zone III Integrity," SO-100-010, Revision 24, "Monthly Zone 1 Integrity Verification" and SO-200-010, Revision 24, "Monthly Zone II Integrity Verification," did not ensure surveillance requirements or actions statements required by TS 3.6.4.2 were implemented. (H.2(c)) (1R04)

Inspection Report# : [2011003](#) (*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

Last modified : March 02, 2012