

U.S. NUCLEAR REGULATORY COMMISSION  
REGION I

Report No. 50-387/84-21  
50-388/84-26

Docket No. 50-387  
50-388

License No. NPF-14  
CPPR-102

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

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

Inspection At: Salem Township, Pennsylvania

Inspection Conducted: June 11-14, 1984

Inspectors: *P. Bissett*  
P. Bissett, Reactor Engineer

7/12/84  
date

*W. Oliveira*  
W. Oliveira, Reactor Engineer

7/12/84  
date

*E. Shaub*  
E. Shaub, Reactor Engineer

7/12/84  
date

Approved by: *A. Gody*  
A. Gody, Chief, Management Programs  
Section, DETP

7/13/84  
date

Inspection Summary:

Inspection on June 11-14, 1984 (Combined Inspection Report 387/84-21;  
388/84-26)

Areas Inspected: Routine unannounced inspection of licensee action on previous inspection findings; nonlicensed technical training; and Quality Assurance Program review. The inspection involved 91 inspector hours onsite and at the training center by three region based inspectors.

Results: No violations identified.

DETAILS1. Persons Contacted

- G. Burns, Senior Project Engineer, Nuclear Quality Assurance ( NQA)
- \*P. Caporosta, Senior Project Engineer, NQA
- \*S. Denson, Assistant Manager, Site NQA
- \*J. Graham, Senior Compliance Engineer
- \*W. Lowthert, Supervisor, Nuclear Instruction
- H. Palmer, Supervisor Operations
- \*A. Piemontose, Power Production Engineer
- R. Prego, Quality Assurance Supervisor - Operations
- \*D. Thompson, Assistant Plant Superintendent
- J. Todd, Compliance Engineer
- G. Ward, Manager, Nuclear Training
- \*J. White, Supervisor, Support Training

NRC

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

\* Denotes those present at the exit meeting on June 14, 1984.

The inspector interviewed operators, technicians, technical and administrative personnel during the course of the inspection.

2. Licensee Action on Previous Inspection Findings

(Open) Violation (387/83-31-04; 388/83-31-04): Failure to provide timely disposition or status reports for 159 Nonconformance Reports (NCR's). The licensee has developed a Monthly NCR Status Report to identify NCR's with overdue responses to management and the responsible supervisors. The NCR Status Report provides analyses and trends of NCR's, and audit findings by department and failure mode. The licensee has significantly reduced the number of overdue NCR responses and currently has twenty-five unresolved NCRs issued against the plant. Fourteen of these have requested an extension and eleven have failed to respond within thirty days.

Through discussions and review of Quality Assurance Monthly Reports and NCR Status Reports, it was determined that Nuclear Power Engineering (NPE) has the large majority of overdue responses to NCR's, and audit findings (three NCRs were issued in 1982 and 1983). This item will remain open pending licensee action to disposition NCR's, and Audit findings issued to NPE.

(Open) Unresolved Item (388/84-03-01): Quality Assurance (QA) followup of audit findings is weak. A review of QA audit findings and corrective action followup indicated an increased awareness in this area. However, a review of completed Quality Assurance Surveillance Reports

(QASR) and the applicable Outstanding Item Tracking (OIT) list indicated inadequate followup of QA surveillance findings. Based upon the results of this review, this item remains open. See paragraph 4.6.1 for further details.

(Closed) Inspector Follow Item (387/82-20-03): Numerous temporary changes to procedures or to the checkoff lists resulted in procedures that were difficult to follow. The licensee reviewed and revised station procedures to incorporate temporary changes prior to initial criticality, for Unit I. Similar problems with procedure changes were noted during this inspection and an unresolved item was opened. See paragraph 4.6.2 for further details.

(Closed) Weakness (387/83-30-02; 388/83-25-02): The training requirements on the individual's training matrix do not agree with the individual's computerized training summary sheets. The inspectors randomly selected 18 individuals and compared their computerized training summary sheets to the applicable training matrix. No exceptions were noted.

(Closed) Weakness (387/83-30-05; 388/83-25-05): Training matrices were inadequate for electrical maintenance and technical staff personnel. The inspectors reviewed the Action Plans and final draft training matrices for electrical maintenance and technical staff personnel. In addition, the results of technical staff plant systems training was reviewed. Both were acceptable.

(Closed) Weakness (387/83-30-06; 388/83-25-06): There is a lack of periodic assessment of the effectiveness of plant staff training. Training Curriculum Committees meeting minutes were reviewed for several disciplines. The minutes ensured the committees were meeting on an annual basis, and addressing the effectiveness and adequacy of the training programs.

(Closed) Weakness (387/83-30-16; 388/83-25-16): Training was not scheduled or provided for the NQA-Site Assistant Manager. The licensee had provided the Assistant Manager NQA-Site with training in auditing (both internal and external courses) and his participation in an Electrical Engineer Institute (EEI) QA meeting. Additional training has also been scheduled.

(Closed) Weakness (387/83-30-18; 388/83-25-18): The site QA supervisors do not participate in or control the training of site QA-QC personnel. The training department in conjunction with site QA-QC supervision developed a training matrix for the NQA section. Several curriculum meetings were held including one during the inspection period. A job task analysis is in progress and the certification program is to be defined.

(Closed) Weakness (387/83-30-04; 388/83-25-04): No time goals have been set for the completion of "company assigned" (CA) or "suggested" (S) training. The licensee performed an evaluation as part of the INPO accreditation process and further defined these courses.

"CA" and "S" still exist on the training matrices, but if these courses are required for the certification process, it will be so designated on the training matrix and completed accordingly.

(Closed) Weakness (387/83-30-15; 388/83-25-15): The job descriptions and administrative procedures were not revised to reflect the recent reorganization of the site NQA Section. The inspector reviewed NDI-QA-1.1.1, "Charter Nuclear Quality Assurance," which defines the duties and responsibilities for the site NQA section, and an approved functional organization chart that defines the specific responsibilities of each group within the site NQA section. Both reflected the current organization.

(Closed) Weakness (387/83-30-17; 388/83-25-17): The NQA-Site organization has not developed measures to control resource and management contingencies. The licensee filled the position for budget and planning in the NQA organization. The inspectors reviewed the schedules for NQA site surveillance, audit and inspection activities, which considered significant plant activities and the use of contract personnel and found them acceptable.

(Closed) Weakness (387/83-30-20; 388/83-25-20): Several NCRs from 1980 and 1981 were open. The inspector reviewed the applicable NCRs and verified they were either closed or properly dispositioned. The licensee is developing a new Receipt Deficiency Report (RDRs) to remove these types of nonconformances from the NCR system. This will provide for better tracking and Trending of both NCR's and RDR's.

(Closed) Violation (387/83-30-03; 388/83-25-03): Three individuals had not received their required training within the one year period nor were given any written exemption. The inspector reviewed the revised computerized nuclear training records system that now includes the completed training as well as the applicable training matrix for each individual. A random selection of 15 personnel records were reviewed to verify their training requirements were completed.

### 3. Nonlicensed Plant Training

#### 3.1 References

The training of personnel at nuclear power plants is specified in the following documents:

- 10 CFR 50, Appendix B, Quality Assurance Criteria
- ANSI N18.1 - 1971, "Selection and Training of Nuclear Power Plant Personnel"
- Regulatory Guide 8.13 "Instruction Concerning Prenatal Radiation Exposure"

### 3.2 Program Review

The licensee's program was reviewed to verify a program was in place that addressed the indoctrination, training and retraining of personnel in the areas of radiological health and safety, emergency plan, security and access control, industrial safety, quality assurance and prenatal radiation exposure. Also reviewed were those training programs and procedures that specifically addressed training appropriate to various nonlicensed technical disciplines.

### 3.3 Implementation

The inspectors reviewed the implementation of the nonlicensed training programs to verify that the training was being conducted in accordance with approved plant procedures and regulatory requirements and to ensure that:

- Training was meaningful to those in attendance
- Topics presented were covered accurately and sufficiently
- Mechanisms were in place that identified those areas where training was needed

The inspectors performed the following to verify the implementation of nonlicensed training programs:

- Reviewed records of attendance for general employee training (GET) and retraining
- Reviewed training records for 6 I&C technicians, 6 operators, 3 STAs, 3 mechanics, 3 electricians, and 2 plant engineers
- Interviewed twelve employees with respect to GET quality and effectiveness. Interviews included four female employees (re: R.G. 8.13)
- Curriculum meeting minutes for several areas
- Units of Instruction for STA's, I&C, Mechanics, Electricians, and Operators
- Attended selected sessions of training (e.g. Health Physics II retraining, and D.C. Motors and Generators)
- Interviews with four auxiliary operators, one plant engineer, two I&C technicians, three electricians, three mechanics and several clerical personnel

Discussions were held with various departmental supervisors and training department personnel to further assess the adequacy of the

programs in place. Interaction between personnel, supervisors and the training department occurs on a continuing basis to identify the needs of each department and to evaluate the effectiveness and quality of training received. Several training programs, such as Plant Engineering, I&C, Mechanical and Electrical were developed using INPO guidelines for accreditation. These programs are reflected in the levels of advancement training (e.g., Technician Level I to Technician Level II, Assistant Foreman).

The licensee expended a large amount of resources to purchase laboratory and training equipment and develop technical training programs to support plant operations.

The inspectors reviewed and discussed the audits of the training department with training and Quality Assurance personnel to ensure that corrective actions for audit findings were performed in a timely manner.

### 3.4 Findings

No violations were identified.

## 4. Quality Assurance Program

### 4.1 References/Requirements

The requirements for the quality assurance (QA) organization are specified in the following documents:

- 10 CFR 50, Appendix B, Quality Assurance Criteria for Nuclear Power Plants
- Operational Quality Assurance Program FSAR Section 17.2, June 10, 1983
- Technical Specifications, Section 6, Administrative Controls
- Regulatory Guide 1.33/ANSI 18.7-1976, Quality Assurance Program Requirements
- Regulatory Guide 1.58/ANSI N45.2.6-1973, Qualifications of Inspection Personnel
- ANSI N45.2.13-1976, QA Requirements for Control of Procurement of Items and Services
- ANSI N45.2.2-1972, Packing, Shipping, Receiving and Handling of Items

## 4.2 Organization/Administration

### A. Review

Discussions were held with licensee management and quality assurance personnel and the documents referenced above were reviewed to verify the following:

- The organizational structure is as described
- Lines of authority and responsibility are delineated
- Responsibilities and qualifications were specified
- Activities, structures, systems and components to which the Quality Assurance program applies were defined
- Review, inspection and surveillance QA activities were governed by administrative controls
- Mechanisms were in place to review the overall effectiveness of the Quality Assurance program
- Corrective Action systems were well defined and being effectively implemented
- Responsibilities for administering and controlling the Quality Assurance program, including implementation procedures, changes and revisions, were specified

### B. Implementation

Selected Quality Assurance Procedures (QAP) and Station Administrative Procedures (APN) were reviewed and discussed with Quality Assurance and station personnel to ensure program changes were reflected in the QAP's and APN's and personnel were aware of the changes.

## 4.3 Operations Quality Assurance Activities

### A. Review

The documents referenced in paragraph 4.1 specify that QA activities (inspection and surveillance) achieve the following:

- Inspection and surveillance is performed by trained personnel, independent of the work being inspected and qualified for the applicable activity

- Procedures provide sufficient guidance to direct the overall inspection and surveillance program
- Detailed instructions or checklists are used to ensure thorough inspections and surveillances, if applicable
- Documentation exists for the results of the inspection and surveillance activities
- Timely and effective corrective actions are provided for inspection and surveillance findings

Applicable Quality Assurance procedures and instructions were reviewed to ensure that these controls were adequately delineated in QA and station procedures.

#### B. Implementation

The following areas were reviewed to verify compliance with Quality Assurance inspection and surveillance program requirements:

- Organization chart for the station QA/AC staff
- January, February and April, 1984 Quality Assurance monthly activities report
- 20 Surveillance Reports, associated checklists, findings and corrective actions.
- 5 QC Inspection Reports (QCIRs)
- Monthly Operational Quality Assurance (OQA) surveillance schedule
- Proposed areas of surveillance activities
- Quality Control Inspection Report Log
- Operations Quality Assurance Surveillance Log
- Open Item Tracking Lists for Audit and Surveillance

#### 4.4 Corrective Action

##### A. Review

The applicable documents referenced in paragraph 4.1 specify that the corrective action system provide the following:

- Prompt identification of conditions adverse to plant safety



- Prompt corrective action including measures to preclude recurrence
- Documentation of adverse conditions and corrective actions taken
- Appropriate review by management and Quality Assurance personnel
- Corrective action status is monitored and reviewed for adverse trends

B. Implementation

The following areas were reviewed to ensure that corrective actions were adequate and timely for deficiencies identified during Quality Assurance inspections and surveillance activities, of routine operations.

- 1984 Nonconformance Log, and the unresolved nonconformances for 1982 and 1983 (4 total against the plant)
- Monthly Nonconformance Status Reports from the QC and Plant Compliance Sections
- Findings and corrective actions associated with 10 Quality Assurance surveillance and inspection activities
- Corrective Action Audits (semiannual corrective action audit) performed for 1983 and 1984
- Audits of Document Control and the SRMS Retrieval System completed in 1984

Discussions were held with Quality Assurance and station personnel to assure that they understood 1) their responsibilities in reporting conditions adverse to plant safety; and, 2) the reporting system available to document and initiate corrective actions.

Trending activities were reviewed and discussed with the Quality Assurance Department to verify that trending reports were distributed to management to ensure any adverse trends identified can be acted on promptly.

The licensee developed a system to report deficiencies noted in the receipt inspection program, due to the large numbers of NCRs being generated by receipt inspection. The Receipt Deficiency Report will be utilized in July 1984 and will allow the plant to more effectively manage the NCR system.

#### 4.5 Procurement and Receipt, Storage and Handling

##### A. Review

Discussions were held with plant staff and QA personnel to verify that personnel were aware of their responsibilities and authorities. Procedures were reviewed to ensure they adequately delineated the requirements of the documents referenced in paragraph 4.1.

##### B. Implementation

The following areas were reviewed to verify compliance with the QA program and station procedures:

- Qualification/Certification of 4 Receipt Inspectors
- 7 Receipt Inspection Reports including NCRs and Quality Assurance Action Request (QAAR) written for problems identified during the inspection
- 10 Plant Procurement Requests (PPRs)
- 5 Procurement Commitment System Requisitions and Computer Material Requisition
- A tour of the safety-related warehouse, including QA Hold and Receipt Inspection areas

The inspector assessed the technical and quality review processes for several purchase requisitions, with licensee personnel, to ensure the individuals were aware of their responsibilities and the QA program requirements.

#### 4.6 Findings

No violations were identified. However, two unresolved items are discussed below.

4.6.1 During the review of the Open Items Tracking List for completed Quality Assurance surveillances, it was noted that the majority of the Quality Assurance Surveillance Reports (QASR) were

either open or unresolved due to the Organization Subject to Surveillance's (OSS) failure to respond to surveillance findings within 30 days. Discussions with the Operations QA Supervisor revealed that as of May 7, 1984, Nuclear Quality Assurance Procedure (NQAP)-12.1, "Performance of Q.A. Audits and Surveillance Activities," was revised to strengthen the corrective action process for surveillance activities.

Surveillance findings prior to May 7, 1984 have been turned over to the Plant Compliance Group for subsequent follow-up of corrective actions. All future surveillance findings will be tracked and followed-up with increased management attention for instances where the OSS failed to respond within 30 days. The above concern parallels a concern previously identified in the area of audits, (Unresolved Item (388/84-03-01) discussed in paragraph 2 of this report).

4.6.2 The licensee utilizes a Procedure Change Approval Form (PCAF) to initiate a change to plant procedures. Administrative Procedure, AD-QA-000, "Procedure Changes" requires revisions to procedures be initiated when three approved changes have been issued against a procedure or within 60 days of Superintendent approval of the oldest change. During procedure reviews the inspectors noted several procedures with more than 3 PCAFs against them or the oldest PCAF more than sixty days old (e.g., OP-32-003 PCAF 6/24/83; OP-139-001 with 7 PCAFs, the oldest 12/2/83; OP-134-001 with 6 PCAFs; OP-133-001 with 4 PCAFs, the oldest 12/2/83; and AD-QA-101 with 3 PACFs, the oldest 10/14/83). Further investigation revealed that these procedures were in the revision process, but that changes were occurring so often that by the time a procedure was revised several more PCAFs were generated. Rather than issue the procedure the new PCAPs would be incorporated into the procedure revision prior to approval and issue. This causes delays with issuance of the revised procedures and the large number of PCAFs on many procedures. The licensee recognized the problem and contracted additional technical writers to reduce the number of PCAFs outstanding against plant procedures. This item is unresolved pending licensee action to reduce and maintain PCAFs to less than 3 and no more than 60 days old, and subsequent NRC review (387/84-21-01; 388/84-26-01).

## 5. Unresolved Items

An unresolved item is a matter about which more information is required in order to ascertain whether it is an acceptable item, a deviation, or a violation. Unresolved items were identified during this inspection and are discussed in paragraph 4.6.

6. Exit Meeting

The inspector met with the licensee representatives (denoted in paragraph 1) throughout the inspection period and on June 14, 1984, and summarized the scope and findings of the inspection activities.

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