

U.S. NUCLEAR REGULATORY COMMISSION  
REGION I

Report No. 50-387/84-29  
50-388/84-35

Docket No. 50-387  
50-388

License No. NPF-14  
NPF-22 Priority \_\_\_\_\_ Category \_\_\_\_\_

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

Facility Name: Susquehanna Steam Electric Station, Units 1 and 2

Inspection At: Berwick, Pennsylvania

Inspection Conducted: August 13-17, 1984

Inspectors: T. L. Harpster  
T. L. Harpster, Lead Reactor Engineer

9/5/84  
date

W. Oliveira  
W. Oliveira, Reactor Engineer

9/5/84  
date

Approved by: J. P. Gody  
A. T. Gody, Chief, Management  
Programs Section, EPB, DEIP

9/10/84  
date

Inspection Summary: Inspection on August 13-17, 1984 (Report Nos. 50-387/84-29 and 50-388/84-35)

Areas Inspected: Near-term followup of responses to Generic Letter 83-28. Inspection in areas of equipment classification, post-maintenance testing, and vendor interfaces. The inspection involved 70 inspection hours by 2 region based inspectors.

Results: No violations were identified.

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## REPORT DETAILS

### 1.0 Persons Contacted

- R. Baker, Supervisor Technical Procurement
- J. Bartos, Senior Project Engineer Nuclear
- F. Butler, I&C/Computer Supervisor
- \*\*P. Capotosto, Senior Project Engineer Nuclear Quality Assurance
- \*V. Concel, Power Production Engineer
- A. Derkacs, Senior Project Engineer Nuclear
- \*\*S. Denson, Assistant Manager Nuclear Quality Assurance
- \*J. Edwards, Personnel and Administration Supervisor
- \*\*\*R. Fedor, Supervisor Document Control Center
- E. Gorski, Supervisor Quality Control
- G. Kuczynski, Supervisor Planning and Scheduling
- K. Mattern, Power Production Engineer
- \*\*\*L. O'Neil, Maintenance Supervisor
- \*R. Prego, Supervisor Quality Assurance Operations
- C. Purcell, Warehouse Supervisor
- G. Robinson, Instrument and Controls Foreman
- D. Sutton, Material Supervisor
- \*D. Thompson, Assistant Superintendent of Plant
- \*\*\*J. Todd, Compliance Engineer
- D. Wildt, Unit Supervisor

#### Nuclear Regulatory Commission

- \*\*\*R. Jacobs, Senior Resident Inspector
- \*\*\*L. Plisco, Resident Inspector

The inspectors also contacted other licensee administrative, engineering, operations, QA/QC, and technical personnel.

- \*Denotes those present at August 3, 1984 entrance meeting
- \*\*Denotes those present at August 17, 1984 exit meeting
- \*\*\*Denotes those present at both meetings

### 2.0 Inspection Summary

#### 2.1 Background

The reactor trip system, as part of the reactor protection system is fundamental to reactor safety for all nuclear power reactor designs. Transient and accident analyses are predicated on the assumption that the reactor trip system will automatically initiate reactivity control systems on demand to assure that fuel design limits are not exceeded. The design and regulatory philosophies for attaining the high reliability required of the reactor trip system have been based primarily on the use of redundancy, periodic testing, and quality assurance.

In February 1983, the Salem Nuclear Power Station experienced 2 failures of the reactor trip system on demand. Regulatory and industry task forces were formed to determine the safety significance and generic implications of the events. Based on these findings, certain actions were required of all licensees. These actions, transmitted in Generic Letter 83-28, fell into 4 areas: (1) post-trip review, (2) equipment classification and vendor interface, (3) post-maintenance testing, and (4) reactor trip system reliability improvements.

PP&L submitted their response to Generic Letter 83-28 in letters dated November 4, 1983 and March 1, 1984. This inspection included the areas of equipment classification and vendor interface, and post-maintenance testing.

## 2.2 Inspection Results

No violations were identified.

## 3.0 Equipment Classification

### 3.1 References

- FSAR, Chapter 3, "Design of Structures, Components, Systems, Equipment"
- FSAR, Chapter 15, "Accident Analysis"
- FSAR, Chapter 17, "Quality Assurance"
- SSES Technical Specifications
- AD-QA-502, Revision 5, "Work Authorization System"
- AD-QA-541, "Equipment Performance and Trending Analysis Program"
- MI-PS-001, Revision 7, "Maintenance Work Planner Guide"
- MI-PS-003, Revision 1, "Classification of Work"
- NDI-QA-2.4.4, Revision 1, "Quality Consideration Lists"
- Letters, Curtis to Eisenhut, November 4, 1983 and March 1, 1984, "Response to Generic Letter 83-28"

### 3.2 Program Review

The PP&L Program for equipment classification, described by the references in section 3.1, was reviewed to determine:

- the criteria and source documents which form the bases for the scope of the quality assurance program
- the extent to which NPRDS or other industry reporting systems are used in inputs
- the assignment of responsibility for reviewing and updating the Quality Consideration Lists
- the distribution and control of the Quality Consideration Lists
- the frequency and sources of revision to the Quality Consideration Lists
- the training provided to station personnel associated with the classification of equipment.

### 3.3 Program Implementation

A number of components were selected which have finite lifetimes because of wear, environment, etc. For these components:

- procurement documents, including engineering specifications were sampled for proper classification, inspection, storage and other quality requirements
- work orders, design changes, and maintenance schedules were sampled to observe proper classification, preplanning for replacement and quality involvement
- associated documentation was sampled to observe preplanning for procurement, storage, maintenance, preventative maintenance and replacement
- associated documentation was sampled to observe interfaces between engineering and station personnel.

Various other components were reviewed for proper classification. The components selected included instrumentation required by the off-normal and emergency procedures and components which are assumed to operate in transient and accident analyses in the FSAR.

### 3.4 Findings

No violations were identified.

## 4.0 Post Maintenance Testing

### 4.1 References

- FSAR, Chapter 17, "Quality Assurance"
- SSES Technical Specifications
- AD-QA-502, Revision 5, "Work Authorization System"
- MP-PS-001, Revision 7, "Maintenance Work Planner Guide"
- Letters, Curtis to Eisenhut, November 4, 1983 and March 1, 1984, "Response to Generic Letter 83-28"

### 4.2 Program Review

The references in Section 4.1 were reviewed to determine that PP&L is implementing a post-maintenance testing program which includes the following:

- written procedures for initiating requests for post-maintenance testing
- criteria and responsibilities for review and approval of post-maintenance testing
- criteria and responsibilities for performing inspection of post-maintenance testing activities
- methods for performing functional testing following maintenance and prior to returning to service
- requirements for adequate documentation of the above reviews, approvals, inspections, and tests

#### 4.3 Program Implementation

In process work authorizations and equipment release forms were reviewed to determine if post-maintenance testing activities were being conducted in accordance with the above requirements.

#### 4.4 Findings

No violations were identified.

### 5.0 Vendor Interface

#### 5.1 References

- FSAR, Chapter 17, "Quality Assurance"
- Regulatory Guide 1.33, February 1976, "Quality Assurance Program Requirements (Operations)"
- Regulatory Guide 1.38, March 1973, "Quality Assurance Requirements for Packaging, Shipping, Receiving, Storage and Handling of Items for Water-Cooled Nuclear Power Plants"
- NDI-QA-15.3.10, "IOM Use and Control"
- NDI-QA-15.2.10, Revision 0, "Replacement Under Equivilency Evaluation"
- AD-QA-200 Revision 3, "Material Control Activities"
- NDI-QA-2.4.4 Revision 1, "Quality Consideration Lists"
- AD-QA-210, Revision 3, "Procurement Control Activities"
- NDI-QA-2.4.1, Revision 0, "Procurement of Material"
- NDI-QA-2.4.7, Revision 0, "Procurement of Quality Materials and Services"
- QCP 31, Revision 0, "Periodic Inspection of Storage Facilities"
- Audit Report No. 0-83-02, "Material Control"
- QA Surveillance Report No. 83-016, "Control of Installation, Operation and Maintenance Manuals"
- SSES NQA Audit Schedule

#### 5.2 Program Review

The vendor interface program described in the references listed in Section 5.1 was reviewed to determine if SSES has:

- a continuing program to assure that vendor information is complete, current and controlled
- incorporated this vendor information into the documentation for procurement, receipt, inspection, test, storage and preventive maintenance during storage of safety-related equipment, components and spares
- established means to develop the procurement, receipt inspection, test, storage, and preventive action program where vendor information is lacking
- audited the vendor information and preventive action program effort.

### 5.3 Program Implementation

A tour of the site warehouse and ER storeroom was conducted. Over twenty Q-1 and ten Q-2 components were randomly selected and their documentation was reviewed at the warehouse. Eleven were selected for followup with Documents, Maintenance, Materials, Technical Procurement and Quality Assurance/Control personnel. The follow-up was to assure that:

- inputs from complete, current and controlled vendor information were available and used appropriately in purchasing, receipts, storage and preventive maintenance documentation
- audits were conducted and corrective and preventive action responses were adequate.

Components selected included the following:

- motor for SMB 00 type motor operated valves, P.O. 307110-1
- auto transfer switch, contact, main and arcing (generic replacement), PO 500212-1
- differential pressure transmitter for plant use, PO 416255-1
- piston tube for CRD, PO 900000-1
- power transformer for Emergency Diesel, PO 307026
- accumulator for CFD hydraulic control system, PC 900000-1
- limit switch for air operated containment purge valves, PO 419285-1
- fan for drywell unit coolers, PO 500085-1
- 4" plug valve for liquid radwaste system, PO 307831
- bonnet assembly for solenoid valves (generic replacement), PO 500118-1
- static pressure switch for containmant atmosphere oxygen and hydrogen analyzer system, POI 500107-1

### 5.4 Findings

No violations were identified.

## 6.0 Management Meetings

PP&L management was informed of the purpose and scope of the inspection at the entrance meeting on August 13, 1984. Preliminary findings were discussed with PP&L representatives periodically during the inspection. An exit meeting was held on August 17, 1984, at which time the findings of the inspection were formally presented to PP&L management.

At no time during this inspection was written material provided to the licensee by the inspectors.