

U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report Nos. 50-387/87-24
50-388/87-21

Docket Nos. 50-387
50-388

License Nos. NPF-14
NPF-22

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

Facility Name: Susquehanna Steam Electric Station

Inspection At: Berwick, Pennsylvania

Inspection Dates: December 14-18, 1987

Inspector: W. Oliveira 1/25/88
W. Oliveira, Reactor Engineer date

Approved by: N. J. Blumberg 1/26/88
N. J. Blumberg, Chief, Operational Programs date
Section, Operations Branch, DRS

Inspection Summary: Routine unannounced inspection on December 14-18, 1987
(Report Nos. 50-387/87-24 and 50-388/87-21)

Areas Inspected: Quality Assurance Program Annual Review of the following
inspection areas: Test Program, Offsite Support Staff, Records Program, and
Licensee's Action on Previous NRC Concerns.

Results: No violations or deviations were identified.

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DETAILS

1.0 Persons Contacted

- *J. Blakeslee, Assistant Plant Superintendent
- *F. Butler, Supervisor of Maintenance
- *R. Byram, Plant Superintendent
- *T. Dalpiaz, Technical Supervisor
- *E. Figard, Supervisor of Instrument and Control
- *J. Graham, Assistant Manager, Nuclear Quality Assurance (NQA)-Operations
- D. Heffelfinger, Senior NQA Auditor
- *H. Keiser, Vice President Nuclear Operations
- *R. Kichline, Licensing Specialist
- *H. Riley, Health Physicist and Chemistry Supervisor
- *D. Roth, Senior Compliance Engineer
- T. Saranga, Coordinate Engineer, NQA
- A. Sobal, Manager, NQA
- *R. Wehry, Power Production Engineer-Compliance

United States Nuclear Regulatory Commission

- *J. Stair, Resident Inspector

* Denotes those attending the exit meeting December 18, 1987.

The inspector also contacted other administrative and technical personnel during the inspection.

2.0 Licensee's Actions on Previous NRC Action Items

2.1 (Closed) Unresolved Item (388/84-03-01): Corrective Action Program

Quality assurance (QA) follow up of audit findings appears weak. Recent INPO and Corporate Management audits arrived at the same conclusion. The inspector verified during this inspection that the corrective action program is being aggressively implemented. The quality assurance (QA) audits, QA surveillances reports (QASRs), and nonconformance reports (NCRs) reviewed indicate that the corrective action responses were adequate and timely. The corrective actions are tracked by the Corrective Action Tracking System (CATS). This item is closed.

2.2 (Closed) Violation (388/85-02-01): Surveillance Test

Analysis of ST-8.4 and 11.3 for oscillatory behavior was not in conformance with the acceptance criteria. Onsite examination of this violation during NRC Inspection Report 50-388/85-10 identified no problems with the licensee corrective action. The item however remained open pending NRC evaluation of the licensee

formal response dated April 1, 1985, to the Notice of Violation. NRC letter dated May 17, 1985 accepted the licensee's formal response. This item is administratively closed.

2.3 (Closed) Inspector Follow Item (387/85-18-01): ESW System Alignment

The ESW system alignment with the division diesel generators were not in accordance with the operating procedure. The ESW system is now aligned in accordance with the operating procedure. This fact was verified by the inspector during the review of Unit 1 System and Equipment Status reports (Form AD-QA-303-5). The report form was recently revised to include the new fifth diesel generator "DG E". This item is closed.

2.4 (Closed) Inspector Follow Item (387/85-36-01): Surveillance Test

The 18 month functional surveillance test SO-030-002 was being changed from an Operations surveillance procedure to SE-030-002 Technical Staff surveillance procedure. The procedure was also to correct discrepancies noted in the initial Inspection Report 50-387/85-36. The inspector reviewed the revised procedure and verified that the procedure identification was changed and the discrepancies were corrected.

2.5 (Closed) Unresolved Item (387/86-06-03): Post Maintenance Test

Post maintenance tests (PMTs) or retests for preventive maintenance (PM) of motor operated valves (MOV) were not adequately defined. The inspector verified that the procedure AD-QA-482 was developed to define the activities necessary to demonstrate system and component performance. At the request of the inspector, the licensee made a Significant Operating Occurrence Report (SOOR) search to prove that the problem did not recur. The inspector verified that SOOR search did not reveal any recurring problems. This item is closed.

3.0 Quality Assurance Program Annual Review

3.1 Requirements

The licensee is required to establish a quality assurance program which complies with the requirements of 10 CFR 50 Appendix B. The Quality Assurance Program is described in the licensee's FSAR and their Operational Quality Assurance Manual. The Technical Specification Section 6.5 requires the Operational Quality Assurance Program to be audited at least once per 24 months.

3.2 Quality Assurance Program Review

On December 18, 1987, the licensee representative advised the NRC inspector that there were no Quality Assurance (QA) Program changes planned for the next submittal of FSAR changes.

A new Assistant Manager of Nuclear QA (NQA)-Operations was selected and started on December 14, 1987 as part of the Rotation Training Program implemented in 1986. He was a senior compliance engineer knowledgeable in the day to day relationship between the Susquehanna Steam Electric Stations (SSES) and NQA.

The inspector reviewed with management documents such as monthly Deficiency Tracking Status Reports, Plant Operating Review Committee (PORC) Meeting Reports, instructions in the use of the trend dictionary, curves/plots and performance indicators, program for reducing open deficiency items, measures for providing management direction and accountability, and the licensee's response to the most recent NRC Systematic Assessment of Licensee Performance (SALP). These reports show an improving trend in the corrective and preventive actions effort at SSES reported as a major problem in the SALP. The inspector noted a weekly telephone call between corporate and site management.

The inspector concludes that the documented QA Program that was reviewed is improving especially in the area of corrective and preventive action. No violations or deviations were observed.

3.3 QA Program Implementation

The inspector reviewed the Test Program, the Offsite Support Staff, and the Records Program activities. The areas were selected to determine that SSES is implementing a QA Program that is in conformance with regulatory requirements, commitments, and industry standards. Special emphasis was given to the implementation of the corrective and preventive action element of the QA Program. These reviews are discussed in the following paragraphs of this report.

3.3.1 Test Program

The Technical Supervisor described the SSES Test program that entails several areas of testing including surveillances, modifications, ASME Codes, and post maintenance testing (PMT). Also described was the PMT guide and the "How To" procedure for the Technical Test Program. Those documents reviewed or observed in use during an activity by the inspector are listed in Attachment I.

The inspector observed the verification of the corrective action for closing out nonconformance report (NCR) No. 87-0810. The NCR reported that the solidification of sodium sulfate in a radwaste container failed product acceptability in accordance with OP-068-115, i.e. a small percentage of the product may still be in a liquid state. Product acceptability included the test rod penetration of the solidified form. The penetration into the form by the test rod exceeded the acceptable limits. The corrective action was to drill a hole

at the bottom of the container and drain any liquid from the container. No liquid appeared from the drilled hole indicating that the sodium sulfate had properly solidified.

The inspector observed the PMT torquing of anchor bolts for raceways installations. The Quality Control (QC) inspector wrote an exception in his QC Inspection Report (QCIR) that the length of one of the anchor bolts into the foundation might be too short. Nondestructive examination (NDE) was performed and QC was awaiting the results before the PMT is considered complete. If the problem is not easily resolved, it is upgraded to a NCR.

The inspector observed the monthly surveillance test of the 4KV bus 1A201 performed by an electrician in accordance with SM-104-009. When an independent verification by another electrician was performed, the verifier noted that his form SM-104-009 Attachment A was different than the form in the procedure. A QA engineer conducting a QA surveillance of the test wrote a Surveillance Finding 87-284 to resolve the problem. Document Control Center (DCC) had not replaced the superseded forms in their forms file when the procedure was updated. The inspector verified that forms were immediately removed from the DCC files and the work group files. DCC was preparing new forms which are only used by the specific work group.

Instrument and Control (I&C) and Reactor Engineering personnel were observed testing an Traversing In-Core Probe (TIP) in response to Significant Operating Occurrence Report (SOOR) 2-87-100. During the test, the in-core light in channel six at TIP 9795 came on. A Work Authorization (WA) V-77593 was written to investigate and resolve the problem.

In conclusion based on the review of selected procedures and supporting documentation such as SOORs, NCRs, QCIRs, and observations, it was determined that the corrective and preventive action effort for the SSES Test Program is conformance with the regulatory and SSES requirements. The personnel are well trained and knowledgeable of the procedural and technical requirements. No violations or deviations were observed.

3.3.2 Offsite Support Staff

The inspector observed Electrical and Structural Department personnel performing and supervising contract personnel in the following activities:

- Installation of thermal lag fire protection material to raceways in accordance with Construction Work Order (CWO) 71258 and inspected in accordance with QCIR 87-3669.

- Torquing of anchor bolts for routing and installation of raceways in accordance with CWOs 60489 and 70866. They were inspected to QCIRs 87-86-2011 and 87-2500.
- Installation of electrical cables in accordance with CWOs 60542, 60543 and 60549. The cable pulling activity was inspected in accordance QCIRs 86-1921, 86-1974 and 86-1916.

The inspector met with the members of the Nuclear Safety Assessment Group (NSAG). Their function and responsibilities are described in the Technical Specification Section 6.2.3, Nuclear Department Instruction (NDI) 1.1.2, and the Functional Unit Procedure NSAG No. 1. The inspector was shown the Master Open Item Tracking System which contains the recommendations and status of all NSAG project reports. Their project reports provide independent verification by surveillance of unit activities. The project reports are submitted to the Senior Vice President-Nuclear and NSAG members have biweekly meeting with the Plant Superintendent. The inspector selected Project Report 5-86 from the NSAG tracking system to review. The report dealt with the main steam line plug incident and prioritized their recommendations. The report, though independent, recognized that the SSES Compliance and Maintenance Groups also reported on the incident. The recommendations are being implemented on a timely basis. The review and observations of the Nuclear QA (NQA) organization are discussed in paragraph 3.5.

In conclusion based on the observations and the supporting documentation such as CWOs, QCIRs, and NSAG Project Reports, the corrective and preventive action effort in the Offsite Support Staff conforms to regulatory and SSES requirements. The personnel are well trained and knowledgeable of the procedural and technical requirements. No violations or deviations were observed.

3.3.3 Records Program

To verify the control of records, the inspector followed up on the records observed in use such as QCIRs, NCRs, WAs, CWOs, SOORs, LERs, surveillance and test forms, QA Audit and Surveillance reports. The records were found to be complete, easily accessible and properly stored. Automated (computerized) records such as the personnel training records, microfiche, and microfilm records were also properly filed and maintained. The storage areas visited included:

- Document Control Center, and the Records Storage Room which contained on temporary storage, radiographs from the refueling outage for SSES Unit 1.

- Electrical Maintenance and NSAG Groups
- Compliance and Technical Groups
- Site NQA and QC Groups
- Training Center

The inspector concluded based on the above observations that, the Records Program is in conformance with the regulatory and SSES requirements. The personnel are trained in the use, care, storage, retention and disposition of records. No violations or deviations were observed.

3.5 QA/QC Interface

The inspector met with the Manager of NQA and his new Assistant Manager of NQA Operations at SSES. NQA achievements to improve the corrective and preventive action effort at SSES since the inspector's last visit in February 1987 include:

- The NQA's participation in the biweekly Corporate-Site Management Review of Management Attention to Deficiencies (MAD). Management attention is at the Vice President and Departmental Management Level.
- The NQA/QC Management's planning of and the conducting of meetings with Plant Management. Twenty-five meetings were scheduled for 1987 and are being planned for 1988.
- The improvements to the NQA's Corrective Action Tracking System (CATS) such as highlighting the areas requiring Management attention.
- The initiation of reports to middle-level Management regarding their responsiveness to the QA Surveillance Program.
- The Operations QA supervisor successfully completed a six month Plant Certification Program training. The purpose of the training was to improve the effectiveness of NQA surveillances of operating plant activity.

The inspector observed a Pre-Audit Conference for NQA/SSES Review Committee (SRC) Audit No. 87-085 conducted in accordance with OPS-7. The subject of the audit was the Emergency Planning. The inspector reviewed three NQA/SRC Audits and 8 QA Surveillance Reports (QASRs) and discuss their contents with the Assistant Manager of NQA-Operations. The NQA/SRC audits and the QA surveillances were thorough, complete and the responses were timely. The inspector reviewed six NCRs which were found to be complete, thorough and the responses timely.

The inspector observed several QC inspectors performing their inspection in accordance with their QCIRs. One QC inspector was following up and closing out a NCR No. 87-0810 for the radwaste container problem discussed in paragraph 3.3.1. A QA engineer was observed preparing a QA Finding (87-284) during a QA surveillance of the monthly surveillance test of the 4KV bus 1A201 discussed in paragraph 3.3.1. He also verified that the immediate corrective action was accomplished.

In conclusion based on the above, the QA Program at SSES is conforming to the regulatory and SSES requirements. NQA is involved in improving the corrective and preventive action effort of SSES. They have established a rapport with the craft and operating personnel as well a management. The training of the NQA personnel is adequate and improving as evident by their knowledge of the procedural and technical requirements. No violation or deviations were observed.

4.0 Management Meetings

Licensee management was informed of the scope and purpose of the inspection at the entrance interview on December 14, 1987. The findings of the inspection were discussed with licensee representatives during the course of the inspection and presented to licensee management at the December 18, 1987 exit interview (see paragraph 1 for attendees).

At no time during the inspection was written material provided to the licensee by the inspector. The licensee did not indicate that proprietary information was involved within the scope of this inspection.

ATTACHMENT I

A. Procedures

AD-QA-410, Rev 8, Plant Modification Program
AD-QA-422, Rev 6, Surveillance Testing Program
AD-QA-424, Rev 6, Significant Operating Occurrence Report
AD-QA-475, Rev 0, Technical Test Program
AD-QA-482, Rev 0, Post Maintenance Test Program
AD-00-540, Rev 6, Preventive Maintenance Scheduling System
IE-000-E01, Rev 0, Installation of Electric Cable
OPS-7, Rev 2, Auditing and Surveillance Activities
MS-PS-008, Rev 0, Post Maintenance Test Guide
SE-030-002, Rev 0, 18 Month Control Structure Ventilation System
Operability Test
SM-024-002C, 18 Month Inspection Diesel Generator
SM-104-009, Monthly 4KV 1A201 Degraded Voltage Channel
TP-116-012, PMT for Alignment Check, Vibration Data and
Operation

B. Surveillance and Work Authorizations (SAs & WAs)

SA A71781, 18 Month Inspection
SA A74729, Monthly 4KV 1A201 Degraded Voltage Channel
WA 65609, Head Flow Degradation Work for RHR Pump 1P500B

C. Construction Work Orders (CWOs)

CWO 60542, Install FK 2V2693C Cable
CWO 60543, Install FK 2V2693A Cable
CWO 60549, Install FP 2V2693A & C Cable

D. Quality Control Inspection Reports (QCIRs)

QCIR 86-1916, 86-1921, 86-1974, 87-2500, 87-3669, 87-4048, and 87-4053

E. QA Surveillance Reports (QASRs)

QAS 87-028, 87-052, 87-160, 87-195, 87-221, 87-229, 87-246, and 87-259

F. NQA/SRC Audits

NQA/SRC 86-88, 86-090, and 87-050

G. Nonconformance Reports (NCRs)

NCR 87-0355; 87-0509 87-0704, 87-0810, 87-0822, 87-0830, 87-0834, and
87-0462

H. Significant Operating Occurrence Reports (SOORs)

SOOR 1-87-100, 1-87-265

I. Monthly Deficiency Tracking Status Reports

July 1987, September 1987, October 1987, and November 1987

J. Plant Operations Review Committee (PORC) Meeting Reports

Meeting No. 87-017, 87-080, 87-114, and 87-151

K. Plant Management Information System (PMIS)

Categorized by SOOR Trends (SOOR7), Management Attention to Deficiencies (MAD2), QA Audits (AUD2)