U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report Nos. 50-387/83-31
50-388/83-31

Docket No. 50-387
50-388

License Nos. NPF-14
CPPR-102 Category C

Licensee: Pennsylvania Power & Light Company

2 North Ninth Street

Allentown, Pennsylvania 18101

Facility Name: Susquehanna Steam Electric Station

Inspection At: Berwick, Pennsylvania

Inspection Conducted: December 19-23, 1983

Inspectors: P. K. Eapen — 1/25/84
P. K. Eapen, Ph.D. — date
Lead Reactor Engineer

E. T. Shaub — 1/25/84
E. T. Shaub — date
Reactor Engineer

Approved by: D. L. Caphton — 1/25/84
D. L. Caphton, Chief, Management — date
Programs Section, EPB, DETP

Inspection Summary:

Inspection on December 19-23, 1983 (Report Nos. 50-387/83-31 and 50-388/83-31)

Areas Inspected: Special inspection to review changes made to plant procedures (including operating, off-normal, surveillance, and emergency procedures) since the issuance of the operating license for Unit 1. The inspection involved 64 inspection hours on site by two region-based inspectors.
Results: One violation (failure to follow procedures in the non-conformance reporting areas). See paragraph 2.6, item f, for details.

DETAILS

1. Persons Contacted

Pennsylvania Power and Light Company

*J. Blakeslee, Jr., Unit 2 Supervisor of Operations
*S. Denson, Assistant Manager, Nuclear Quality Assurance
*J. Graham, Senior Compliance Engineer
*C. Myers, Assistant Plant Superintendent
*R. Prego, Quality Assurance Supervisor
*R. Sheranko, Start-up and Test Group Supervisor
*J. Todd, Compliance Engineer

Nuclear Regulatory Commission

*L. Plisco, Resident Inspector

*denotes those present at the exit interview.

The inspector also interviewed other licensee personnel during the course of the inspection, including administrative and technical personnel.

2. Review of Plant Procedures

2.1 General

This inspection was conducted to review the licensee's efforts for developing procedures to support Unit 2 operation. The licensee used Unit 1 procedures as the basis for Unit 2 procedure development. A joint start-up and test group reviewed Unit 1 procedures and recommended changes to develop Unit 2 specific procedures. The drafts of Unit 2 specific procedures were reviewed and approved in accordance with the requirements of Reference 1 in Section 2.2 below. The numbering system had to be changed to distinguish between Units 1 and 2.

Prior to the issuance of the Operating License for Unit 1, the NRC reviewed the licensee's procedure control program and found the program to be adequate. (See NRC inspection No. 50-387/82-09 for details.) This inspection primarily focused on the new procedures developed, and the changes made to the procedure program since NRC inspection No. 50-387/82-09.

2.2 References

(1) Technical Specifications Unit 2 (Proposed)

(2) Regulatory Guide 1.33-1978, Quality Assurance Program Requirements (Operation)

(3) ANSI N18.7-1976, Administrative Controls and Quality Assurance for the Operational Phase of Nuclear Power Plants

(4) SSES QAM, Procedure 7.1, Revision 7, Control and Issuance of Documents

(5) FSAR Section 13.5, Plant Procedures

(6) NUREG-0776, Safety Evaluation Reports related to the operation of Susquehanna Steam Electric Station, Units 1 and 2, including Supplements 1 and 2

(7) NUREG-0737, November, 1980, Clarification of TMI Action Plan Requirements

(8) (Draft) Emergency Procedure Guidelines, BWR Owners' Group, Revision 1B

(9) PP&L Letter, May 6, 1982, Curtis to Schwencer, NRR, Subject: GE Review of Emergency Procedures and Start-up Test

(10) NUREG/CR-2005, Checklist for Evaluating Emergency Procedures Used in Nuclear Power Plants, May 1981

2.3 Scope of the Inspection

The inspectors reviewed to the licensee's overall procedure control program and the procedures identified in Section 2.4 to assure the following:

-- The procedure program was consistent with the requirements of references (2) and (3) above.

-- New procedures and procedure revisions were controlled in accordance with references (4) and (5).

-- The emergency procedures were adequate to meet the guidelines of references (7) and (8).

-- The procedures were approved in accordance with the requirements of Reference (1).

-- The procedures were technically adequate.

-- The procedures were clear, concise and easy to use.

-- The overall procedure program provided guidance to the users for handling normal and off normal plant conditions.

-- The operators were trained to use the procedures.

-- The equipment and controls used in the procedures were correct and identifiable.

2.4 Procedures Reviewed

a. Administrative Procedures

-- AD-QA-101, Procedure Program (Rev. 9)

-- AD-QA-102, Plant Operations Review Committee (Rev. 4)

-- AD-QA-301, Operations Procedure Program (Rev. 3)

-- AD-QA-400, Conduct of Technical Support (Rev. 2)

b. General Operating Procedures

-- GO-200-002, Plant Startup and Heatup (Rev. 0)

-- GO-200-003, Power Operations (Rev. 0)

c. System Operating Procedures

-- OP-023-001, Diesel Fuel Oil System (Draft)

-- OP-024-001, Diesel Generator (Draft)

-- OP-249-005, RHR Operation in the Suppression Pool Cooling Mode (Rev. 0)

-- OP-283-001, ADS System Operating Procedure (Rev. 0)

d. Surveillance Operating Procedures

*-- SO-124-004, Unit 1 18-Month D/G Auto-Start on ECCS Signal, Protective Trip Testing and ECCS Signal Override of Diesel Test Mode (Draft)

*-- SO-224-004, Unit 2 18-Month D/G Auto-Start on ECCS signal, Protective Trip Testing and ECCS Signal Override of Diesel Test Mode (Draft)

*-- SO-283-001, 18-Month ADS System and Logic Functional Test (Draft)

-- SO-283-002, ADS System 18-Month Manual Actuation (Rev. 0)

e. Off-Normal Procedures

-- ON-000-001, Cold Weather Operation (Rev. 1)

-- ON-054-001, Loss of Emergency Service Water (Rev. 0)

-- ON-004-001, 4.16kV Bus Transfer, Load Shedding and Sequential Loading on Bus Undervoltage

-- ON-003-001, Loss of Start-up Bus 10 (Rev. 2)

-- ON-003-002, Loss of Start-up Bus 20 (Rev. 2)

f. Alarm Response Procedures

-- Alarm Response Window Box 10 (Rev. 0)

A01 - A04	ADS Logic Timer Initiated (Channel A-D)
B01	Reactor Low Level Confirmed
B02	Hi Drywell Pressure Signal A Seal In
E02	Main Steam Division SRV Open
G03	ADS DWP D Bypass Timer Initiated

-- AR-016-001 Alarm Box 16 (Rev. 0)

A10	ESW Pump Trip A, B, C, or D
D12	ESW Structure Flooded
E03	Diesel Generator Fail to Start
G03	Diesel Generator D Not in Auto
G10	ESW Pump Overcurrent

-- AR-OES-529 Alarm Response ESSW Pumphouse Panel (Rev. 0)

A04 Diesel Generator Heat Exchanger Switched to ESW Loop B

g. Emergency Operating Procedures

The licensee developed unit specific Emergency Operating (EO) procedures by marking up the following existing EO's:

*EO-00-001, Reactor scram (Rev. 2)

EO-00-002, Loss of Instrument Air (Rev. 0)

EO-00-003, Loss of Main Condenser Vacuum (Rev. 0)

EO-00-004, Loss of All Offsite Power (Rev. 1)

EO-00-005, Fuel Cladding Failure (Rev. 0)

EO-00-006, Fuel Handling Accident (Rev. 0)

EO-00-007, Abnormal Radiation Release - Liquid (Rev. 0)

EO-00-008, Primary System Break Outside Drywell (Rev. 1)

EO-00-009, Plant Shutdown From Outside Control Room (Rev. 2)

EO-00-011, Abnormal Radiation Release - Gaseous (Rev. 0)

EO-00-014, Anticipated Transient With Failure to Scram (Rev. 0) (ATWS)

EO-00-021, Level Control (Rev. 1)

EO-00-022, Cooldown (Rev. 1)

EO-00-023, Containment Control (Rev. 1)

EO-00-024, Level Restoration (Rev. 1)

EO-00-025, RPV Flooding (Rev. 1)

*EO-00-026, RPV Pressure Reduction - (Preferred Method) (Rev. 1)

EO-00-027, Rapid Depressurization (Rev. 1)

EO-00-030, Station Blackout (Rev. 0)

EO-00-031, Station Power Restoration (Rev. 0)

EO-00-032, HPCI System Operating Guidelines During Station Blackout (Rev. 0)

EO-00-033, RCIC System Operation Guidelines During Station Blackout (Rev. 1)

2.5 Details of Review and Discussion

The inspectors discussed technical and administrative details of the procedure development program with the cognizant Quality Assurance, Technical, and Operational Staff. The inspectors walked down the procedures identified with an * in Section 2.4 with the operators and procedure writers. In addition, the inspectors witnessed execution of EO-00-001, EO-00-014, EO-00-022, and EO-00-023 when the licensee validated the Safety Parameter Display System (SPDS) on the simulator.

The inspectors accompanied the Reactor Building Nuclear Plant Operator and the Diesel Generator Building Nuclear Plant Operator to witness the surveillances performed on shared systems.

In preparation for the inspection, the inspectors conducted an in depth review at the regional office to assess the adequacy of the licensee's procedures to meet the requirements of the documents cited in Section 2.2 of this report.

2.6 QA/QC Interfaces with the Plant Procedures

The inspectors reviewed the QA/QC involvement in the plant procedure program. AD-QA-101 (Rev. 9) defines the procedures requiring QA review. Operating procedures are considered as other technical procedures. NQA is required only to monitor implementation of other technical procedures. NQA's audits and surveillances for operations cover the implementation of plant procedures. NQA conducts annual audits on plant operations. Next audit in plant operation is scheduled in Feburary 1984.

2.7 Findings

a. The licensee has not developed written instructions to define the operator's interface with the newly installed Safety Parameter Display System (SPDS). The management philosophy for the operators' interface with the SPDS was presented to the operators in the licensed operator requalification training program. However, there were no written instructions to preclude the operator's use of the SPDS for decision making. The licensee's representatives stated that the necessary instruction will be incorporated in the plant procedures. This is an open item (387/83-31-01 and 388/83-31-01).

b. The general operating procedure for Plant Start-up (GO-100-002 and GO-200-002) do not contain provisions to electrically line up the diesel generators.

The licensee's representatives stated that OP-24-001, "Diesel Generator," will be incorporated in GO-100-002 and GO-200-002. This item remains open pending licensee's actions to revise the above GO's (387/83-31-02 and 388/83-31-02).

c. Alarm Response Procedure (ARP) for Primary Containment High Pressure Trip (AR-204-001) has no reference to the appropriate Emergency Operating (EO) procedures to be used during the alarm condition. The licensee's representatives stated that AR-204-001 and other ARP's associated with action setpoints (i.e., Reactor Trip, Containment Isolation) would be revised to incorporate references to the applicable EO's.

This item remains open pending licensee's actions to revise AR-204-001 and other applicable ARP's (387/83-31-03 and 388/83-31-03).

d. The inspector reviewed the licensee's schedule for completing Unit 2 procedures and noted that the completion dates for the operation procedures and Instrumentation and Control procedures was January 15, 1984, and fuel load, respectively.

e. The inspector noted that the marked up EO's for unitizing the licensee's Emergency Operating procedures attempted to reduce words and length of the procedures. However, the word reduction caused removal of specific equipment identification numbers from the procedure check off list. This is contrary to the procedure review guidelines of Reference 10 in that the marked up EO's did not conform with the procedural requirements of Reference 10. The licensee's representatives stated that the marked up EO's will be reviewed against the requirements of Reference 10 .

f. During a plant tour to witness the Reactor Building Operator's duties, the inspectors noted that several safety-related valves (HV-110, 24A, A2, B1, B2, HV-1143A, B, HV-109, 43 A2, B2) and signal resistive Units (P612 and P613) were operated without assuring and documenting the ability of the equipment to perform its intended safety functions. Non-Conformance Report (NCR) 83-1190 was issued on October 21, 1983, for the above HV series valves and NCR 83-779 was issued on August 11, 1983, for the Signal Resistive Units. The licensee's procedure NDI-QA-8.1.5 (Rev. 1), paragraph 6.2.5, requires: "Disposition of NCRs (i.e., completion of Block #16 on Form NDI-QA-8.1.5A) by the responsible/dispositioning organization shall be provided within 30 days although circumstances may dictate that more immediate action is required. If more than 30 days are required to disposition an NCR, the dispositioning organization shall provide the Responsible Quality Control Supervisor, and other involved groups with a status report that details the action being taken, any interim controls and the date when the disposition will be completed."

As of December 21, 1983, the dispositioning organizations provided neither the required dispositions nor the status reports for the above NCR's. The inspector reviewed the licensee's NCR log and noted that 157 additional NCR's also were not dispositioned in accordance with NDI-QA-8.1.5 (Rev. 1). It should be noted that the Team Inspection (50-387/83-30 & 50-388/83-25) also identified weaknesses in the licensees NCR activities.

The inspector stated that the above failures to follow procedures are contrary to the requirements of 10 CFR Part 50, Appendix B, Criterion XV. This is a violation (387/83-31-04 and 388/83-31-04).

The licensee's representatives acknowledged the inspector's statement.

Except for the items discussed above, the inspectors found the licensee's procedures and procedure control program to be adequate to support two unit operation at the site.

3. Exit Meeting

The inspectors met with the licensee's representatives identified in Section 1 of this report to discuss the findings as detailed in this report on December 22, 1983. The licensee's representatives acknowledged the inspector's findings.

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