

U. S. NUCLEAR REGULATORY COMMISSION

REGION I

Report Nos.: 50-387/89-10  
50-388/89-10

Docket Nos.: 50-387  
50-388

License Nos.: NPF-14  
NPF-22

Licensee: Pennsylvania Power and Light Company  
2 North Ninth Street  
Allentown, Pennsylvania 18101

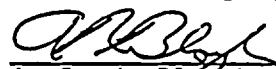
Facility Name: Susquehanna Steam Electric Station

Inspection At: Salem Township, Pennsylvania

Inspection Conducted: April 9, 1989 - May 20, 1989

Inspectors: G. Barber, Senior Resident Inspector, SSES  
J. Stair, Resident Inspector, SSES  
R. Freudenberger, Resident Inspector, Maine Yankee

Approved By:

  
A. Randy Blough, Chief  
Reactor Projects Section No. 3B  
Division of Reactor Projects

6/14/89  
Date

Inspection Summary:

Areas Inspected: Routine inspections were conducted in the following areas: plant operations, physical security, plant events, surveillance, maintenance, ESF System Walkdown, Unit 1 refueling outage activities, and licensee self-assessment.

Additionally, a concern regarding the licensee's implementation of their Appendix R fire protection program was received and a controlled substance was discovered by the licensee on site. Other items reviewed included the licensee's March and April monthly operating reports and selected Licensee Event Reports.

Results: During this period, Operations Department personnel generally conducted activities in a professional manner and operated the plant safely. Routine review of maintenance, surveillance, and refueling activities noted good control and performance.

The licensee's response to a potentially contaminated/injured worker showed both regard for the individuals welfare and the ability to properly handle this type of event.

A surveillance required to be current for handling irradiated fuel and/or core alterations was allowed to expire prior to defueling activities and CRD exchanges. This item is unresolved pending review of the Licensee Event Report.

A review of the licensee's self-assessment capability indicated that the licensee has exhibited the ability to identify weak areas, establish corrective actions and track them to completion.

The licensee monthly operating reports were complete and accurate. Licensee Event Reports (LERs) were found to provide clear and accurate descriptions of the events and corrective actions taken.

## TABLE OF CONTENTS

	<u>Page</u>
1.0 Introduction and Overview.....	1
1.1 NRC Staff Activities (Module Nos. 30703, 71707, 90712, 92701, 60710, 64704, and 37700)	
1.2 Unit 1 Summary	
1.3 Unit 2 Summary	
1.4 Persons Contacted	
2.0 Routine Periodic Inspections.....	2
2.1 Scope of Review	
2.2 Unusual Event Due to Injured Worker - Unit 1 (Module No. 93702)	
2.3 ESF Actuations - Unit 1 (Module No. 93702)	
2.4 RPS Actuation - Unit 1 (Module No. 93702)	
2.5 Contamination of Reactor Building 719 elevation - Unit 1 (Module No. 93702)	
3.0 Surveillance and Maintenance Activities.....	10
3.1 Surveillance Observations (Module No. 61726)	
3.2 Maintenance Observations (Module No. 62703)	
4.0 Licensee Reports.....	11
4.1 In-office Review of Licensee Event Reports (Module No. 90712)	
4.2 Review of Monthly Operating Reports (Module No. 90713)	
5.0 Security (Module No. 81700).....	12
6.0 ESF System Walkdown (Unit 2 Standby Liquid Control System) (Module No. 71710).....	12
7.0 Missed Surveillance - Unit 1 (Module No. 92701).....	13
8.0 Licensee Self-Assessment Capability (Module Nos. 35502 and 40500).....	14
9.0 Fire Protection Allegation RI-89-A-40.....	15
10.0 (Open) TI 2515/73, Inspection Requirements for IE Bulletin 85-03, Motor-Operated Valve Common Mode Failure during Plant Transients due to Improper Switch Settings.....	16

Table of Contents (Continued)

	<u>Page</u>
11.0 (Closed) TI 2515/99, Inspection of Licensee's Implementation of Requested Actions of NRC Bulletin 88-07, BWR Power Oscillations.....	17
12.0 Small Amount of Controlled Substance Found on Site (Module No. 81700).....	17
13.0 Resident Monthly Exit Meeting (Module No. 30703).....	18

## DETAILS

### 1.0 Introduction and Overview

#### 1.1 NRC Staff Activities

The purpose of this inspection was to assess licensee activities at Susquehanna Steam Electric Station (SSES) as it related to reactor safety and worker radiation protection. Within each area, the inspectors documented the specific purpose of the area under review, scope of inspection activities and findings, along with appropriate conclusions. This assessment is based on actual observation of licensee activities, interviews with licensee personnel, measurement of radiation levels, or independent calculation and selective review of applicable documents.

#### 1.2 Unit 1 Summary

At the start of the inspection period, Unit 1 was in the refueling mode for its fourth refueling outage. During this period a complete core offload, replacement of 228 fuel bundles, 24 control rod drives, and 15 local power range monitors, and core reload were accomplished. Other major work activities for the outage included performance of approximately 350 (18 month and 2 year) surveillances. Performance of a primary containment integrated leak rate test and numerous inservice inspections also were completed prior to the end of the outage. Special/major projects included heat exchanger replacements for both recirculation pump motor-generator sets, loss of offsite power modifications, 125 volt DC battery replacements, 10 CFR 50, Appendix R modifications, and turbine generator maintenance modifications. The unit returned to power operation during the week of June 4, 1989.

Five Engineered Safety Feature actuations and one Reactor Protection System actuation occurred in Unit 1 during this inspection period. All of these were related to work performed during the refueling outage. For details on each event, refer to Sections 2.3 through 2.4. On April 10, at 7:28 p.m., an Unusual Event was declared when a potentially contaminated, injured worker required transportation off-site. The Unusual Event was terminated 12 minutes later (see Section 2.2). Also on April 10, the 719 foot elevation of the reactor building was contaminated when a HEPA unit was being installed (see Section 2.5).



### 1.3 Unit 2 Summary

Unit 2 operated at or near full power throughout the inspection period. Scheduled power reductions were conducted during the period for control rod pattern adjustments, surveillance testing, and scheduled maintenance. No unit related events occurred during this inspection period.

### 1.4 Persons Contacted

During the course of the inspection, the inspector interviewed, discussed issues, and received information from various licensee employees.

Listed below are the licensee management and employees who supplied substantive information. Members who attended the exit interview on June 5, 1989, are indicated by an asterisk.

- \* J. A. Blakeslee, Assistant Superintendent of Plant
- \* R. G. Byram, Superintendent of Plant
- \* A. J. Dominguez, Operations Senior Results Engineer
- J. R. Doxsey, Reactor Engineering Supervisor
- \* E. W. Figard, Supervisor of Maintenance
- J. J. Graham, Assistant Manager, NQA
- \* A. F. Iorfida, Supervisor of I&C Computer
- \* G. J. Kuczynski, Supervisor of Technical Support
- C. D. Lopes, Security Supervisor
- T. R. Markowski, Day Shift Supervisor
- W. E. Morrissey, Radiological Protection Supervisor
- \* T. J. Nork, Plant Engineering Group Supervisor
- J. E. O'Sullivan, Installation Engineering Group Supervisor
- \* H. J. Palmer, Jr. Superintendent of Operations
- N. D. Pitcher, Construction Superintendent
- R. J. Prego, Supervisor of QA Operations, NQA
- \* H. L. Riley, Supervisor of Health Physics/Chemistry
- \* D. F. Roth, Senior Compliance Engineer
- \* R. L. Stotler, Supervisor of Security
- H. G. Stanley, Assistant Superintendent-Outages
- B. J. Veazie, Sr. Results Engineer - I&C

## 2.0 Routine Periodic Inspections

### 2.1 Scope of Review

The NRC resident inspectors periodically inspected the facility to determine the licensee's compliance with the general operating requirements of Section 6 of the Technical Specifications (TS) in the following areas:

- review of selected plant parameters for abnormal trends;
- plant status from a maintenance/modification viewpoint, including plant housekeeping and fire protection measures;
- control of ongoing and special evolutions, including control room personnel awareness of these evolutions;
- control of documents, including logkeeping practices;
- implementation of radiological controls;
- implementation of the security plan, including access control, boundary integrity, and badging practices;
- control room operations during regular and backshift hours, including frequent observation of activities in progress, and periodic reviews of selected sections of the unit supervisor's log, the control room operator's log and other control room daily logs;
- followup items on activities that could affect plant safety or impact plant operations;
- areas outside the control room; and,
- selected licensee planning meetings.

The inspectors conducted backshift and weekend/holiday inspections on April 16, from 11:30 a.m. to 3:30 p.m., and May 19, from 2:00 a.m. to 6:00 a.m..

The inspectors reviewed the following specific items in more detail.

## 2.2 Unusual Event Due to Injured Worker - Unit 1

On April 10, 1989, at 7:28 p.m., an Unusual Event was declared by the licensee when a potentially contaminated, injured worker required transportation to a local hospital.

At the time of the injury, the worker was assigned the task to locate snubbers and identify scaffold positions in order to facilitate snubber removal. The worker was on a scaffold adjacent to the Reactor Recirculation Discharge Valve on the 704 foot elevation of the drywell. Not being able to locate a snubber from this location, the worker exited the scaffold by stepping on a box beam with one foot and onto a pipe with his other foot. At this point, the worker lost his footing and fell approximately 6.5 feet to the floor, striking a support beam.



Injuries incurred from the fall included 4 fractured ribs. The worker was admitted to the hospital for observation.

The Unusual Event was terminated at 7:40 p.m. when the worker was transported offsite. The worker was found to be uncontaminated when examined at the hospital.

The licensee made the required NRC notification at 7:35 p.m..

Following the event, the licensee performed a walkdown of the drywell in an effort to determine if any safety hazards existed which could have caused the mishap. No abnormal hazards were found as a result of the walkdown.

The inspector reviewed the Significant Operating Occurrence Report and discussed the event with the licensee. As a result, the inspector determined that the licensee responded appropriately to the event. The inspector had no further questions on this matter.

### 2.3 ESF Actuations - Unit 1

Five Engineered Safety Feature (ESF) System Actuations occurred during the inspection period covered. All of these were in Unit 1 and were related to work being performed as a result of the Unit 1 fourth refueling outage. In three of the events no actual valve movement occurred due to the systems having been previously removed from service in preparation for testing or inspection. In all cases, the licensee made 10 CFR 50.72 notifications within the four hour required time period. In each case, the inspector reviewed the details of the actuation and discussed corrective actions taken and long-term resolutions with the licensee. Specific details per ESF actuation are included in the following paragraphs:

#### 2.3.1 Residual Heat Removal System Isolation on April 9, 1989

On April 9, the licensee discovered that the Residual Heat Removal System (RHR) sample isolation valve, SV-E11-F079A, had closed. A blown fuse (B21-F19) was found in the upper relay room in panel 1C622 and attributed to the loss of power to the valve solenoid. Since the valve is a fail-close valve, it went to the closed position. This constituted an ESF actuation since the sample valve is designed to automatically close during a loss-of-coolant accident.

The licensee determined that the valve functioned properly, but was unable to determine the reason that the fuse blew. The fuse was promptly replaced and the valve returned to the open position.

The inspector found the licensee's actions in response to this event acceptable. This event was also reviewed in Licensee Event Report 89-009-00, dated May 8, 1989.

2.3.2 Electrical Protection Assembly Trip on April 22, 1989

On April 22, with the Unit 1 core completely offloaded to the spent fuel pool, the operations staff began preparations for an Engineered Safety System (ESS) bus outage. This included switching the 'B' Reactor Protection System (RPS) from its normal to its alternate power supply which required inserting a half-scam on the 'B' RPS. Following the switch, the half-scam was reset and at that time the alternate electrical protective assembly (EPA) breaker tripped causing a second half-scam and actuating the isolation logic. Since all associated valves had been placed in their actuated positions prior to this work, no valves actually moved. The 'B' RPS was returned to its normal power supply and the half-scam was reset.

The electrical test group performed troubleshooting of the system and determined that the cause of the event was heat degradation of the wiring to the 'B' RPS alternate transformer output filter capacitors. Cooling air flow was obstructed inside the transformer cabinet. This was due to a discarded cleaning rag located at the air intake to the transformer. The wiring was repaired and the system retested satisfactorily. The licensee is reviewing preventive maintenance activities for the transformers for adequacy and any necessary revisions. This is considered an isolated incident by the licensee.

The inspector concurs with the licensee's immediate corrective actions and conclusions in regard to this event.

2.3.3 Reactor Water Cleanup System Isolation on April 27, 1989

On April 27, with the core completely offloaded to the spent fuel pool, a Reactor Water Cleanup (RWCU) high flow containment isolation signal occurred when flow instrumentation valves 144001C and 144001D had been closed in preparation for a Local Leak Rate Test (LLRT). The closed valves simulated an actual high flow condition. Since the associated containment isolation valves had been closed prior to this, no actual valve movement occurred. The LLRT was stopped, instrument valves 1C and 1D opened and the isolation signal cleared.

The licensee believes that a possible procedural problem related to the valving out of the instrument valves for the LLRT may have contributed to this event.

The inspector concurs with the licensee's immediate corrective actions and notes that this issue has been incorporated into the licensee's system for reportability and that a Licensee Event Report (LER) will be issued within 30 days. The inspector will review the LER upon receipt in regard to the determination of cause and corrective actions taken.

#### 2.3.4 Containment Isolation Signal on April 28, 1989

On April 28, with the core offloaded to the spent fuel pool, during the Reactor Protection System (RPS) HFA relay contact inspection, a high drywell pressure signal to Division II primary containment isolation system (PCIS) valves and secondary containment isolation dampers occurred when an electrician inadvertently shorted a wire in panel 1C623 causing fuse F22 to blow. In addition, Division II Standby Gas Treatment System, Control Room Emergency Outside Air Supply System, and the Reactor Building ventilation system started. Since the associated isolation valves had been previously closed, or were out of service at the time, no actual valve movement occurred.

The licensee immediately stopped the relay inspections, replaced the blown fuse, verified proper system response and reset the isolation logic. The licensee believes that this event was an isolated case due to the fact that HFA relay inspections are performed infrequently and require lifting of wires from the relay contacts. Additionally, panel 1C623 is very congested, making the contact inspection a difficult task for the electrician to perform.

The inspector concurs with the licensee's immediate corrective actions and although the cause of this event is considered to be personnel error, the inspector noted that incidents of this type may occur when working in very confined areas such as a relay panel. However, the licensee should take all reasonable precautions to prevent these events in the future.

### 2.3.5 Reactor Water Cleanup System Isolation on May 10, 1989

On May 10, a Reactor Water Cleanup System (RWCU) fill and vent was being performed in order to return the system to service when a RWCU system isolation signal occurred and the 1F001 (RWCU inboard suction valve) and 1F004 (RWCU outboard suction valve) valves isolated on a high system differential flow signal. The system had been filled up to the inboard side of the 1F004 valve using the reactor vessel cavity water. When a nuclear plant operator manually opened the 1F004 valve to fill the system's outboard piping, the flow increase caused a high differential flow signal in the system. Although the operator had been instructed to throttle the valve when flow reached 60 gpm, he was not fast enough to prevent the isolation. Since there was no letdown or return flow at the time the operator opened the 1F004 valve, the differential flow observed was basically the same as the inlet flow which resulted in the high differential flow signal.

The licensee ensured that the system response was correct, reset the isolation logic, and reopened the 1F001 and 1F004 valves until flow reached 30 gpm at which rate the RWCU system fill and vent was completed.

The inspector found the licensee's immediate actions in response to the event acceptable. However, the licensee stated that the evolution was being performed without a controlling procedure based on shift supervision's judgement that no adverse effects should occur and that the evolution was not too complicated to perform without a procedure. The licensee did consider the possibility of an unwanted high flow isolation. However, the direction given to the operator for the fill and vent evolution was inadequate as evidenced by the actual isolation signal. The inspector verified that the licensee had an existing fill and vent procedure for the RWCU system, however, the procedure did not cover the evolution being performed using the reactor vessel cavity water. In accordance with their administrative procedures an evolution may be performed without a procedure based on the judgement of shift supervision as discussed above. However, the use of a controlling procedure with adequate precautions and initial conditions could have prevented this event. The licensee has since initiated a procedural change to incorporate this fill and venting evolution into the operating procedure. The inspector had no further questions.

#### 2.4 RPS Actuation - Unit 1

On May 14, 1989, with the unit in the refueling mode, a full Reactor Protection System (RPS) Actuation occurred when a spike was received on the 'D' Intermediate Power Range Monitor (IRM). Since all control rods were fully inserted prior to this event, no actual control rod movement took place. Additionally, no fuel was being moved or control rod manipulations were being performed.

Although the licensee was not able to determine the cause of the spike, it was noted that erratic behavior of the 'D' IRM was indicated on its setup chart recorder for approximately one hour prior to the trip. Additionally, two other division II neutron monitoring channels ('H' IRM and 'D' Source Range Monitor) exhibited smaller spikes at the same time as the 'D' IRM. The 'D' IRM was subsequently bypassed and the scram reset. The licensee wrote a work authorization to investigate the problem and made the required four hour ENS notification to the NRC.

The inspector found the licensee's immediate corrective actions acceptable and will review the final resolution upon receipt of the licensee's followup Licensee Event Report.

#### 2.5 Contamination of Reactor Building 719 elevation - Unit 1

At approximately 11:00 p.m. on April 10, a number of individuals exiting the Unit 1 access area caused the personnel contamination monitors (PCMs) to alarm. Upon investigation by health physics staff, it was determined that the 719 foot elevation of the Unit 1 reactor building was contaminated to levels from 10,000 to 20,000 disintegrations per minute (dpm) per 100 square centimeters. The licensee secured access to the 719 foot elevation until the area was decontaminated and the cause of the contamination discovered and corrected.

The licensee performed 37 whole body counts on individuals who were in the area at the time as a precautionary measure since they suspected that a High Efficiency Particulate (HEPA) filter had ruptured. No abnormal levels were indicated by the whole body counts. The licensee performed a decontamination of the area to less than 1000 dpm per 100 square centimeters and allowed normal access to resume with a frisking station set up nearby for individuals exiting the areas.

The licensee later determined that during the removal of the bag which covered the inlet port to the HEPA unit, contamination was spilled onto the floor and was then tracked around by workers. The licensee's determination of root cause showed that the factors involved were an unacceptable level of contamination in the HEPA filter inlet port, a failure to take precautions to catch the contamination or to be aware of the potential for internal contamination, and, not having specified contamination prevention measures and not requiring HP to be present when the HEPA inlet port was opened. These factors are an apparent result of established work practices and deficient procedures.

The licensee's actions to prevent a recurrence include:

- At the conclusion of each job, the HEPA inlet port will be deconned.
- Metal inlet port caps will be made to cover the inlet port for transport.
- The HEPA set-up procedure will be changed as follows:
  - Cautions will precede all steps which apply or remove dust covers or air trunk lines.
  - HP presence is required whenever dust covers or air trunk lines are removed.
- All decon personnel will be briefed on this incident and the resulting procedure changes.

Additionally, coordination between the labor support group which sets up the HEPA filter and health physics which operates it was addressed as a problem area and actions were taken to alleviate it which included training and procedural changes.

The inspector discussed the event with the licensee and reviewed the Significant Operating Occurrence Report, which was written in response to the event. The inspector determined that the licensee's response to this event, identification of the root cause and the corrective actions taken to prevent a recurrence are acceptable and exhibited a well thought out and thorough response.



### 3.0 Surveillance and Maintenance Activities

On a sampling basis, the inspector observed and/or reviewed selected surveillance and maintenance activities to ensure that specific programmatic elements described below were being met. Details of this review are documented in the following sections.

#### 3.1 Surveillance Observations

The inspector observed performance of the following surveillance tests to determine that the following criteria, if applicable to the specific test, were met: the test conformed to Technical Specification requirements; administrative approvals and tagouts were obtained before initiating the surveillance; testing was accomplished by qualified personnel in accordance with an approved procedure; test instrumentation was calibrated; limiting conditions for operations were met; test data was accurate and complete; removal and restoration of the affected components was properly accomplished; test results met Technical Specification and procedural requirements; deficiencies noted were reviewed and appropriately resolved; and the surveillance was completed at the required frequency.

These observations included:

- TP-125-014, Pneumatic Test of The Containment Instrument Gas Charging Connection and Header 1T 213 A-M Design Pressure Upgrade per Plant Modification Request 87-9165A and 9165B (Division I), performed on April 12, 1989.
- SE-183-005, 18 Month Division II ADS Logic System and System Functional Test, performed on May 18, 1989.
- SE-124-C02, 18 Month Diesel Generator C Auto Start and ESS BUS 1C De-energization on Loss of Offsite Power - Plant Shutdown, performed on May 19, 1989.

No unacceptable conditions were identified.

#### 3.2 Maintenance Observations

The inspector observed and/or reviewed selected maintenance activities to determine that the work was conducted in accordance with approved procedures, regulatory guides, Technical Specifications, and industry codes or standards. The following items were considered, as applicable, during this review: Limiting Conditions for Operation were met while components or systems were removed from service;



required administrative approvals were obtained prior to initiating the work; activities were accomplished using approved procedures and quality control hold points were established where required; functional testing was performed prior to declaring the involved component(s) operable; activities were accomplished by qualified personnel; radiological controls were implemented; fire protection controls were implemented; and the equipment was verified to be properly returned to service.

These observations and/or reviews included:

- Calibration of Flow Transmitter FT 11603A per IC-DC-100 and Flow Indicator FI 11603A per IC-LC-001, as requested by Work Authorization (WA) S96009, performed on April 12, 1989.
- Control Rod Drive A 4660 Removal per MT-055-015, performed on April 12, 1989.
- Replacement of HPCI Lube Oil filters per WA P83165, performed on May 5, 1989.
- Containment Instrument Gas Header pressure increase to 2200 psig to test for leaks per WA S84297, performed on May 17, 1989.
- Inspection of the RCIC Turbine Governor internals and Trip Mechanism for free movement and wear per WA P82688, performed on May 18, 1989.

No unacceptable conditions were identified.

#### 4.0 Licensee Reports

##### 4.1 In-office Review of Licensee Event Reports

The inspector reviewed LERs submitted to the NRC office to verify that details of the event were clearly reported, including the accuracy of description of the cause and adequacy of corrective action. The inspector determined whether further information was required from the licensee, whether generic implications were involved, and whether the event warranted onsite followup. The following LERs were reviewed:

##### Unit 1

- 87-011-01 Common Leads on 125VDC, Battery were not Transferred per Procedure
- 88-024-00 Containment Air Lock Leak Rate Surveillances not Performed
- 89-009-00 ESF Actuation, RHR Sample Isolation Valve, caused by a Blown Fuse

Unit 2

## 89-004-00 Reactor Water Cleanup System Isolation on High Differential Flow Signal

The above LERs were found acceptable.

4.3 Review of Monthly Operating Report

Monthly Operating Reports for March and April, 1989, submitted by the licensee were reviewed by the inspector upon receipt. The reports were reviewed to determine that they included the required information; that test results and/or supporting information were consistent with design predictions and performance specifications; and whether any information in the reports indicated an abnormal condition for specific plant operation.

The reports were found to be acceptable.

5.0 Security

The inspector reviewed operations inside the security control center on April 18, 1989. During the review, the inspector noted that the resolution on several of the assessment aids was degraded. The licensee was aware of the degradations, had implemented compensatory measures in accordance with their NRC approved security plan, and had issued a work request to repair the degraded equipment. When the inspector questioned the degraded equipment, the licensee took prompt actions to expedite repairs. The assessment aids were repaired by April 20, 1989. No inadequacies were noted.

6.0 ESF System Walkdown (Unit 2 Standby Liquid Control System)

On May 19, 1989, the inspector independently verified the operability of the Unit 2 Standby Liquid Control System (SLC) by performing a complete walkdown of the accessible portions of the system. The engineered safety system status verification included the following:

- Confirmation that the licensee's system check-off lists and operating procedure are consistent with the plant as-built drawings and as-built configuration.
- Identification of equipment conditions and items that might degrade performance.
- Verification of proper breaker positions at local electrical boards and indications on control boards.
- Verification that valves were in proper position, power was available, and appropriate valves were locked.

The inspector determined that the system was properly aligned in accordance with the operating procedure and the equipment conditions indicated overall that the components were well maintained. However, the inspector noted leakage from the seals of both SLC pumps and the 'A' pump discharge relief valve. An accumulation of crystallized boron was evident below the pumps and around the relief valve. The inspector discussed these conditions with the system engineer who informed him that work authorizations (WAs) were previously submitted on the pumps and would be on the relief valve. Since the SLC system is heat traced, system operability should not be affected and since the licensee was already aware of the system condition and had initiated action to correct this, the inspector found the licensee's system operability control acceptable.

#### 7.0 Missed Surveillance - Unit 1

On May 3, the licensee discovered that surveillance test SI-180-206 (Monthly Functional Test of Reactor Vessel Level Low Low Level 2 Channels LITS-B21-1N026A, B, C, and D) was not performed prior to its expiration date of April 9, since the surveillance was declared out-of-service/out-of-mode on April 2, 1989. This instrumentation is required to be operable per Technical Specification (TS) 3.3.2. in modes 1, 2, 3, and when handling irradiated fuel in the secondary containment and during core alterations and operations with a potential for draining the reactor vessel. Defueling activities and control rod drive exchanges were performed through April 27, 1989. The licensee mistakenly believed that operability was only required in modes 1, 2, and 3, and therefore did not perform the required surveillance upon its expiration. The surveillance was performed successfully on May 3, when it was discovered that it was, in fact, required for the mode it was in.

The licensee determined the cause of the missed surveillance to be a procedure error in that SI-180-206 incorrectly indicated that the applicable operational conditions were only conditions 1, 2, and 3. Corrective actions to prevent a recurrence are to be to review similar surveillances to insure that accurate information is provided and to use the Equipment Release Form System as an additional check on mode requirements.

The inspector reviewed the Significant Operating Occurrence Report on the event and discussed the event with the licensee. The licensee was asked if there were any past violations as a result of the procedure error and the inspector was informed that a review indicated that on one previous occasion for Unit 1, the TS was violated twice and on one previous occasion for Unit 2, the TS was violated once. The inspector also noted that a previous instance was identified by the licensee in 1987 which involved a surveillance performed at a frequency less than required by the TS as a result of the wrong frequency being incorporated into the procedure. That event was apparently due to confusion over the issuance of a TS change request/amendment and the licensee limited their review to the handling of

TS change requests/amendments. The previous event in conjunction with this current event indicates that the licensee should perform a programmatic evaluation to ensure that all TS requirements are properly incorporated into plant procedures. Since this issue has not yet been formally reported to the NRC, the adequacy of the licensee's control of mode-dependent surveillance requirements is considered unresolved (50-387/89-10-01) pending review of the Licensee Event Report submittal in a future inspection.

#### 8.0 Licensee Self-Assessment Capability

An inspection of the licensee's self-assessment activities was conducted. The inspection included review of the two most recent Systematic Assessment of Licensee Performance (SALP) Reports, portions of inspection reports issued since the last SALP and selected Licensee Event Reports (LERs). The emphasis of the review centered on the operations, maintenance and technical support functional areas. These reviews were followed by discussions with licensee staff and review of selected meeting minutes and reports associated with the activities of the Susquehanna Review Committee (SRC), the Plant Operation Review Committee (PORC), and the Nuclear Safety Assessment Group (NSAG). The purpose of the inspection was to assess the capability of the licensee's organization to identify weaknesses, determine corrective actions and track the actions to completion.

Susquehanna Review Committee meeting minutes indicate that outstanding issues are reviewed at each meeting. No long term outstanding issues were noted. Review of selected audits conducted under the cognizance of the SRC identified that the audits were comprehensive and clearly documented.

Plant Operation Review Committee (PORC) meeting minutes were reviewed covering the period from May 1988 - March 1989. The inspector also attended a PORC meeting on April 27, 1989. PORC action items were tracked and required committee review prior to closure. A review of the action items currently open indicates that the licensee is attentive to addressing PORC action items. In accordance with procedure AD-QA-102 "Plant Operations Review Committee" Revision 11, once per month the PORC specifically addresses items such as review of Significant Operating Occurrence Reports (SOORs), Personnel Contamination Reports and the status of PORC open items. The members present at the April 27 meeting actively questioned the resolution of the issues presented.

The inspector reviewed several reports generated by the Nuclear Safety Assessment Group (NSAG) including two reports related to plant incidents (NSAG Reports 5-88 and 2-89), the two most recent Summary Assessments (NSAG Reports 2-88 and 1-89), and the Operations and Maintenance Surveillance Reports for 1988 (NSAG Reports 7-88 and 11-88). In general, these reports were found to be comprehensive and forthright, and to contain appropriate corrective action recommendations. The reports were issued through the Senior Vice President - Nuclear and contained corrective action recommendations directed toward the corporate, as well as plant, staff.

The reports of investigations into plant incidents included a thorough examination of the occurrence resulting in the development of suitable corrective action recommendations. Although a systematic prioritization of corrective action recommendations was not included, NSAG routinely placed emphasis on important items by including milestones for the completion of corrective actions within the recommendation. For example, several corrective action recommendations as a result of the steam separator incident advised that they be completed prior to plant restart.

Annually, the Nuclear Safety Assessment Group conducts a review and assessment of the overall plant performance. The Summary Assessments were considered to be a positive initiative to aid in the identification of negative trends in performance. Areas of organizational strengths and weaknesses were candidly reported. One specific area noted to be a continuing difficulty for the licensee in the inspector's review of past SALP reports was also identified by the 1989 NSAG Summary Assessment. Weakness in the control of plant system status has been a recurring difficulty for the licensee. A program to improve this area was initiated yet the Unit 1 trip on January 4, 1989, was attributed to loss of status control of the instrument air system.

The final area of NSAG activities the inspector reviewed was the Operations and Maintenance Surveillances. These activities consist of teams of NSAG members with support from other licensee departments which perform an intensive review of the Operations and Maintenance departments. The Operations Surveillance involved a week of around-the-clock observation of operations activities by NSAG. The Maintenance Surveillance included observations of work performed by several licensee departments and contractors. The inspector considered these surveillances to be an asset to the licensee's self assessment capabilities.

In summary, the licensee's reviews of its activities, are generally effective at identifying areas of weakness, establishing corrective actions and tracking them to completion.

#### 9.0 Fire Protection Allegation RI-89-A-0059

On May 11, 1989, an individual approached an NRC inspector at the Susquehanna Steam Electric Station (SSES) with concerns regarding the adequacy of the licensee's Appendix R fire protection program with respect to the SSES Control Structure. The individual had several concerns which dealt with the fire barriers, seals, and penetrations and their ability to prevent the spread of a fire, or smoke and hot gases. His concerns also included the barrier and seal inspection program, and the failure to establish certain fire watches. The individual stated that he was actually looking for advice regarding to whom in the licensee's organization he

should take his concerns. The individual was not requesting NRC action at that time. Because (1) the NRC expects licensees to be able to respond to their workers' concerns, and (2) the inspectors initial assessment was that the safety concerns were not of a nature requiring immediate action, the resident inspectors suggested appropriate licensee employees to whom the individual could make his concerns known, and the individual made contact with those employees. The licensee is evaluating and addressing the concerns. The inspectors will continue to follow this issue in order to confirm the licensee's actions and to decide if regulatory action may be appropriate. This issue will therefore remain open pending followup in a future inspection.

This item is unresolved (50-387/89-10-02).

10.0 (Open) TI 2515/73, Inspection Requirements for IE Bulletin 85-03, Motor-Operated Valve Common Mode Failure During Plant Transients due to Improper Switch Settings

Bulletin 85-03 was issued November 15, 1985, to ensure that certain safety related motor-operated valve torque switch settings were adequate to accommodate their most severe loading during design basis events. Temporary Instruction (TI) 2515/73 was issued to direct inspection activities covering Bulletin 85-03.

The NRC staff has completed its review of the licensee's program regarding motor-operated valve testing. As requested by action item e. of Bulletin 85-03, Motor-Operated Valve Common Mode Failures During Plant Transients Due to Improper Switch Settings, the licensee identified the selected safety-related valves, the valves' maximum differential pressures and the licensee's program to assure valve operability in their letters dated May 9 and October 9, 1986. Review of these responses indicated the need for additional information which was requested in the Region I letter dated March 25, 1988.

Review of the licensee's April 28, 1988, response to this request for additional information and the licensee's letter of May 31, 1988, in response to Supplement 1 to IEB 85-03, indicates that the licensee's selection of the applicable safety-related valves to be addressed and the valves' maximum differential pressures meets the requirements of the bulletin and that the program to assure valve operability requested by action item e. of the bulletin and its supplement is now acceptable.

Proper implementation of this program and the review of the final response required by action item f. of the bulletin will be addressed in future inspections.

11.0 (Closed) TI 2515/99, Inspection of Licensee's Implementation of Requested Actions of NRC Bulletin 88-07, BWR Power Oscillations

NRC Bulletin 88-07 was issued on June 15, 1988, to ensure BWRs had adequate operating procedures, instrumentation available, and proper operator training to prevent the occurrence of uncontrolled power oscillations during all modes of BWR operation. Supplement 1 to this Bulletin was published on December 30, 1988, and requested additional information concerning power oscillations and requested action to ensure the minimum critical power ratio (MCPR) safety limit was not violated. Temporary Instruction (TI) 2515/99 was issued to direct inspection activity covering Bulletin 88-07.

During inspection 50-387/89-04 and 50-388/89-04, licensee actions addressing Bulletin 88-07 Supplement 1 were reviewed. Since the completion of this inspection the licensee has submitted a letter dated March 7, 1989, advising the NRC of PP&L's position regarding completion and implementation of Supplement 1. This letter was reviewed and found to be acceptable and in agreement with the previously mentioned inspection reports. No further action is necessary. This item is closed.

12.0 Small Amount of Controlled Substance found on Site

At 4:00 p.m. on May 17, a contractor health physics (HP) technician (tech) discovered a small partially burned hand rolled cigarette while taking a tour with other technicians at the 656 foot elevation of the Unit 1 turbine building inside the offgas hydrogen recombiner room. The cigarette was forwarded through HP supervision to security on May 18 and was analyzed by the state police on the morning of May 18. The initial subjective test was determined to be inconclusive and the cigarette was forwarded to the State Police Wyoming Valley laboratory. The lab confirmed that the cigarette was very old (i.e., probably several years) and contained a small amount of a controlled substance (THC). The licensee's security organization was informed at 12:45 p.m., May 18 and made an ENS notification at 1:32 p.m., May 18 per 10 CFR 73. The licensee continued to investigate the event.

The licensee reviewed log sheets that document entry into the area and interviewed a sampling of the listed personnel. None of the personnel were able to provide information regarding the cigarettes source. The licensee has a Fitness for Duty program that includes prescreening and testing for cause. The licensee reemphasized that illegal drug use on site will not be tolerated. No inadequacies were noted.





### 13.0 Resident Monthly Exit Meeting

On June 5, 1989, the inspector discussed the findings of this inspection with station management. Based on NRC Region I review of this report and discussions held with licensee representatives, it was determined that this report does not contain information subject to 10 CFR 2.790 restrictions. At the conclusion, the licensee acknowledged the NRC findings and did not disagree with them or their characterization.

