

U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No. 50-354/84-28

Docket No. 50-354

License No. CPPR-120 Priority -- Category B

Licensee: Public Service Electric and Gas Company

Facility Name: Hope Creek Generating Station, Unit 1

Inspection At: Hancock's Bridge, New Jersey

Inspection Conducted: December 17-20, 1984

Inspectors: L. E. Briggs 1/22/85
L. Briggs, Lead Reactor Engineer date signed

L. A. Bettinhausen 1/23/85
M. Gaudino, Reactor Engineer date signed

L. A. Bettinhausen 1/23/85
A. Alba, Reactor Engineer date signed

Approved by: L. A. Bettinhausen 1/23/85
L. Bettinhausen, Chief, Test Program Section date signed

Inspection Summary: Inspection on December 17-20, 1984 (Report No. 50-354/84-28)

Areas Inspected: Routine, unannounced inspection (56 hours) of the pre-operational test program, preoperational test procedure review and verification, preliminary test results review, as-built system comparison, QA/QC interface with the preoperational test program and plant tours.

Results: No violations were identified.

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DETAILS

1. Persons Contacted

- *A. Barnabei, Principal QA Engineer
- G. Conner, Operations Manager
- J. Fisher, QC Startup Engineer
- *C. Jaffee, Startup Engineer
- *E. Logan, General Manager Construction/Site Manager
- *M. Metcalf, Principal Startup QA Engineer
- *R. Webster, Startup Director

Other NRC Personnel Present

- *R. Blough, Senior Resident Inspector
- S. Chaudhary, Senior Resident Inspector, Limerick Unit 2
- L. Bettenhausen, Chief, Test Programs Section

The inspector also contacted other quality assurance/quality control and technical members of the licensee's startup organization.

*Denotes those present at the exit meeting conducted on December 20, 1984.

2. Preoperational Test Program Review

2.1 Scope

The inspector began initial review of the licensee's preoperational test program to verify conformance with licensee commitments contained in the Final Safety Analysis Report (FSAR), Chapter 14 and Regulatory Guide (RG) 1.68, Initial Test Programs for Water Cooled Nuclear Power Plants. Specifically, the review was conducted to verify that formal administrative measures had been established to control the conduct of preoperational testing including:

- A description of the preoperational test program and assignment of responsibilities;
- A method to control turnover of systems from the constructor to the startup department;
- A listing of Preoperational tests of systems addressed in RG 1.68;
- A formal method to control preoperational test procedure format, content, review and approval and changes to procedures;
- A formal method to control interruption of testing and retest requirements;
- A formal method to control calibration and issuance of measuring and test (M & T) equipment;
- A method to control lifted leads, jumpers, safety tagging and temporary modification; and
- Delineation of start-up QA/QC responsibilities.

2.2 Findings

The twelve Startup Administrative Procedures (SAP) listed in Attachment A were reviewed. The inspector found that, for those procedures reviewed, the commitments identified in Paragraph 2.1 above were met. The inspector did discuss the review and approval process that would be used for General Test Procedures (GTP) and Detailed Test Procedures (DTP). These procedures are often used to satisfy prerequisite steps of the Preoperational Test Procedures (PTP) and do not require the same review and approval as the PTP. The inspector noted that GTP's and DTP's may be used as delineated in the applicable SAP, but cautioned the licensee about their use to satisfy an FSAR or any other regulatory commitment without the proper review and approval. The licensee stated that this problem had previously been considered and that PTP's, GTP's and DTP's were being evaluated and

compared to commitments to ensure that all commitments would be verified in PTP's without reliance on GTP's or DTP's.

- The inspector also compared the licensee's listing of PTP's to the guidance of R.G. 1.68, Revision 2. The licensee's listing of PTP's were found to address all applicable areas of R.G. 1.68.
- The inspector had no further questions.

3.0 Preoperational Test Procedure Review and Test Results Review Verification

3.1 PTP Review and Verification

The nine PTP's listed in Attachment B were reviewed in preparation for test witnessing, for technical and administrative adequacy and for verification that testing is planned to adequately satisfy regulatory guidance and licensee commitments. They were also reviewed to verify licensee review and approval, proper format, test objectives, pre-requisites, initial conditions, test data recording requirements and system return to normal.

All PTP's reviewed were found acceptable. The inspector had no further questions.

3.2 Test Results Review

The inspector reviewed the preliminary results of PTP PB-1, 4160 V Class IE Power System, Revision 0. The PTP had not yet received licensee results review and approval. The test had two test exceptions, one because the ERFDS computer was not yet installed, the other due to a breaker contact wiring error. The remaining data were within established acceptance criteria.

The inspector had no further questions concerning PB-1 at this time.

4.0 As Built System Comparison

4.1 Scope

The inspector walked down the "A" Core Spray System and the Standby Liquid Control System. Using fabrication isometrics (fab ISOS's) and piping and instrumentation drawings (P & I D's) for each system, the inspector verified that the as built configurations corresponded to the appropriate drawings.

The following references were used in the walkdown:

Fab. ISOS 1 P-BE-02, Rev. 15, Core Spray

Fab. ISOS 1-P-BE-03, Rev. 9, Core Spray

P & I D M-52-1, Rev 10, Core Spray

Fab. ISOS 1-P-BH-01, Rev. 5; Standby Liquid Control

P & ID M-48-1, Rev 4; Standby Liquid Control

4.2 Findings

A minor error in the labelling of a valve in the Standby Liquid Control System was noted. Valve #V024 was correctly labelled with a permanent tag. However, valve #V045 was labelled with a piece of tape as #V024. This discrepancy was brought to the attention of the licensee who took appropriate corrective action.

Upon completion of the walkdown, the inspector verified that all equipment was installed in accordance with the referenced drawings.

5.0 QA/QC Interface with Preoperational Test Program

The inspector reviewed three recent startup Quality Control Surveillance Reports regarding different activities of the licensee's startup group.

The results were discussed with the QC Startup Engineer. The following surveillance reports were reviewed:

- Surveillance Report (SR) 1202, Functional Test of Residual Heat Removal (RHR) Motor Operated Valve (MOV) HV-F016-B and Core Spray MOV HV-F031,B, completed 19, 1984. One exception was noted and logged in Test Package BEE-0026 when valve position indicator for Core Spray MOV-HV-F031-B failed to function in the Control Room.
- SR 1203, witnessing of General Electric inspection and testing of three AK30 Breakers. The report noted that two breakers experienced deficiencies that were corrected during the test. The third breaker functioned properly.
- SR 1211, Surveillance of energization of static inverter 1DD482. Three deficiencies required parts replacement and adjustment by the Startup Test Engineer and the Vendor Representative before acceptable results were obtained.

No unacceptable conditions were identified.

6.0 Plant Tours

The inspector made numerous tours of the facility to become familiar with plant design and location of various structures and components. The inspector observed work in progress, housekeeping, cleanliness control and status of construction activities.

No violations were identified.

7.0 Exit Interview

A management meeting was held at the conclusion of the inspection on December 20, 1984 to discuss the inspection scope and findings as detailed in this report (see Paragraph 1 for attendees). No written information was provided to the licensee at any time during the inspection.

ATTACHMENT A

STARTUP ADMINISTRATIVE PROCEDURES (SAP's)

- SAP 4, Administrative Manual Procedure Control, Revision 3;
- SAP 5, Facility Component/System Turnover and Jurisdictional Tagging, Revision 5;
- SAP 6, Startup Quality Assurance Program, Revision 0;
- SAP 8, Startup Safety Tagging Procedure, Revision 3;
- SAP 9, Corrective and Preventive Maintenance, Revision 0;
- SAP 10, Startup Deviation Report Program, Revision 6;
- SAP 12, Design Change and Retest Control, Revision 2;
- SAP 14, Preoperational Test Review Committee, Revision 1;
- SAP 18, Temporary Modifications Control, Revision 1;
- SAP 19, Measuring and Test Equipment Control, Revision 4;
- SAP 20, General, Detail and Corporate Test Procedures, Revision 4;
and,
- SAP 24, Preoperational Test Procedure, Format and Instructions,
Revision 4.

ATTACHMENT B

PREOPERATIONAL TEST PROCEDURES

Procedure No.	Rev No.	Title
KC-2	0	Fuel Oil Storage Tank Mechanical Foam System.
CH-1	0	Main Turbine Control Oil
CG-1	0	Condenser Air Removal
PTP-BB-1	0	Nuclear Boiler Process Instrumentation
CA-1	0	Turbine Sealing Steam
AN-2	0	Demineralized Water Storage and Transfer System
SE-1	0	Source Range Neutron Monitoring System
SE-2	0	Neutron Monitoring Intermediate Range
SE-3	0	Power Range Neutron Monitoring System