U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report Nos. 50-387/86-04
50-388/86-03

Docket Nos. 50-387
50-388

License Nos. NPF-14 and NPF-22

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

Facility Name: Susquehanna Steam Electric Station Units I and II

Inspection At: Berwick, Pennsylvania

Inspection Conducted: March 17-21, 1986

Inspectors: for C. Petrone, Lead/Reactor Engineer — 4/8/86 date

Approved by: J. Johnson, Chief, Operational Programs Section — 4/9/86 date

Inspection Summary: Routine Unannounced Inspection Conducted on March 17-21, 1986 (Combined Inspection Report 50-387/86-04 and 50-388/86-03)

Areas Inspected: Surveillance Testing and Calibration Control.

Results: No violations were identified.

DETAILS

1.0 Persons Contacted

*T. Crimmins, Plant Superintendent
*T. Dalpiaz, I&C/C Supervisor
*J. Gramm, Sr. Compliance Engineer
R. Prego, QA Supervisor-OPS
B. Veazie, I&C, Senior Results Engineer
C. Price, Surveillance Program Coordinator
R. Narcavoyge, I&C Foreman

NRC

*R. Jacobs, Sr. Resident Inspector
*L. Plisco, Resident Inspector

*Denotes those present at exit meeting on March 21, 1986.

2.0 Surveillance Testing and Calibration Control Program

The inspector reviewed the licensees program for the control and evaluation of surveillance testing, calibration, and inspection required by Section 4 of Technical Specifications; and for the calibration of safety related instrumentation not specifically controlled by Technical Specifications. The following administrative procedures were reviewed:

- AD-QA-000, Procedure Changes, Revision 2, January 30, 1985;
- AD-QA-300, Conduct of Operations, Revision 7, February 07, 1986;
- AD-QA-402, Setpoint Change Control, Revision 7, March 14, 1986;
- AD-QA-422, Surveillance Testing Program, Revision 6, June 11, 1985;
- AD-QA-423, Station Pump and Valve Testing Program, Revision 4, November 21, 1985;
- AD-QA-543, Surveillance Scheduling System, Revision 2, January 14, 1986;
- AD-QA-605, Maintenance and Calibration of Installed Plant Instrumentation, Revision 4, October 4, 1985; and,
- AD-QA-615, Control and Calibration of Plant Measuring and Test Equipment.

The inspector verified that a master schedule for surveillance testing and calibration had been established which includes the frequency for each test or calibration, the plant personnel responsible, and the status of each surveillance. The inspector verified that responsibility had been assigned to maintain the master surveillance schedule up to date. Routine surveillance activities with a frequency greater than every seven days are scheduled by the PMIS supervisor in the Plant Maintenance Information System (PMIS) in accordance with AD-00-543. Section Heads are responsible for assuring scheduling of assigned non-routine surveillance procedures and of routine surveillance procedures with frequencies of 7 days or less.

The Surveillance Program Coordinator is responsible for conducting independent reviews regarding surveillance program implementation to ensure the required schedules for all tests and inspections are satisfied.

To ensure calibration of safety related components not identified in Technical Specifications, AD-QA-422 includes instructions that such instrumentation shall be calibrated in accordance with AD-QA-605 or AD-QA-615. It requires that requests for In-Plant Instrumentation Calibration be submitted to the I&C Supervisor who ensures that the instrumentation is included in the calibration program.

Based on this review of the licensees procedures and discussions with responsible plant personnel, the inspector concluded that the administrative controls appeared adequate to control surveillance testing and calibration.

To verify that the licensees' program had been effectively implemented, the inspector selected the following sample of surveillance requirements from Unit I and Unit II Technical Specifications:

-- Unit I Reactor Protection System Instrumentation Surveillance Requirements, Table 4.3:1.1-1;

- Intermediate Range Monitor Neutron Flux-High,
- Reactor Vessel Steam Dome Pressure-High,
- Main Steam Isolation Valve-Closure,
- Drywell Pressure-High,
- Scram Discharge Volume Water Level-High,
- Turbine Stop Valve-Closure, and
- Reactor Mode Switch Shutdown Position

-- Unit I Isolation Actuation Instrumentation Surveillance Requirements, Table 4.3.2.1-1;

- Reactor Vessel Water Level-Low,
- Drywell Pressure-High,
- Refuel Floor High Exhaust Duct Radiation-High,
- Reactor Vessel Water Level-Low,
- Main Steam Line Radiation-High,
- Main Steam Line Flow-High,
- Reactor Building Main Steam Line Tunnel Temperature-High,
- Reactor Water Cleanup System Flow-High,
- Standby Liquid Control System Initiation,
- High Pressure Coolant Injection System Steam Line delta Pressure-High,
- HPCI Steam Supply Pressure-Low,
- HPCI Emergency Area Cooler Temperature-High,
- Reactor Vessel (RHR Cut-in Permissive) Pressure-High,
- RHR Flow High, and,
- Drywell Pressure High.

-- Unit 2, Emergency Core Cooling System Actuation Instrumentation Surveillance Requirements, Table 4.3.3.1-1;

- Core Spray System, Drywell Pressure-High,
- Core Spray System, Manual Initiation,
- LPCI, Drywell Pressure High,
- HPCI, Condensate Storage Tank Level-Low,
- ADS, ADS Timer, and,
- ADS, Core Spray Rump Discharge Pressure-High.

The inspector reviewed the Unit I and Unit II Technical Specification/ Surveillance Procedure Cross Reference Matrix which lists each surveillance requirement, the interval, the responsible group, the scheduling method, the operating mode(s), and the implementing procedure(s). The inspector verified that the information contained on this matrix agreed with the Technical Specifications.

The inspector and the licensee's Surveillance Program Coordinator then accessed the on-line PMIS system to determine the status of completion of each of the selected surveillance requirements. All required surveillance tests and calibrations had been performed within the TS prescribed interval.

To verify that the computer based PMIS surveillance status was correct the inspector selected a sample of completed surveillance tests for a detailed review which included verification that prerequisites and procedure steps had been signed off; results met acceptance criteria, and the completion date agreed with the date contained in the PMIS surveillance status data base. The following surveillance test results were reviewed:

-SI-158-204, "Monthly Functional Test of the Scram Discharge Volume (SDV)High Water Level Channels LIS-C12-N601 A,B,C,D," performed March 17, 1986 in accordance with Surveillance Authorization (SA) A60839.

-SI-183-305, "18 Month Calibration of Main Steam Line "A" Flow Channels FIS-B21-N007C, D, performed March 18, 1986, in accordance with SA A 60839.

-SI-252-305, "Quarterly Calibration of HPCI Equipment Room Differential Temperature Channels TDSH-E4/-N601 A and B," performed on March 12, 1986, in accordance with SA A 60831.

-SI-158-301, "Quarterly Calibration of Drywell Pressure-High Pressure Channels PSH-C72-N002A, N002B, N002C, and N002D," performed on January 12, 1986, in accordance with SA 60010.

-SI-179-201, "Monthly Functional Test of Main Steam Line Radiation Monitors D12-K603A,B,C,D," performed on January 21, 1986 in accordance with SA A 60109.

-SI-179-306, "18 Month Calibration Test of Main Steam Line Radiation Monitor RIS-1M603A performed on May 7, 1985 in accordance with SA A 42976.

-SI-183-209, "Monthly Functional Test of Main Steam Line Tunnel Differential Temperature Channels TDSH-B21-N603 A,B,C,D", performed on January 22, 1986 in accordance with SA A 60094.

-SI-183-309, "Quarterly Calibration of Main Steam Line Tunnel Differential Temperature Channels TDSH-B21-N603 A,B,C,D," performed on November 23, 1985 in accordance with SA A 54217.

-SI-150-204, "Monthly Functional Test of RCIC Equipment Room Temperature Channels TSH-E51-N600 A and B," performed on January 20, 1986 in accordance with SA A 60084.

-SI-152-307, "Quarterly Calibration of HPCI Emergency Area Cooler Temperature Channels TSH-E41-N602 A and B," performed on November 28, 1985 in accordance with SA A 54203.

-SI-152-207, "Monthly Functional Test of HPCI Emergency Area Cooler Temperature Channels TSH-E41-N602 A and B," performed January 26, 1986 in accordance with SA A 60159.

-SI-150-504, "Quarterly Calibration of LCIC Equipment Room Temperature Channels TSH-E51-N600 A and B," performed November 23, 1985 in accordance with SA A 59190.

-SI-252-308, "Quarterly Calibration of Condensate Storage Tank Low Level Channels LSLL-E41-N002 and LSLL-E41-N003," performed January 10, 1986 in accordance with SA A 54718.

The inspector did not identify any discrepancies during this review. All records reviewed indicated that the TS surveillance requirements were being met.

The licensee has established a mechanism to identify plant instruments used to verify TS surveillance requirements and ensure they are calibrated by adding them to the PMIS system. The licensee maintains a "Request for In-Plant Instrumentation Calibration Log" which contains an RFC number, a system number, date, instrument number, action taken, and date closed. The inspector reviewed the entries in this log which run from May 1985 to the present. The inspector also reviewed the "Request for In-Plant Instrumentation Calibration" forms submitted by various plant staff members and verified that the identified instrumentation had been added to the PMIS where appropriate. No discrepancies were identified.

3.0 Observations of Surveillance Testing Activities

On March 21, 1986 the inspector observed the performance of portions of SI-280-303, "18 Month Calibration of Reactor Vessel Water Level Channels LIS-B21-N031 A,B,C,D."

The inspector verified that:

-- All prerequisites were completed satisfactorily;
-- Measuring and Test Equipment was calibrated;
-- Required permission was obtained from the licensed Shift Supervisor;
-- Pre-shift "Tailboard" briefing was conducted by the I&C foreman;
-- I&C technicians were knowledgeable;
-- Procedure steps were followed and signed off as required;
-- Results obtained met acceptance criteria;
-- Good communication was maintained; and
-- Detailed return to service instructions were followed.

The calibration was implemented in accordance with SA A60773. The inspector witnessed performance of calibration of the "C" channel. No discrepancies were identified.

4.0 Quality Assurance Involvement in Surveillance Testing

The (NRC) inspector reviewed the licensee's audit 85-65 which evaluated the Unit 1 and Unit 2 Surveillance Test Program for compliance to the requirements of SSES Technical Specifications and to evaluate overall program effectiveness. This audit involved 200 man-hours by two of the licensee's auditors. The audit appeared to be very comprehensive and identified four findings and twelve observations/recommendations. One finding identified improper closeout of Technical Specification Change Notices (TSCN's) which are used to notify Section Heads of NRC approved TS changes and to request appropriate surveillance procedure revisions to reflect the TS changes. One observation/recommendation identified that no formal method existed for the operations personnel to keep track of in process surveillance activities. No Equipment Release Forms (ERF's) are generated for surveillance performance. Operations personnel keep track of which surveillances are in process by a variety of informal mechanisms including personal notes, notes written in the daily surveillance schedule, and personal memory. The auditor concluded that confusion may result when surveillances start on one shift and end on another shift.

The NRC inspector reviewed the licensee's corrective actions and noted that a controlled system was in place to ensure that corrective actions are taken to resolve the findings. As of this inspection two of the findings had been resolved and two required additional actions before they would be closed.

The observation/recommendation regarding the status of in-process surveillance activities was resolved by the addition of the requirement for operations personnel to maintain a copy of the work authorization cover sheet on file while the work is in progress.

The audit was comprehensive, thorough and identified meaningful findings. The licensee has taken, or is taking, action to resolve those findings and observations.

In addition to the audit performed by the corporate staff auditing group, the Operations QA department had performed approximately fifty QA surveillances (inspections) of various in plant Surveillance Test Activities during 1985.

The NRC inspector reviewed the following sample of ten QA Surveillance Reports:

- 85-002, Quarterly HPCI Flow Verification, January 3, 1985;
- 85-003, Weekly Turbine Valve Cycling Tests, January 7, 1985;
- 85-004, Scram Time Measurement of Rods following maintenance; January 11, 1985;
- 85-005, Implementation of Diesel Generator 18 months Inspection, January 14, 1985;
- 85-016, RHR SW Flow Verification, February 6, 1985;
- 85-017, Secondary Containment Integrity Verification of Zone II, February 6, 1985;
- 85-021, Functional Testing of Snubbers, February 21, 1985;
- 85-032, 92 Day Standby Liquid Control Flow Verification, March 6, 1985;
- 85-038, Implementation of SI-183-318, March 20, 1985; and
- 85-041, 60 Month Battery (Div II) Discharge Performance Test, March 13-16, 1985.

These surveillance reports were well prepared and identified meaningful findings which were subsequently corrected by the licensee.

Based on this review of the audit and the surveillance reports the NRC inspector concluded that the licensee's QA department is actively and extensively involved in the review of plant surveillance activities.

5.0 Management Meetings

Licensee management was informed of the scope and purpose of the inspection at the entrance interview on March 17, 1986. The findings of the inspection were discussed with licensee representatives during the course of the inspection and presented to licensee management at the March 21, 1986 exit meeting (See Paragraph 1 for attendees). At no time during this inspection was written material provided to the licensee by the inspector.