

July 11, 2002

Mr. Bryce L. Shriver  
Senior Vice President and  
Chief Nuclear Officer  
PPL Susquehanna, LLC  
Susquehanna Steam Electric Station  
769 Salem Boulevard  
Berwick, Pennsylvania 18603-0467

SUBJECT: SUSQUEHANNA STEAM ELECTRIC STATION - NRC INTEGRATED  
INSPECTION REPORT 50-387/2002-04, 50-388/2002-04

Dear Mr. Shriver:

On June 29, 2002, the NRC completed an inspection at your Susquehanna Steam Electric Station Units 1 and 2. The enclosed report documents the inspection findings which were discussed on July 3, 2002, with Mr. R. Anderson, Vice President - Nuclear Operations, and other members of your staff.

This inspection examined 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. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

On the basis of the results of this inspection, no findings of significance were identified.

Immediately following the terrorist attacks on the World Trade Center and the Pentagon, the NRC issued an advisory recommending that nuclear power plant licensees go to the highest level of security, and all promptly did so. With continued uncertainty about the possibility of additional terrorist activities, the Nation's nuclear power plants remain at the highest level of security and the NRC continues to monitor the situation. This advisory was followed by additional advisories, and although the specific actions are not releasable to the public, they generally include increased patrols, augmented security forces and capabilities, additional security posts, heightened coordination with law enforcement and military authorities, and more limited access of personnel and vehicles to the sites. The NRC has conducted various audits of your response to these advisories and your ability to respond to terrorist attacks with the capabilities of the current design basis threat (DBT). On February 25, 2002, the NRC issued an Order to all nuclear power plant licensees, requiring them to take certain additional interim compensatory measures to address the generalized high-level threat environment. With the issuance of the Order, we will evaluate PPL's compliance with these interim requirements.

Bryce L. Shriver

2

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/reading-rm/adams.html> (The Public Electronic Reading Room).

If you have any questions please contact me at 610-337-5209.

Sincerely,

/RA/

Mohamed Shanbaky, Chief  
Projects Branch 4  
Division of Reactor Projects

Docket Nos. 50-387, 50-388  
License Nos. NPF-14, NPF-22

Enclosure: Inspection Report 50-387/02-04, 50-388/02-04

Attachment 1 - Supplemental Information

cc w/encl: R. Anderson, Vice President - Nuclear Operations for PPL Susquehanna LLC  
R. A. Saccone, General Manager - Nuclear Engineering  
A. J. Wrape, III, General Manager, Nuclear Assurance  
T. L. Harpster, General Manager - Plant Support  
W. W. Hunt, Manager, Nuclear Training  
G. F. Ruppert, Manager, Nuclear Operations  
J. D. Shaw, Manager, Station Engineering  
T. P. Kirwin, Manager, Nuclear Maintenance  
R. M. Paley, Manager, Work Management  
R. E. Smith, Jr., Manager, Radiation Protection  
W. F. Smith, Jr., Manager, Corrective Action & Assessments  
D. F. Roth, Manager, Quality Assurance  
R. R. Sgarro, Manager, Regulatory Affairs  
M. M. Golden, Manager - Nuclear Security  
C. D. Markley, Supervisor - Nuclear Licensing  
G. DallaPalu, PPL Nuclear Records  
H. D. Woodeshick, Special Assistant to the President  
R. W. Osborne, Vice President, Supply & Engineering  
Allegheny Electric Cooperative, Inc.  
Commonwealth of Pennsylvania

Distribution w/encl: H. Miller, RA/J. Wiggins, DRA (1)  
 M. Shanbaky, DRP  
 D. Florek, DRP  
 J. Talieri, DRP  
 S. Iyer, DRP  
 R. Junod, DRP  
 S. Hansell, DRP - SRI Susquehanna  
 H. Nieh, RI EDO Coordinator  
 S. Richards, NRR (RidsNrrDipmIpdI)  
 E. Thomas, PM, NRR  
 D. Skay, PM, NRR (Backup)  
 Region I Docket Room (with concurrences)

DOCUMENT NAME: G:\BRANCH4\Susquehanna\SUS0204.WPD

After declaring this document "An Official Agency Record" it **will/will not** 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		RI/DRP	
NAME	SHansell/DF for		DFlorek/DF		MShanbaky/MS	
DATE	07/11/02		07/11/02		07/11/02	

OFFICIAL RECORD COPY

**U.S. NUCLEAR REGULATORY COMMISSION**

REGION I

Docket Nos.: 05000387, 05000388

License Nos.: NPF-14, NPF-22

Report No.: 50-387/2002-04, 50-388/2002-04

Licensee: PPL Susquehanna, LLC

Facility: Susquehanna Steam Electric Station

Location: 769 Salem Boulevard  
Berwick, PA 18603

Dates: May 12, 2002 to June 29, 2002

Inspectors: S. Hansell, Senior Resident Inspector  
J. Richmond, Resident Inspector  
J. Noggle, Senior Health Physicist  
P. Frechette, Physical Security Inspector

Approved by: Mohamed M. Shanbaky, Chief  
Projects Branch 4  
Division of Reactor Projects

## SUMMARY OF FINDINGS

IR 05000387-02-04, IR 05000388-02-04; PPL Susquehanna, LLC; on 05/12-06/29/2002; Susquehanna Steam Electric Station; Units 1&2. Routine integrated report.

The report covered a 7 week period of inspection by resident inspectors and announced inspections by a regional senior health physicist and a physical security inspector. No findings of significance were identified. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 3, dated July 2000."

### **A. Inspection Findings**

No findings of significance were identified.

## TABLE OF CONTENTS

SUMMARY OF FINDINGS .....	ii
TABLE OF CONTENTS .....	iii
Summary of Plant Status .....	1
1. REACTOR SAFETY .....	1
1R01 Adverse Weather .....	1
1R04 Equipment Alignments .....	2
.1 Partial System Walk-downs .....	2
.2 Complete System Walk-down .....	2
1R05 Fire Protection .....	3
.1 Routine Plant Area Inspections .....	3
1R07 Heat Sink Performance .....	3
1R11 Licensed Operator Requalification .....	4
1R12 Maintenance Rule Implementation .....	4
1R13 Maintenance Risk Assessment and Emergent Work .....	5
1R15 Operability Evaluations .....	6
1R16 Operator Work-Arounds & Cumulative Effects Review .....	7
1R19 Post Maintenance Testing .....	7
1R22 Surveillance Testing .....	8
1EP6 Emergency Preparedness Drill Evaluation .....	8
2. RADIATION SAFETY .....	9
2OS3 Radiation Monitoring Instrumentation .....	9
3. SAFEGUARDS .....	11
3PP4 Security Plan Changes .....	11
4. OTHER ACTIVITIES .....	11
4OA2 Problem Identification and Resolution .....	11
.1 High Pressure Coolant Injection Pump High Vibration Corrective Action Review .....	11
.2 Occupational Radiation Safety Corrective Action Review .....	12
4OA3 Event Follow-up .....	12
.1 LER 50-387/2001-04-00 .....	12
4OA5 Other .....	12
.1 Institute of Nuclear Power Operations (INPO) Report Review .....	12
4OA6 Meetings .....	12
.1 Exit Meeting Summary .....	12
LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED .....	14
PRINCIPALLY REVIEWED DOCUMENTS .....	14
LIST OF ACRONYMS .....	15

### Report Details

#### Summary of Plant Status

Susquehanna Steam Electric Station (SSES) Unit 1 began the inspection period at full power. On May 30, 2002, reactor power was reduced to approximately 88% to perform a power uprate test program after the installation of new reactor feedwater flow elements. The unit was returned to full power on May 30, and operated at or near full power during the remainder of the report period except for control rod pattern adjustments and main turbine control valve testing.

Unit 2 operated at or near full power during the inspection period except for control rod pattern adjustments and main turbine control valve testing.

## 1. REACTOR SAFETY

### Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity, Emergency Preparedness

#### 1R01 Adverse Weather (71111.01)

##### a. Inspection Scope

During the period of June 24 to 28, the inspectors reviewed operator actions for elevated hot weather conditions and performed plant walk-downs to assess potential hot weather vulnerabilities. The inspectors compared their observations to PPL's hot weather procedure to evaluate operator actions and plant conditions and determine the adequacy of PPL's response to the hot weather conditions. In addition, the inspectors evaluated PPL's identification of hot weather related problems that could affect mitigating systems or initiate a plant transient to verify whether PPL's corrective action program properly addressed the identified problems. The Unit 1 and Unit 2 areas, components, and documents included:

##### Structures, Systems, and Components

- Reactor building closed cooling water
- Turbine building closed cooling water
- Main turbine generator hydrogen coolers
- Main turbine generator stator water cooling
- Main turbine generator alterex coolers

##### Procedures and Documents

- ON-000-005, "Hot Weather"

##### b. Findings

No findings of significance were identified.

1R04 Equipment Alignments (71111.04S).1 Partial System Walk-downsa. Inspection Scope

The inspectors performed partial system walk-downs to verify system and component alignment and to note any discrepancies that would impact system operability. The inspectors verified selected portions of redundant or backup systems or trains were available while certain system components were out of service. The inspectors reviewed selected valve positions, electrical power availability, and the general condition of major system components. The walk-downs included the following systems:

- Unit Common Security Control Center (SCC) power distribution, including 480 VAC load centers, 125VDC batteries, and un-interruptible power supplies, during SCC diesel maintenance, on May 22

b. Findings

No findings of significance were identified.

.2 Complete System Walk-downa. Inspection Scope

The inspectors performed a complete system walk-down on the Unit 2 high pressure coolant injection (HPCI) system to verify whether the equipment was properly aligned. In addition, the inspectors reviewed the most recent surveillance test data and issues tracked by the system health report, which included condition reports, work orders, and maintenance rule issues. These reviews were conducted to identify discrepancies that would impact system operability. The following documents were included in the review:

- CL-252-0012, "Unit 2 HPCI Mechanical Check-off List"
- P&ID M-2155 and M-2156, "High Pressure Coolant Injection System"
- Final Safety Analysis Report (FSAR) section 6.3.2.2.1, "High Pressure Coolant Injection System"
- FSAR section 6.3.2.9, "Position Verification for HPCI Manual Valves"
- FSAR section 7.6.1a.4.3.8, "HPCI Steam Leak Detection"
- Technical Specification (TS) and TS Bases sections 3.5.1, "ECCS-Operating"
- TS and TS Bases sections 3.3.6.1, "Primary Containment Isolation Instrumentation-HPCI System"
- HPCI Surveillance Test Procedures SI-252-315, SI-252-303, SI-252-301, SO-252-004, SI-252-308, SO-252-001, SO-252-004

b. Findings

No findings of significance were identified.

1R05 Fire Protection



.1 Routine Plant Area Inspections (71111.05Q)

a. Inspection Scope

The inspectors reviewed PPL's fire protection program to determine the required fire protection design features, fire area boundaries, and combustible loading requirements for selected areas. The inspectors walked down those areas to assess PPL's control of transient combustible material and ignition sources, fire detection and suppression capabilities, fire barriers, and any related compensatory measures to assess PPL's fire protection program in those areas. The areas and documents reviewed included:

Plant Areas and Fire Zones

- Unit Common Security Control Center, on May 22

Procedures and Documents

- NDAP-QA-0449, "Fire Protection Program"
- NDAP-QA-0440, "Control of Transient Combustible & Hazardous Material"
- NDAP-QA-0441, "Fire Protection System Status Control"

b. Findings

No findings of significance were identified.

1R07 Heat Sink Performance (71111.07)

a. Inspection Scope

The inspectors observed PPL's inspection, cleaning, and maintenance activities in the field, and reviewed PPL's evaluation of the as-found conditions for the "D" emergency diesel generator (EDG) lube oil heat exchanger (0E506D), jacket water heat exchanger (0E507D), and intake air intercoolers (0E505D1/D2) during the EDG 20 year overhaul. The inspectors' review included the following documents:

- NDAP-QA-0504, "Heat Exchanger Program"
- MT-GM-025, "Heat Exchanger Cleaning and Inspection"
- Specification H-1004, "Heat Exchanger/Condenser Inspection and Condition Assessment"
- Specification M-1453, "Heat Exchanger Tube Plugging"
- Work Orders 339872, 368985, 368979, 103529, and 209284
- Condition reports 404015, 404126, 404127, 404231, 405250, 405450, 405252, and 260247

The inspectors reviewed PPL's inservice inspection records for the selected heat exchangers to verify whether PPL properly evaluated the results to identify adverse trends and ensure adequate heat transfer capabilities. The inspectors compared their observations against PPL's procedures and specifications to assess whether the heat exchangers were capable of performing their safety function under design basis

accident conditions. In addition, the inspectors reviewed the previous inservice inspection records and compared the previous and current heat exchanger as-found conditions and cleaning results against PPL's specifications and acceptance criteria to determine if the current results were consistent with predicted performance trends and with industry practice.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification (71111.11)

a. Inspection Scope

On May 21, the inspectors observed licensed operator performance in the simulator during an emergency preparedness exercise. The inspectors assessed the operators' adherence to Technical Specifications, emergency plan implementation, and the use of emergency operating procedures. The inspectors' evaluation focused on the operating crew's satisfactory completion of crew critical tasks. Critical tasks are operational limits placed on key reactor plant and containment parameters that will ensure safety margins are maintained during the simulated malfunctions. The inspectors reviewed the ability of the simulator to model the actual plant performance. In addition, the inspectors observed PPL's critique of the operators' performance.

b. Findings

No findings of significance were identified.

1R12 Maintenance Rule Implementation (71111.12Q)

a. Inspection Scope

The inspectors evaluated the follow-up actions for selected system, structure, or component (SSC) issues and reviewed the performance history of these SSCs to assess the effectiveness of PPL's maintenance activities. The inspectors reviewed PPL's problem identification and resolution actions for these issues to evaluate whether PPL had appropriately monitored, evaluated, and dispositioned the issues in accordance with PPL procedures and the requirements of 10 CFR 50.65(a)(1) and (a)(2), "Requirements for Monitoring the Effectiveness of Maintenance." In addition, the inspectors reviewed selected SSC classification, performance criteria and goals, and PPL's corrective actions that were taken or planned, to verify whether the actions were reasonable and appropriate. The following issues were reviewed:

Equipment Issues

- Unit 1 anticipated transient without scram recirculation pump trip (ATWS-RPT) 4kV breaker failure to trip during logic system functional test SI-164-503, due to the breaker truck-operated-switch contact failure to close when the breaker was racked-in (CR 388219)

- Unit Common control room emergency outside air supply system (CREOASS) maintenance rule reliability performance criteria exceeded, due to failure of an Agastat E7000 time delay relay. Relay failure was determined not to be maintenance preventable. The system performance was evaluated as acceptable to remain under (a)(2) monitoring (CRs 395142, 338136, and 312264)
- Unit 1 steam leak detection system high delta-temperature switch failed to trip (isolates HPCI on detected steam leak), during surveillance test SI-152-316, due to a Riley module failure. Previous Riley module failures were determined not to be maintenance preventable. The system performance was evaluated as acceptable to remain under (a)(2) monitoring (CRs 406799, 395291, 387015, 194230, 95805, and EWR 402461)

#### Procedures and Documents

- Maintenance Rule Basis Documents and System Health Reports for reactor recirculation, CREOASS, and steam leak detection system
- Maintenance Rule Expert Panel Meeting Minutes for meetings 2002-0503, 2002-0529, and 2002-0612
- NDAP-QA-0413, "SSES Maintenance Rule Program"
- EC-RISK-0528, "Risk Significant SSCs for the Maintenance Rule"
- EC-RISK-1054, "Maintenance Rule SSC Availability Performance Criteria"
- EC-RISK-1060, "Risk Significant SSC Acceptable Failure Limits"

#### b. Findings

No significant observations or findings were identified.

### 1R13 Maintenance Risk Assessment and Emergent Work (71111.13)

#### a. Inspection Scope

The inspectors reviewed the assessment and management of selected maintenance activities to evaluate the effectiveness of PPL's risk management for planned and emergent work. The inspectors compared the risk assessments and risk management actions to the requirements of 10 CFR 50.65(a)(4) and the recommendations of NUMARC 93-01 Section 11, "Assessment of Risk Resulting from Performance of Maintenance Activities." The inspectors evaluated the selected activities to determine whether risk assessments were performed when required and appropriate risk management actions were identified.

The inspectors reviewed scheduled and emergent work activities with licensed operators and work-coordination personnel to verify whether risk management action threshold levels were correctly identified. The inspectors assessed those activities to evaluate whether appropriate implementation of risk management actions were performed in accordance with approved procedures.

In addition, the inspectors compared the assessed risk configuration to the actual plant conditions and any in-progress evolutions or external events to evaluate whether the

assessment was accurate, complete, and appropriate for the issue. The inspectors performed control room and field walk-downs to verify whether the compensatory measures identified by the risk assessments were appropriately performed. The selected maintenance activities included:

Maintenance Activities

- Unit 2 HPCI system outage work window, on June 4
- Concurrent work activities on off-site power distribution (ESS transformer 0X203 double test), Unit 1 control rod stroke time testing and adjustment (TP-055-010), Unit 1 RCIC non-LCO work (WO 382257), and load dispatcher Heavy Load Voltage Warning, on June 11

Procedures and Documents

- NDAP-QA-1902, "Maintenance Rule Risk Assessment & Management Program"
- NDAP-QA-0340, "Protected Equipment Program"
- PSP-22, "Susquehanna Sentinel Program"
- SSES Team Manual, dated January 15, 2001

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15)

a. Inspection Scope

The inspectors reviewed operability determinations that were selected based on risk insights, to assess the adequacy of the evaluations, the use and control of compensatory measures, and compliance with the Technical Specifications. In addition, the inspectors reviewed the selected operability determinations to verify whether the determinations were performed in accordance with NDAP-QA-0703, "Operability Assessments." The inspectors used the Technical Specifications, Technical Requirements Manual, Final Safety Analysis Report (FSAR), and associated Design Basis Documents as references during these reviews. The issues reviewed included:

- Unit 2 steam leak detection system operation with 1 trip channel disabled (module TDSH-E11-2N601A removed, CR 406867, FSAR 7.6.1a.4.3.5, and Safety Evaluations 96-9050 & 96-9051)
- Unit 2 HPCI main pump vibration level exceeded the inservice test (IST) alert value during the quarterly surveillance test, CR 381624

b. Findings

No findings of significance were identified.

1R16 Operator Work-Arounds & Cumulative Effects Review (71111.16)

a. Inspection Scope

The inspectors reviewed the significant control room deficiencies, status control tags, and selected corrective action reports to determine whether the functional capability of a system or a human reliability response during an event would be affected. The inspectors also reviewed operations procedure OI-AD-096, "Operator Work-Arounds," Revisions 2 and 3, and the operator work-around master list, dated June 11, 2002. This review focused on the operators' ability to implement abnormal and emergency operating procedures during postulated plant transients with the existing equipment deficiencies. The review included an evaluation of the cumulative effects of the identified operator work-arounds. The most risk significant operator work-arounds included:

- Unit 2 main steam safety relief valve leaks, that result in frequent operation of the residual heat removal (RHR) system in the suppression pool cooling mode, and elevated suppression pool water temperatures
- Modification to the Unit 2 condensate storage tank water supply to the emergency core cooling system to prevent system water hammer
- Emergency service water supply to reactor building and turbine building closed cooling water systems requires the installation of blank flanges to support plant maintenance
- RHR service water radiation monitor local operation

b. Findings

No findings of significance were identified.

1R19 Post Maintenance Testing (71111.19)

a. Inspection Scope

The inspectors observed portions of post-maintenance testing activities in the field to determine whether the tests were performed in accordance with the approved procedures. The inspectors assessed the test's adequacy by comparing the test methodology to the scope of maintenance work performed. In addition, the inspectors evaluated the test acceptance criteria to verify whether the test demonstrated that the tested components satisfied the applicable design and licensing bases and the Technical Specification requirements. The inspectors reviewed the recorded test data to determine whether the acceptance criteria were satisfied. The post maintenance testing activities reviewed included:

- Unit Common security system diesel 0G502 operability run, following shutdown relay replacement, on May 22 (WO 333479 & 330125, and CR 330078)
- Unit Common "D" emergency diesel generator operability run and cylinder compression checks, after the 1R cylinder was rebuilt, on June 18 (TP-024-148 and CR 408025)

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors observed portions of selected surveillance test activities in the control room and in the field and reviewed the test data results. The inspectors compared the test result to the established acceptance criteria and the applicable Technical Specification or Technical Requirements Manual operability and surveillance requirements to evaluate whether the systems were capable of performing their intended safety functions. The observed or reviewed surveillance tests included:

- Unit Common "A" emergency service water flow verification with the pump in an increased test frequency due to pump vibration above the inservice test (IST) alert level, performed on May 30 (SO-054-A03)
- Unit 2 HPCI quarterly flow verification and dynamic VOTES test of the minimum flow valve on June 6 (SO-252-002 & TP-252-028)
- Unit 1 emergency service water and residual heat removal service water functional test from the remote shutdown panel on May 20 (SE-100-007)

b. Findings

No findings of significance were identified.

1EP6 Emergency Preparedness Drill Evaluation (71114.06)

a. Inspection Scope

On May 21, the inspectors observed PPL's emergency response organization (NERO) during an announced emergency preparedness training exercise to evaluate PPL's NERO performance. The simulated emergency included the activation of the operations support center (OSC) after an Unusual Event was declared and the activation of the technical support center (TSC) and emergency operations facility (EOF) after an Alert was declared by the control room emergency director. The control room simulator was used for the exercise except for activation of PPL's NERO telephone notification system (the pushbutton is located in the main control room).

The inspectors observed the conduct of the exercise in the control room simulator, OSC, and TSC. The inspectors assessed licensed operator and NERO adherence to emergency plan implementation procedures, and their response to simulated degraded plant conditions to identify weaknesses and deficiencies in classification, notification, and protective action recommendation development activities. In addition, on May 29, the inspectors observed PPL's exercise critique, to evaluate PPL's identification of weaknesses and deficiencies. The inspectors compared PPL's identified findings against the inspectors' observations to determine whether PPL adequately identified failures. The inspectors' review included the following documents and procedures:

- Susquehanna Emergency Plan, revision 38

- EP-PS-100, "Emergency Director Control Room"
- EP-PS-126, "Control Room Communicator"
- Technical Support Center Drill Log
- Operation Support Center Drill Log
- Condition Reports

b. Findings

No findings of significance were identified.

**2. RADIATION SAFETY**  
**Cornerstone: Occupational Radiation Safety**

2OS3 Radiation Monitoring Instrumentation (71121.03)

a. Inspection Scope

The inspector selected in-plant permanent and portable radiation monitoring instruments important for protecting the occupational worker and reviewed calibrations and operability checks of these instruments. The inspector reviewed the Emergency Plan specified self-contained breathing apparatus (SCBA) equipment readiness and control room staff SCBA qualifications to ensure adequate respiratory protection was available and could be used in the event of an emergency.

Specific source calibrators, instruments and their calibration records reviewed included:

- Shepherd 89 source calibrators (2), and Shepherd 28 source calibrator (1)
- Shepherd Panoramic source calibrator (1)
- Standby Gas Treatment System exhaust radiation monitor (2)
- Refuel floor high and wall exhaust duct monitors (4)
- Pretreatment off-gas radiation monitors (4)
- Containment radiation monitors (2)
- Refuel floor area radiation monitors (ARMs) (5)
- Transverse In-core Probes (TIP) drive and TIP chamber shield ARMs (4)
- Eberline EC-4 area radiation monitors (2)
- Xetex 501A area radiation monitors (1)
- Eberline models RO-2 (3), RO-2A (2), RM-14 (2), and MS-2 scaler (1)
- Teletector 6112B (1)
- Telescan (3)
- AMP-100 (1)
- Mini RAS pump air samplers (2)
- RAS pump air samplers (2)
- Ludlum 2000 scaler (1), and Ludlum 177 scaler (2)
- Canberra gamma spectroscopy systems (2) for 6 sample geometries
- Tennelec TC-535P gas flow proportional counter (1)
- Eberline PCM1B personnel contamination monitors (2)
- Small Article Monitors (2)
- Radose 51 electronic personnel dosimeters (6)

- Radose 51T radio transmitting electronic personnel dosimeters (4)
- Dupont P4LC lapel air samplers (4)
- Eberline AMS-4 continuous air monitor (1)
- Nuclear Enterprise SPM-906 portal monitors (2)
- SCBAs in the control room and technical support center (9)
- SCBA non-fire brigade spare bottle inventory (15)
- SCBA training, respiratory protection training, respirator fit, and medical qualifications for on-shift control room operators (6)
- 2001 monthly breathing air test results for the Unit 1 and Unit 2 air compressors, the Delmonox 19 and 11 compressors, the eagle air compressor, and the operations spare and training center air compressors
- Nuclear Assurance Assessment 2002-003, "HP Instrument Audit," dated May 6, 2002

The performance in this area was evaluated relative to information and criteria contained in PPL procedures and Technical Specification requirements. In addition the inspector interviewed PPL staff, including 5 health physics instrument technicians, the Health Physicist - Instruments, the I & C Supervisor, and a respiratory protection HP technician.

b. Findings

No findings of significance were identified.



### 3. SAFEGUARDS Cornerstone: Physical Protection

#### 3PP4 Security Plan Changes (711130.04)

##### a. Inspection Scope

The inspector conducted an in-office review of changes to the Physical Security Plan, identified as Revision RR, submitted to the NRC on February 13, 2002, in accordance with the provisions of 10 CFR 50.54(p). The review was conducted to confirm that the changes were made in accordance with 10 CFR 50.54(p) and did not decrease the effectiveness of the plan.

##### b. Findings

No findings of significance were identified.

### 4. OTHER ACTIVITIES

#### 4OA2 Problem Identification and Resolution (71152)

##### .1 High Pressure Coolant Injection Pump High Vibration Corrective Action Review

##### a. Inspection Scope

The inspectors performed an in-depth review of a Unit 2 high pressure coolant injection (HPCI) system main pump high vibration condition to verify whether PPL had taken appropriate corrective actions. PPL identified the main pump high vibration condition during a routine quarterly surveillance test on January 30, 2002. The inspectors reviewed a similar Unit 2 HPCI vibration problem that occurred in 1998 (CR 199506). The inspectors' review included six condition reports (CRs): CRs 407785, 381624, 367532, 381797, 381713, and 199506. This corrective action review sample was selected based on the HPCI system's risk importance, as documented in PPL's Individual Plant Evaluation study.

The inspectors reviewed PPL's actions to determine whether they had adequately addressed the following attributes:

- Complete, accurate and timely identification of the problem
- Evaluation and disposition of operability and reportability issues
- Consideration of previous failures, extent of condition, generic or common cause implications
- Prioritization and resolution of the issue commensurate with the safety significance
- Identification of the root cause and contributing causes of the problem
- Identification and implementation of corrective actions commensurate with the safety significance

b. Findings

No findings of significance were identified.

.2 Occupational Radiation Safety Corrective Action Review

a. Inspection Scope

The inspector reviewed 15 condition reports related to the occupational radiation safety cornerstone that were initiated between December 2001 and May 2002 to evaluate PPL's threshold for identifying and resolving problems in implementing PPL's radiation protection program.

b. Findings

No findings of significance were identified.

4OA3 Event Follow-up (71153)

.1 LER 50-387/2001-04-00 Unit 1 High Pressure Coolant Injection System Declared Inoperable

On November 11, 2001, the Unit 1 high pressure coolant injection (HPCI) steam line drain solenoid valve to the main condenser failed closed and a steam line drain pot high level alarm was received. The HPCI system was declared inoperable because the solenoid valve failure resulted in an increase in water at the turbine inlet with no available drain path. No new issues were identified during this review. No violations of NRC requirements were identified. This issue was documented in condition report 366338. This LER is closed.

4OA5 Other

.1 Institute of Nuclear Power Operations (INPO) Report Review

The inspectors reviewed the INPO Final Report dated May 2002, for Susquehanna's September 2001 INPO Evaluation. No significant safety issues were identified. No NRC follow-up was required.

4OA6 Meetings

.1 Exit Meeting Summary

On July 3, 2002, the resident inspectors presented the inspection results to Mr. R. Anderson, Vice President - Nuclear Operations, and other members of PPL's staff, who acknowledged the findings.

The inspectors asked PPL whether any material examined during the inspection should be considered proprietary. No proprietary information, other than the INPO Final Report, was identified.



**ATTACHMENT 1  
SUPPLEMENTAL INFORMATION**

a. **LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED**

Opened

None

Opened and Closed

None

Closed

50-387/2001-04-00	LER	Unit 1 High Pressure Coolant Injection System Declared Inoperable (section 4OA3.1)
-------------------	-----	---

Discussed

None

**PRINCIPALLY REVIEWED DOCUMENTS  
NOT REFERENCED IN THE REPORT**

None.

b. **LIST OF ACRONYMS**

ARM	Area Radiation Monitor
CFR	Code of Federal Regulations
CR	Condition Report
CREOASS	Control Room Emergency Outside Air Supply System
CST	Condensate Storage Tank
DBT	Design Basis Threat
ECCS	Emergency Core Cooling System
EDG	Emergency Diesel Generator
EOF	Emergency Operations Facility
FSAR	[SSES] Final Safety Analysis Report
HP	Health physics
HPCI	High Pressure Coolant Injection
INPO	Institute of Nuclear Power Operation
IST	Inservice Test
LCO	[TS] Limiting Condition for Operation
NERO	PPL's Emergency Response Organization
NRC	Nuclear Regulatory Commission
OSC	Operations Support Center
PPL	PPL Susquehanna, LLC
QA	Quality Assurance
RHR	Residual Heat Removal
SCBA	Self-Contained Breathing Apparatus
SCC	Security Control Center
SSC	Structure, System, or Component
SSES	Susquehanna Steam Electric Station
TIP	Transverse In-Core Probe
TS	Technical Specification
TSC	Technical Support Center
WO	Work Order