July 27, 2000

Mr. Robert G. Byram
Senior Vice President, Nuclear
PPL Susquehanna, LLC
Susquehanna Steam Electric Station
2 North Ninth Street
Allentown, PA 18101

SUBJECT: SUSQUEHANNA STEAM ELECTRIC STATION-NRC REPORT 05000387/2000-004, 05000388/2000-004

Dear Mr.Byram:

On June 30, 2000, the NRC completed an inspection at the Susquehanna Steam Electric Station Nuclear Power Plant. The enclosed report presents the results of that inspection. The results of this inspection were discussed on July 7, 2000, with Mr. R. Ceravolo and other members of your staff.

This inspection was an examination of activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. Within these areas, the inspection consisted of a selected examination of procedures and representative records, observations of activities, and interviews with personnel.

The NRC identified three issues that were evaluated under the significance determination process, and were determined to be of very low safety significance (Green). These issues were entered into your corrective action program, and are discussed in the summary of findings and in the body of the attached inspection report. All three issues were determined to involve violations of NRC requirements, but because of their very low safety significance, the violations are not cited. If you contest these non-cited violations, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC 20555-0001, with copies to the Regional Administrator, Region I, and the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001, and the NRC Resident Inspector at the Susquehanna Steam Electric Station.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/NRC/ADAMS/index.html (the Public Electronic Reading Room).

If you have any questions please contact me at 610-337-5233.

Sincerely,

/RA/

Curtis J. Cowgill, Chief
Projects Branch 4
Division of Reactor Projects

Docket Nos. 05000387, 05000388
License Nos. NPF-14, NPF-22

Enclosure: Inspection Report 05000387/2000-004, 05000388/2000-004

cc w/encl:
B. L. Shriver, Vice President - Nuclear Site Operations
G. T. Jones, Vice President - Nuclear Engineering and Support
R. Ceravolo, General Manager - SSES
R. M. Peal, Manager, Nuclear Training
G. D. Miller, General Manager - Nuclear Assurance
R. R. Wehry, Nuclear Licensing - SSES
M. M. Golden, Manager - Nuclear Security
P. Nederostek, Nuclear Services Manager, General Electric
W. H. Lowthert, Manager, Nuclear Plant Services
A. M. Male, Manager, Quality Assurance
H. D. Woodeshick, Special Assistant to the President
G. DallaPalu, PP&L Nuclear Records
R. W. Osborne, Vice President, Supply & Engineering
Allegheny Electric Cooperative, Inc.
Commonwealth of Pennsylvania

Distribution w/encl: (**via E-mail)**
Region I Docket Room (with concurrences)
NRC Resident Inspector
H. Miller, RA
J. Wiggins, DRA
C. Cowgill, DRP
D. Florek, DRP
C. O'Daniell, DRP
J. Shea, OEDO
E. Adensam, NRR
R. Schaaf, NRR
W. Scott, NRR

DOCUMENT NAME: C:\sus2000-04_h.wpd
After declaring this document "An Official Agency Record" it **will** be released to the Public.
To receive a copy of this document, indicate in the box: "**C**" = Copy without attachment/enclosure "**E**" = Copy with attachment/enclosure "**N**" = No copy

OFFICE	RI/DRP		RI/DRP		/					
NAME	SHansell/ceo		CCowgill							
DATE	07/26/00		07/27/00		07/ /00		07/ /00		07/ /00	

OFFICIAL RECORD COPY

U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket Nos.:	05000387, 05000388
License Nos.:	NPF-14, NPF-22
Report No.:	2000-004
Licensee:	PPL Susquehanna, LLC
Facility:	Susquehanna Steam Electric Station
Location:	Post Office Box 35 Berwick, PA 18603
Dates:	May 14, 2000 to June 30, 2000
Inspectors:	S. Hansell, Senior Resident Inspector J. Richmond, Resident Inspector A. Blamey, Resident Inspector J. Noggle, Senior Health Physicist P. Frechette, Senior Physical Security Inspector
Approved by:	Curtis Cowgill, Chief Projects Branch 4 Division of Reactor Projects

SUMMARY OF FINDINGS

IR 05000387/2000-004, 05000388/2000-004, on 05/14-06/30/2000; Pennsylvania Power & Light; Susquehanna Steam Electric Station; Units 1& 2. Post Maintenance Testing, Surveillance Testing, and Maintenance Risk Assessment and Emergent Work.

The report covered a seven-week period of resident inspection and announced inspections by a regional senior health physicist and a senior physical security inspector. The inspection identified three green issues that resulted in noncited violations. The significance of issues is indicated by their color (GREEN, WHITE, YELLOW, RED) and was determined by the Significance Determination Process in Inspection Manual Chapter 0609 (Attachment 1).

Cornerstone: Initiating Events

- Green. On June 14, the inspectors observed that Unit 2 reactor pressure control was swapped over from the "A" electro-hydraulic control system pressure regulator to the "B" regulator, due to drift on the "A" regulator. The instrument and controls technicians performed the activity with no written instructions or procedures, and were under the direct technical supervision of a system engineer. This issue was considered to have very low safety significance because the verbal technical direction provided by the system engineer to the instrument and controls technicians was adequate, in this instance, to control the activity. The inspectors identified a Non-Cited Violation for failure to satisfy Technical Specification requirements to implement written procedures. (Section 1R13)

Cornerstone: Mitigating Systems

- Green. In December 1999, the Unit 2 high pressure coolant injection (HPCI) system had an unexpected stop valve closure during a routine surveillance test. PPL failed to identify that the stop valve had closed, until after the stop valve again unexpectedly closed on April 5, 2000. On June 9, 2000, the NRC identified that PPL over-pressurized portions of the Unit 2 HPCI system during testing. PPL did not perform an operability determination or enter the over-pressure event into the corrective actions system until June 14. These issues were of very low safety significance because HPCI was able to perform its design function. The inspectors identified a Non-Cited Violation for failure to promptly identify and correct conditions adverse to quality. (Section 1R19.2)

Cornerstone: Barrier Integrity

- Green. In March 2000, four out of ten Unit 1 vacuum breakers had as-found lift setpoints which exceeded the Technical Specification limits. This was of very low safety significance because the vacuum breakers would have performed their design function. The inspectors identified a Non-Cited Violation for failure to satisfy Technical Specification requirements. (Section 1R22.2)

TABLE OF CONTENTS

Report Details

Summary of Plant Status

Susquehanna Steam Electric Station (SSES) Unit 1 began the period at full power. On May 19, power was reduced to approximately 20% and the main turbine generator was taken out of

service to repair the stator water cooling system. The unit returned to full power on May 22. On May 28, power was reduced to approximately 75%, to evaluate a dual indication problem on the "B" inboard main steam isolation valve. The unit returned to full power on May 29, and operated at or near full power for the remainder of the report period.

Unit 2 began the period at full power and operated at or near full power for the entire report period, with exceptions for testing and control rod pattern adjustments.

1. REACTOR SAFETY
Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

1R04 Equipment Alignments (71111.04)

a. Inspection Scope

The inspectors performed partial system walkdowns to verify system and component alignment and note any discrepancies that would impact system operability on the following:

- Unit 1 Reactor Protection System (RPS) System Motor-Generators and the RPS Instrument Scram Racks
- Unit 2 Instrument Air Compressors, Air Dryers, Service Air to Instrument Air Cross-tie, and the Unit 1 to Unit 2 Instrument Air Cross-tie
- Unit 1 and 2 Turbine Building Closed Cooling Water System

b. Findings

There were no findings identified.

1R11 Licensed Operator Re-qualification (71111.11)

a. Inspection Scope

On June 26, 2000, the inspectors observed simulator training sessions for two shift-crews of licensed operators, to assess operator performance and training effectiveness. The inspectors reviewed the scenarios and observed the instructors' critique of the crew's performance.

b. Findings

There were no findings identified.

1R12 Maintenance Rule Implementation (71111.12)

a. Inspection Scope

The inspectors reviewed Pennsylvania Power & Light's (PPL's) follow-up actions for selected structure, system, or component (SSC) problems, to verify that SSC performance had been appropriately monitored, evaluated, and dispositioned in accordance with the requirements of 10 CFR 50.65, the Maintenance Rule. The inspectors also reviewed the system classification, performance criteria, goals, and corrective actions to verify that the actions were reasonable and appropriate. The specific issues reviewed included:

- Standby Liquid Control System Relief Valve Testing (CR 251120)
- Unit 2 High Pressure Coolant Injection (HPCI) System unexpected stop valve closures, during routine testing (CR 260241)
- Unit 1 Suppression Chamber to Drywell Vacuum Breaker Test Failures (LER 387/00-003)
- Unit 2 HD-275-24B, Secondary Containment Damper Failure (CR 256628 & 266543)
- Unit 2 Turbine Building Closed Cooling Water System, following a leak (CR 261490)

b. Findings

PPL determined that the turbine building closed cooling water (TBCCW) system is risk significant. A failure of the system can initiate a plant shutdown and impact mitigating systems. PPL had classified the TBCCW system as a category (a)(2) system (e.g., routine monitoring) under the Maintenance Rule (MR). System engineering stated that there were no MR functional failures on the TBCCW system and that the systems performance was good.

The inspectors determined that PPL had not appropriately monitored TBCCW. The Maintenance Rule and NDAP-QA-0413, "SSES Maintenance Rule Program," both require risk significant systems to be monitored for reliability (e.g., functional failures) and unavailability at the train or component level. PPL calculation EC-RISK-1054, "SSC Availability Performance Criteria of the Maintenance Rule," required unavailability to be monitored for the TBCCW pumps, heat exchangers, and valves. PPL calculation EC-RISK-1060, "Acceptable Number of Failures for Risk Significant Systems in the Scope of the Maintenance Rule," required TBCCW pumps, heat exchangers, and valves to be monitored for reliability at the component level. However, system engineering had only monitored the pumps for unavailability and had monitored reliability at the system level. PPL has entered this issue into their corrective action program as condition report 266822.

PPL is currently reviewing the TBCCW system to determine if any MR functional failures or additional unavailability time were missed and to verify if the system should remain classified as a MR (a)(2) category system. The inspectors cannot complete a risk significance review of this issue until PPL completes the system history review. Therefore, this issue will be carried as an unresolved item. **(URI 05000387,388/2000004-01)**

1R13 Maintenance Risk Assessment and Emergent Work (71111.13)

a. Inspection Scope

The inspectors observed selected portions of planned and emergent maintenance work activities to assess PPL's risk management. The inspectors attended planning meetings and discussed the risk management aspect of the activities with maintenance personnel, operators, system engineers, and work coordinators for the following issues:

- Unit 1 stator water cooling pump repairs (CR 258769)
- Unit 2 500 kV switchyard circuit breaker, loss of alternate power feed for breaker control, during planned maintenance
- Unit 2 reactor pressure control swapped from the "A" electro-hydraulic control (EHC) system pressure regulator to the "B" regulator, due to drift on the "A" regulator (PCWO 262083, CR 261755)

b. Findings

On June 14, the inspectors observed the control room briefing and the maintenance activities for Unit 2 reactor pressure control transfer being made from the "A" EHC pressure regulator to the "B" regulator, due to a slow change in the pressure set point on the "A" regulator. The instrument and controls (I&C) technicians performed the activity on a minor maintenance work order, with no written work instructions or procedures, and were under the direction of a system engineer.

The inspectors identified that the operations off-normal procedure for an EHC pressure regulator failure, ON-293-001, "Turbine EHC System Malfunction" had steps requiring I&C to adjust the "B" regulator in the event that the "A" regulator failed. The I&C technicians and their foreman stated that they did not have written guidance to perform the indicated steps in the off-normal procedure. The inspectors subsequently determined that I&C procedure IC-093-001, "Adjustment of EHC Pressure Setpoint," was written to place the "A" regulator in-service and did not have any provisions to place the "B" regulator in-service.

Technical Specifications section 5.4.1 requires written procedures be established and implemented in accordance with Regulatory Guide (RG) 1.33, Revision 2, Appendix A. RG 1.33, Appendix A requires procedures for the turbine generator system (section 4.m); procedures for abnormal, off-normal, or alarm conditions (section 5); and procedures for combating significant events, including a malfunction of the pressure control system (section 6.t). Therefore, the failure to have an adequate procedure to implement an EHC pressure regulator swap is a violation of Technical Specifications. This issue is considered to be more than minor because if it is not corrected and were to be improperly performed it could result in the initiation of an unexpected automatic reactor shutdown. This finding affected the Initiating Events Cornerstone and was considered to have very low safety significance (GREEN) using the Significance Determination Process (SDP), because the verbal technical direction provided by the system engineer to the I&C technicians was adequate to control the activity. This violation is being treated as a Non-Cited Violation, consistent with Section VI.A of the NRC Enforcement Policy, issued on May 1, 2000 (65 FR 25368). This violation is documented in PPL's corrective action program as condition report 269280. **(NCV 05000387,388/2000004-01)**

1R14 Personnel Performance during Non-Routine Plant Evolutions (71111.14)

.1 Unit 1 Stator Water Cooling System Repairs

a. Inspection Scope

PPL determined that the Unit 1 "A" stator water cooling pump was degraded and would not be able to develop sufficient stator water pressure if the Unit 1 "B" pump failed. Complications during planned repair work on the pump, required PPL to reduce power to approximately 20% and remove the main turbine generator from service. The inspectors reviewed PPL's contingency and work plans for the maintenance activities, the control room briefing for the reactor power reduction, operator performance during the power reduction from 100 % to 50 % power, reactor recirculation flow control transfer from automatic to manual, and the removal of the turbine generator from service.

The inspectors reviewed PPLs adherence to the following procedures:

GO-100-004, "Plant Shutdown to Minimum Power"
Technical Specification section 3.4.1, "Reactor Coolant System - Recirculation Loop Operating"
Technical Requirements Manual section 3.11.2.1, "Gaseous Effluents - Dose Rate"

b. Findings

There were no findings identified.

.2 Unit 2 Turbine Building Closed Cooling Water System Leak

a. Inspection Scope

On June 5, PPL responded to a leak in the Unit 2 turbine building closed cooling water (TBCCW) system. The leak resulted in an immediate loss of the Unit 2 instrument air compressor (the standby compressor was out of service for overhaul), a complete loss of level in the TBCCW expansion tank (approximately 400 gallons), and decrease in the TBCCW pump discharge pressure from about 68 pounds per square inch (psi) to about 40 psi. The inspectors reviewed PPLs response to isolate the leak and re-fill the expansion tank prior to a complete loss of the system.

The inspectors reviewed PPLs adherence to the following off-normal operating procedures:

ON-215-001, "Loss of TBCCW"
ON-218-001, "Loss of Instrument Air"
ON-200-101, "Scram"

b. Findings

There were no findings identified.

1R15 Operability Evaluations (71111.15)

a. Inspection Scope

The inspectors observed surveillance testing and reviewed the following PPL operability determinations:

- Unit 2 HPCI turbine stop valve closure during weekly auxiliary oil pump run (CR 260241)
- Unit 2 HPCI turbine operated at higher than expected speed during TP-252-028 and produced a higher than expected discharge pressure (CR 264219)
- "D" Emergency Diesel Generator chemical spill during jacket water flush (CR 258779)
- Unit 1 HPCI booster pump low pressure switch as-found setpoint out of tolerance (CR 262217, RTPM 223209)

The inspectors verified that the operability evaluations were performed as required by procedure NDAP-QA-0703, “Operability Assessments.”

b. Findings

There were no findings identified.

1R19 Post Maintenance Testing (71111.19)

.1 Routine Post Maintenance Testing Observations

a. Inspection Scope

The inspectors observed post-maintenance surveillance tests and reviewed the following PPL test data:

- "D" Emergency Diesel Generator, following 2-year inspection (SE-024-D02, PCWO 103688, TP-024-148, SO-024-001)
- Unit 2 "A" Instrument Air Compressor, following 2-year overhaul (PCWO 228359)
- Emergency Service Water Pump Flow and vibration testing, following motor upper bearing inspections (CR 260911, SO-054-003)
- Unit 1 "A" TBCCW pump, after pump seal replacement (PCWO 206396 & 232608)

b. Findings

There were no findings identified.

.2 High Pressure Coolant Injection System Post Maintenance Testing

a. Inspection scope

The inspectors observed surveillance testing and reviewed the following PPL procedures:

SO-252-002, “HPCI Pump Quarterly Flow Verification”
TP-252-028, “Dynamic Votes Test on HPCI Minimum Flow Valve”

The inspectors verified the test success criteria addressed in the procedures was in compliance with Technical Specification requirements.

b. Findings

HPCI Turbine Unexpected Stop Valve Closure

During 1997 and 1998, the Unit 2 HPCI turbine experienced spurious, unexpected stop valve closures during testing. These stop valve closures occurred during system start-up and could have resulted in an increase in time for the HPCI system to reach rated flow and pressure during a design basis event. The time increase was due to the added time for the stop valve to reopen after a spurious closure. PPL determined that the stop valve closures were caused by air in the hydraulic control system spuriously actuating the over-speed automatic closure mechanism. PPL modified the stop valve closure assembly in 1998 and initiated a weekly preventive maintenance task to run the auxiliary oil pump to purge air out of the hydraulic system.

On December 11, 1999, during performance of SO-252-002, the Unit 2 HPCI turbine experienced an unexpected stop valve closure during system start-up. HPCI's injection time was 29.1 seconds, about 9 seconds longer than the normal start time of 20 seconds (maximum start time is 30 seconds). PPL failed to identify that the stop valve had unexpectedly closed during the test until after the stop valve again unexpectedly closed on April 5, 2000. After the April 5 closure, and a third unexpected closure on May 30, PPL performed operability determinations and concluded that, even with an unexpected stop valve closure during system initiation, HPCI would reach rated flow and pressure within the required time. Additionally, after the May 30, closure PPL performed maintenance on the system to minimize the potential for future stop valve closures.

HPCI System Piping Exceeded Design Pressure Rating

On June 9, during motor operated valve testing on the Unit 2 HPCI minimum flow valve, the HPCI pump discharge flow path isolated twice which caused the pump to pump against shut-off head pressure. The HPCI control system responded, per design, by increasing the turbine speed until the over-speed limiter stopped the speed increase. This resulted in an unexpected increase in HPCI's discharge pressure. The test procedure did not contain any criteria to limit the speed increase or monitor/control the system pressure. The inspectors observed a peak discharge pressure of approximately 1800 psi which was higher than the design pressure rating of the piping. A subsequent check of the HPCI pump discharge pressure on the plant computer revealed a peak pressure of 1709 psi. The inspectors discussed the over-pressure event with operations and engineering personnel. PPL did not perform an operability determination or enter

the over-pressure event into the corrective action system until June 14 (CR 264219). The HPCI system was subsequently evaluated and determined to be operable.

In summary, the NRC identified two examples where PPL failed to promptly identify and correct conditions adverse to quality. In December 1999, Unit 2 HPCI had an unexpected stop valve closure during a routine surveillance test. PPL failed to identify that the stop valve closed, until after an additional unexpected stop valve closure occurred on April 5, 2000. On June 9, 2000, the NRC identified that portions of the Unit 2 HPCI system were over-pressurized during a motor operator valve test. PPL did not perform an operability determination or enter the over-pressure event into the corrective action system until June 14 (CR 264219). The issue of not promptly identifying conditions adverse to quality is more than minor because it could result in equipment important to safety being degraded without PPL promptly identifying, evaluating or correcting the degraded condition. These findings affected the Mitigating Systems Cornerstone and were considered to have very low safety significance (GREEN) using the Significance Determination Process (SDP), because HPCI was able to perform its design function. 10 CFR 50 Appendix B, "Corrective Actions," requires, in part, that conditions adverse to quality are promptly identified and corrected. This violation is being treated as a Non-Cited Violation, consistent with Section VI.A of the NRC Enforcement Policy, issued on May 1, 2000 (65 FR 25368). This violation is documented in PPL's corrective action program as condition reports 260241 and 264219. **(NCV 05000388/2000004-02)**

1R22 Surveillance Testing (71111.22)

.1 Routine Surveillance Testing Observations

a. Inspection Scope

The inspectors observed the performance of selected portions of surveillance tests and reviewed portions of the test results to verify that the tested systems and components were capable of performing their safety functions, including:

- Unit 1 HPCI Quarterly Flow Surveillance Test (SO-152-002)

b. Findings

There were no findings identified.

.2 Suppression Chamber-to-Drywell Vacuum Breaker Multiple Test Failures

a. Inspection Scope

The inspectors reviewed selected documentation associated with Licensee Event Report (LER) 50-387/00-003-00, "Multiple Test Failures of Suppression Chamber-to-Drywell Vacuum Breakers." The inspectors reviewed the information and compared it with Technical Specifications (TS) criteria, 10 CFR 50.73, "Licensee Event Reporting System," and SSES station procedures. The documentation review included:

IOM 166	Operation and Maintenance Manual for Vacuum Relief Valve, Type CV1-L, 24 Inch and Auxiliaries

MT-259-002	Containment Vacuum Relief Valve Disassembly and Reassembly
SM-059-001	18(24) Month Vacuum Breaker Set Pressure Surveillance Test
MM140	Primary Containment Vacuum Breaker Maintenance
WO P81762	The work order Valve Action Plan
CR 96-1540	Unit 1 Vacuum Breakers Failed the As-found Surveillance Test
CR 97-0785	Unit 2 Vacuum Breaker Failed the As-found Surveillance Test
CR 98-1307	Unit 1 Vacuum Breakers Failed the As-found Surveillance Test
CR 92156	Unit 2 Vacuum Breakers Failed the As-found Surveillance Test
CR 243800	Vacuum Breakers Failed the As-found Surveillance Test

b. Findings

On March 23, 2000, four out of ten Unit 1 vacuum breakers had as-found lift setpoints between 0.525 pounds per square inch differential (psid) and 0.540 psid. TS section 3.6.1.6, "Suppression Chamber-to-Drywell Vacuum Breakers" required the vacuum breakers to open between 0.250 psid and 0.525 psid. The inspectors determined that PPL had a history of vacuum breaker as-found lift setpoints greater than the TS limit.

3 failed in 1996 (Unit 1)
1 failed in 1997 (Unit 2)
8 failed in 1998 (Unit 1)
6 failed in 1999 (Unit 2)
4 failed in 2000 (Unit 1)

Corrective actions planned after previous vacuum breaker failures have not been implemented. In 1996, condition report 96-1540 determined that a TS revision to increase the setpoint tolerance was necessary. However, the TS revision which had been incorporated into PPL's Improved TS submittal was later canceled. In 1998, PPL again identified that a TS revision was necessary and revised the TS acceptance criteria from a setpoint range of 0.475 psid to 0.525 psid to a wider range of 0.250 psid to 0.525 psid with the intention to set the vacuum breaker low in the setpoint range, to allow upward drift during the operating cycle. However, the maintenance procedures were not changed to set the vacuum breakers lower in the range. Although PPL had not identified a root cause for the failures, they concluded that the vacuum breakers would have performed their design function because the as-found lift setpoints were not high enough to impact primary containment integrity.

The issue of multiple vacuum breakers with as-found lift setpoints greater than the TS limit is more than a minor issue because it exceeded NRC approved TS limits. However, this issue was considered to have very low safety significance (Green) using the Significance Determination Process (SDP), because the vacuum breakers would have performed their design function. This finding effects the Barrier Integrity Cornerstone since it involves an issue relating to the primary containment. The failure to satisfy TS 3.6.1.6 surveillance requirements is a violation. This violation is being treated as a Non-Cited Violation, consistent with Section VI.A of the NRC Enforcement Policy, issued on May 1, 2000 (65 FR 25368). This violation is documented in PPL's corrective action program as condition report 243800. **(NCV 05000388/2000004-03)**

3. SAFEGUARDS
Cornerstone: Physical Protection

3PP1 Access Authorization Program (71130.01)

a. Inspection Scope

The following activities were conducted to determine the effectiveness of PPL's behavior observation portion of the personnel screening and fitness-for-duty programs:

Six supervisors representing the Maintenance, Procurement, Radiation Protection, System Engineering, and Instrumentation & Control work groups were interviewed, on June 22, regarding their understanding of behavior observation responsibilities and the ability to recognize aberrant behavior traits. Two Access Authorization/ Fitness-for-Duty self-assessments, an audit, and event reports and loggable events for the four previous quarters were reviewed, during this inspection. On June 22, six individuals, who perform escort duties, were interviewed to establish their knowledge level of those duties. Behavior observation training procedures and records were also reviewed.

b. Findings

There were no findings identified.

3PP2 Access Control (71130.02)

a. Inspection Scope

The following activities were conducted during the period June 19-23 to verify that PPL had effective site access controls, and equipment in place designed to detect and prevent the introduction of contraband (firearms, explosives, incendiary devices) into the protected area:

A random sample of ten personnel, granted unescorted access to the protected and vital areas, was checked to assure that they were properly screened, identified and authorized. Site access control activities were observed, including personnel and package processing through the search equipment at the access point during peak ingress periods on June 20 and 21, and vehicle searches, on June 22. On June 21, testing of all access control equipment; including metal detectors, explosive material detectors, and X-ray examination equipment, was observed. The Access Control event log, an audit, and three maintenance work requests were also reviewed.

b. Findings

There were no findings identified.

4. OTHER ACTIVITIES

4OA2 Performance Indicator Verification (71151)

a. Inspection Scope

The inspectors reviewed PPL's programs for gathering and submitting data for the Fitness-for-Duty, Personnel Screening, and Protected Area Security Equipment Performance Indicators. The review included PPL's tracking and trending reports,

personnel interviews and security event reports for the Performance Indicator data submitted from the 2nd quarter of 1997 through the 1st quarter of 2000.

b. Findings

There were no findings identified.

4OA3 Event Follow-up (71153)

.1 Unit 2 Condensate Demineralizer Valves Found Out of Position

a. Inspection Scope

On June 13, the inspectors observed PPL's initial investigation of a status control event, for 3 valves found out-of-position on the Unit 2 condensate demineralizer panel. PPL's investigation included an evaluation for potential tampering, and a partial plant panel walkdown.

The inspectors verified the investigation was performed in accordance with operations procedure OP-AD-001, “Conduct of Operations.”

b. Findings

There were no findings identified.

.2 Unit 1 Cooling Tower Basin Acid Injection Tank Leak

a. Inspection Scope

On June 15, the inspectors observed PPL's spill response and PPL's Emergency Plan evaluations during an un-isolable leak event on the Unit 1 cooling tower acid injection tank. The leak was contained in a berm immediately surrounding the tank, with only a small amount of acid (about 5 gallons) that leaked onto the ground. The spill area was cleaned.

b. Findings

There were no findings identified.

.3 (Closed) LER 05000387/2000-003-00: Drywell Vacuum Breaker Valve Multiple Surveillance Test Failures. This issue is discussed in section 1R22.2 of this inspection report. This LER is Closed.

.4 (Closed) LER 05000387/2000-005-00: Control Rod Drive (CRD) System Seismic Island Check Valves Did Not Meet Local Leak Rate Test Acceptance Criteria. A previous failure of the CRD seismic island check valves was discussed in NRC Inspection Report 50-387,388/98-10. No new issues were identified during this review; no violations of NRC requirements were identified. This LER is closed.

4OA5 Other

.1 Health Physics External Exposure Controls

a. Inspection Scope (83724)

The last Susquehanna Plant Performance Review, dated March 31, 2000, documented that poor radiological work practices had been observed during routine inspections. This regional initiative inspection was conducted to evaluate the significance of the observed conditions. The significance of poor radiological work practice problems and the effectiveness of problem resolution was evaluated by reviewing approximately 30 selected radiological condition reports, from 3/11/99 through 3/23/00. In order to assess PPL's evaluation of radiological problems, 9 Nuclear Assessment Services Health Physics (HP) program surveillances and an HP audit report covering the period 3/27/99 through 3/28/00 were reviewed.

In addition, interviews were conducted through all levels of the HP Department with respect to radiological plant work performance problems. These interviews included 7 health physics technicians, the health physics foreman, 2 ALARA (As-Low-As-Reasonably-Achievable) specialists, the Radiological Operations Supervisor, the Technical Support Supervision Engineer, and the Radiation Protection Manager. Additional insights were obtained from interviews with the Effluents Management Group Manager, Effluents Production Supervisor, Effluents Assistant Foreman, and the Employee Concerns Coordinator.

b. Findings

No new significant findings were identified relative to the significance of recent radiological problems, or the identification and reporting of radiological problems by PPL's staff.

Selected radiological condition reports, from March 1999 through May 2000, generally indicated minor issues that involved radiological control and radiation worker practices. Recurring minor incidents (e.g., involving electronic dosimeter use and contaminated tool control) were appropriately trended and resulted in additional condition reports with associated corrective actions and planned effectiveness reviews.

Based on the interviews conducted, the inspector did not identify any reluctance of the HP staff to bring forward safety concerns to HP management. A review of selected radiological condition reports indicated that the HP staff had an effective knowledge level and actively used the condition reporting system.

4OA6 Meetings

.1 Exit Meeting Summary

On June 2, 2000, a regional health physics specialist presented the results of a regional initiative inspection on external exposure controls to Mr. R. Ceravolo and other members of your staff at the conclusion of the inspection. PPL acknowledged the findings presented.

On June 23, 2000, a regional physical security specialist presented the results of a baseline inspection of the SSES physical security program to Mr. R. Ceravolo and other

members of your staff at the conclusion of the inspection. PPL acknowledged the findings presented.

On July 7, 2000, the resident inspectors presented the inspection results to Mr. R. Ceravolo and other members of your staff who acknowledged the findings.

The inspectors asked PPL whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

DOCUMENTS REVIEWED

(not listed in the body of the inspection report)

FFD/CBO Supervisor Training, MA049, Rev. 2
SSES Access Authorization, Fitness For Duty, and Licensed Operator Medical Exams Nuclear Assessment Services Programs Internal Audit 99-012, October, 1999
SSES Security Plan and Procedures Audit 99-016, November, 1999
Security Loggable event report, 10/99-5/00
Continual Behavior Observation Program, User Manual, June, 2000

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

05000387,388/2000004-01	URI	Maintenance Rule Monitoring of the Turbine Building Closed Cooling Water System (Section 1R12)

Opened and Closed

05000387,388/2000004-01	NCV	Inadequate Off-Normal Operation Procedure for Reactor Pressure Control (Section 1R13)
05000388/2000004-02	NCV	High Pressure Coolant Injection System Post Maintenance Testing (Section 1R19.2)
05000387/2000004-03	NCV	Suppression Chamber-to-Drywell Vacuum Breaker Valve Multiple Test Failures (Section 1R22.2)

Closed

05000387/2000-003-00	LER	Drywell Vacuum Breaker Valve Multiple Surveillance Test Failures (Section 4OA3.3)
05000387/2000-005-00	LER	Control Rod Drive (CRD) System Seismic Island Check Valves Did Not Meet Local Leak Rate Test Acceptance Criteria (Section 4OA3.4)

Discussed

None

LIST OF ACRONYMS USED

ALARA	As-Low-As-Reasonably-Achievable
CFR	Code of Federal Regulations
CR	Condition Report
CRD	Control Rod Drive System
EHC	Electro-hydraulic Control System
FR	Federal Register
HP	Health Physics
HPCI	High Pressure Coolant Injection System
I&C	Instrument and Controls
LER	Licensee Event Report
MR	Maintenance Rule
NCV	Non-Cited Violation
NRC	Nuclear Regulatory Commission
psi	Pounds per Square Inch
psid	Pounds per Square Inch Differential
QA	Quality Assurance
RG	Regulatory Guide
RPS	Reactor Protection System
SDP	[NRC] Significance Determination Process
SSC	Structure, System, or Component
SSES	Susquehanna Steam Electric Station
TBCCW	Turbine Building Closed Cooling Water
TS	Technical Specification
URI	Unresolved Item
WO	Work Order

ATTACHMENT 1

NRC's REACTOR OVERSIGHT PROCESS

The federal Nuclear Regulatory Commission (NRC) recently revamped its inspection, assessment, and enforcement programs for commercial nuclear power plants. The new process takes into account improvements in the performance of the nuclear industry over the past 25 years and improved approaches of inspecting and assessing safety performance at NRC licensed plants.

The new process monitors licensee performance in three broad areas (called strategic performance areas): reactor safety (avoiding accidents and reducing the consequences of accidents if they occur), radiation safety (protecting plant employees and the public during routine operations), and safeguards (protecting the plant against sabotage or other security threats). The process focuses on licensee performance within each of seven cornerstones of safety in the three areas:

Reactor Safety	Radiation Safety	Safeguards
● Initiating Events	● Occupational	● Physical Protection
● Mitigating Systems	● Public	
● Barrier Integrity		
● Emergency Preparedness		

To monitor these seven cornerstones of safety, the NRC uses two processes that generate information about the safety significance of plant operations: inspections and performance indicators. Inspection findings will be evaluated according to their potential significance for safety, using the Significance Determination Process, and assigned colors of GREEN, WHITE, YELLOW or RED. GREEN findings are indicative of issues that, while they may not be desirable, represent very low safety significance. WHITE findings indicate issues that are of low to moderate safety significance. YELLOW findings are issues that are of substantial safety significance. RED findings represent issues that are of high safety significance with a significant reduction in safety margin.

Performance indicator data will be compared to established criteria for measuring licensee performance in terms of potential safety. Based on prescribed thresholds, the indicators will be classified by color representing varying levels of performance and incremental degradation in safety: GREEN, WHITE, YELLOW, and RED. GREEN indicators represent performance at a level requiring no additional NRC oversight beyond the baseline inspections. WHITE corresponds to performance that may result in increased NRC oversight. YELLOW represents performance that minimally reduces safety margin and requires even more NRC oversight. And RED indicates performance that represents a significant reduction in safety margin but still provides adequate protection to public health and safety.

The assessment process integrates performance indicators and inspection so the agency can reach objective conclusions regarding overall plant performance. The agency will use an Action Matrix to determine in a systematic, predictable manner which regulatory actions should be taken based on a licensee's performance. The NRC's actions in response to the significance (as represented by the color) of issues will be the same for performance indicators as for inspection findings. As a licensee's safety performance degrades, the NRC will take more and increasingly significant action, which can include shutting down a plant, as described in the Action Matrix.

More information can be found at: http://www.nrc.gov/NRR/OVERSIGHT/index.html.