

U.S. NUCLEAR REGULATORY COMMISSION  
REGION I

Report No. 50-443/85-12

Docket No. 50-443

License No. CPPR-135

Priority --

Category B

Licensee: Public Service Co. of New Hampshire

1000 Elm Street

Manchester, New Hampshire 03105

Facility Name: Seabrook Station, Unit 1

Inspection At: Seabrook, New Hampshire

Inspection Conducted: April 29-May 3, 1985

Inspectors: H. H. Nicholas for  
L. Briggs, Lead Reactor Engineer

5/28/85  
date

Approved by: P. K. Eapen  
for L. Bettenhausen, Chief  
Operations Branch, DRS

5/29/85  
date

Inspection Summary: Inspection on April 29-May 3, 1985 (Report No. 50-443/85-12).

Areas Inspected: Routine, unannounced inspection by one region-based inspector (33 hours) of acceptance test procedure review and verification, preoperational test witnessing, preoperational and acceptance test results evaluation review, steam generator tube eddy current testing, emergency diesel generator preoperational test scope review, QA interface with preoperational testing and facility tours.

Results: No violations were identified.

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## DETAILS

### 1.0 Persons Contacted

J. Azzopardi, Quality Assurance (QA) Engineer (NHY)  
\*F. Bean, Field QA Engineer (NHY)  
D. Bodoh, QA Engineer (NHY)  
\*R. Grippardi, Assistant QA Manager (NHY)  
R. Guillette, Assistant Construction QA Manager (NHY)  
\*R. Jeffrey, QA Engineer (YAEC)  
\*G. Kann, Phase 2-6 Test Group Manager (NHY)  
\*G. Kingston, Station Staff Compliance Manager (NHY)  
D. Lambert, Field Quality Control (QC) Manager (UE&C)  
\*J. Marchi, Startup QC Manager (NHY)  
G. McDonald, Construction QA Manager (NHY)  
\*D. McLain, Startup Manager (NHY)  
\*W. Middleton, QA Staff Engineer (NHY)  
\*W. Monteith, Field QA Engineer (NHY)  
\*B. O'Connor, Field Superintendent QC (UE&C)  
D. Perkins, QA Engineer (NHY)  
\*J. Singleton, Assistant QA Manager (NHY)  
\*J. Tefft, Startup and Test Department Special Assistant (NHY)  
\*W. Temple, Startup and Test Department QA Supervisor (NHY)  
T. Waechter, Startup Test Engineer (Safety Injection System)

#### Other NRC Personnel Present

\*R. Barkley, Reactor Engineer  
A. Cerne, Senior Resident Inspector  
H. Wescott, Resident Inspector

### 2.0 Acceptance Test Procedure Review and Verification

The following acceptance test procedure was reviewed in preparation for test witnessing, technical and administrative adequacy and verification that testing planned would adequately satisfy regulatory guidance and licensee commitments. The procedure was reviewed to verify proper licensee review and approval, correct format, test objectives, prerequisites, initial conditions, test data recording requirements, technical adequacy and system return to normal.

- 1-AT-4.1, Condenser Air Evacuation-Condenser Vacuum Pumps, Revision 0, Approved April 11, 1985

No unacceptable conditions were identified.

### 3.0 Preoperational Test Witnessing

During the entrance meeting on April 30, 1985 the licensee informed the inspector that two preoperational tests of safety related equipment were

scheduled to be conducted during the week. The scheduled tests were 1-PT-10, SI Accumulator Blowdown and 1-PT-7, Residual Heat Removal System. Since both tests would inject water into the reactor vessel, 1-PT-10 would be performed first followed by 1-PT-7, to stay within the limits of the reactor vessel water removal rate.

In preparation for test witnessing the inspector reviewed both preoperational tests. The field copy of 1-PT-10 was also reviewed to verify prerequisites were met prior to test performance. On May 1, 1985 while filling the SI Accumulators the licensee noted a discrepancy between the installed level instruments and the temporary standpipe level indication on all accumulators. Discussion with the licensee indicated that water may have entered the high (reference) leg of the instrument during the accumulator filling evolution. Since this leg is normally dry and senses SI Accumulator Nitrogen pressure and its total span is only 14 inches a small amount of water could cause a significant error in level readings. The licensee decided to have the I and C department troubleshoot and recalibrate the installed level instruments. At the end of this inspection on May 3, 1985 recalibration activities were still in progress.

The inspector did observe that Startup and Test Department (STD) QA was providing full coverage of 1-PT-10.

No unacceptable conditions were identified.

#### 4.0 Preoperational and Acceptance Test Results Evaluation Review

##### 4.1 Scope

The completed test procedures listed below were reviewed during this inspection to verify that adequate testing had been conducted to satisfy regulatory guidance, licensee commitments and FSAR requirements and to verify that uniform criteria are being applied for evaluation of completed test results in order to assure technical and administrative adequacy.

The inspector reviewed the test results and verified the licensee's evaluation of test results by review of test changes, test exceptions, test deficiencies, "As-Run" copy of test procedure, acceptance criteria, performance verification, recording conduct of test, QC inspection records, restoration of system to normal after test, independent verification of critical steps or parameters, identification of personnel conducting and evaluating test data, and verification that the test results have been approved.

- 1-AT-12.1, Instrument and Service Air Systems - Plant, Revision 0, Results Approved February 20, 1985;
- 1-AT-7, Secondary Component Cooling Water System, Revision 0, Results approved April 4, 1984;

- 1-PT(I)-35, Reactor Coolant System Hydrostatic Test, Revision 1, Results approved April 19, 1985; and,
- 1-PT(I)-1, Reactor Coolant Pumps-Initial Operation, Revision 2, Results approved April 3, 1985.

#### 4.2 Findings

No discrepancies or violations were identified during the above review; however, there were several test exceptions that require license corrective action. These test exceptions were assigned to the incomplete items list (IIL) by the licensee for tracking purposes (normal method at this facility). Once transferred to the IIL the test exception is closed by the licensee with corrective action implemented via the IIL.

The following IIL numbers correspond to incomplete test exceptions and collectively constitute unresolved Item 443/85-12-01.

<u>Procedure No.</u>	<u>Short Title</u>	<u>IIL No.</u>
1-PT(I)-35	RCS Hydro	RC-0684, RC-0763, RC-0696, RC-0698, RC-0802, RC-0847, RC-848, RC-849, RC-850, RC-852

1 PT(I)-1 had Active Work Request No. RC-0804 issued to rebalance Reactor Coolant Pump RC-P-ID (experienced high vibration during the test). This item is considered part of unresolved Item 443/85-12-01.

The inspector also had additional comments concerning the administrative implementation of the preoperational test program. The following items were discussed with the licensee:

- Test procedures do not have QA/QC witness points identified in the field copy. The licensee's QA department issues a memo to the Startup and Test Department (STD) which identifies desired witness points. The inspector verified for the above tests reviewed, that QA coverage for the identified procedural steps, plus others, was provided for the completed and approved procedures. The inspector noted that this method makes it more difficult for both the results review process and the notification of QA prior to performance of the desired witness point because of the extra paper work involved. The licensee assured the inspector that tight control would be exercised to ensure that QA was notified prior to witness points and that reviewing officials including the NRC would be provided sufficient information to enable identification of QA witness points. The inspector informed the licensee that this item would receive



very close attention during both test witnessing and results review by the NRC.

The inspector had no further questions concerning this item at that time.

- 1-PT(I)-35 served as the controlling procedure to establish plant conditions and to verify that the code hydro was conducted by authorized personnel (Pullman Higgins, UE&C and the ANI) and that required inspections were conducted with acceptable results. The Pullman-Higgins ("N" stamp holder) Project Procedure RC-IT-01, Integrity Test, was used to identify all welds, as well as other inspection requirements, that were to be inspected for code hydro acceptability. RC-IT-01 also itemizes the open test exceptions (35 originally) which are carried as one test exception by 1-PT(I)-35. The open exceptions which identify arc strikes and several valve, fitting and flange leaks have been assigned IIL numbers (listed above) and will be tracked by the STD. Final review of RC-IT-01 by the licensee will take place after all exceptions are corrected and prior to Reactor Coolant system turnover to station staff. This item will be reviewed by NRC:RI during a future routine inspection as part of the Code Hydro results evaluation review.

#### 5.0 Steam Generator Tube Eddy Current Testing

The inspectors discussed eddy current testing with representatives of Conam and witnessed testing on April 30, 1985. Testing was being conducted on Steam Generators (SG) 'A' and 'D' concurrently using two ZETEC model MIS18 eddy current testing systems and two Hewlett Packard model HP236 computers to store data for subsequent off-site analysis. On May 2, 1982 the inspectors met with several licensee representatives to discuss program status and any identified problems. At that time the licensee informed the inspectors that SG 'A' and 'D' were both about 60 percent complete including off-site analysis. To date only one tube of the approximately 6700 tubes tested had any indication of a problem. The one tube is located in SG 'A', Row 7 Column 56. This tube is scheduled to be retested and plugged if determined to be defective. All data are being taken as a base line reference and to eliminate any potential leakers.

This item will be followed during routine resident inspection activities.

#### 6.0 Emerging Diesel Generator (EDG) Preoperational Test Scope

During discussions with the licensee concerning the intended scope (test procedure not yet written and approved) of EDG testing the inspector noted that ECCS load sequencing was not planned to be conducted immediately following the 24 hour full load (22 hours at 100 percent load followed by

two (2) hours at 110 percent load) as required by RG 1.108. A recent ammendment to the FSAR takes exception to this requirement. When questioned the licensee stated that their concern centered on a failure of one of the ECCS loads to start that would negate the 24 hour full load run. The inspector stated that the reason for the load sequence test was to prove that the generator could maintain voltage and frequency in a hot condition while experiencing the heavy starting currents of the ECCS loads. The inspector also noted that should an ECCS component fail to start it would not invalidate the 24 hour full load run because temperature readings taken during the 24 hour full load run would allow the licensee to duplicate temperature conditions without another 24 hour run to satisfy the ECCS hot load sequence test.

The inspector discussed this item with the NRR LPM who stated that he would have the FSAR exception to RG 1.108 reevaluated for acceptability. This item is unresolved pending further discussion between NRR, NRC:RI and the licensee (443/85-12-02).

#### 7.0 QA Interface with the Preoperational Test Program

The inspector reviewed several recent STD QA Surveillance Reports (QASR) covering various activities of the licensee's STD. The surveillance reports were discussed with the STD QA supervisor. The following QASR's were reviewed:

- QASR Q 2.6.21.8292, Review of work requests, completed on April 1, 1985. The surveillance was conducted against the requirements of TPI-11. The QA inspector noted that STD was working on solenoid WLD-FY-82 under work request (WR) No. WLD-402. This portion of the system (waste processing-liquid drains) had not yet been turned over to STD. The QA inspector issued deficiency notice (DN) No. 072 for STD response. The inspector also noted that TPI-11 allows STD to perform special tasks prior to turnover after obtaining construction management concurrence. The WR was not issued as a special task item and construction management concurrence had not been obtained. The work was being performed to support the Code Hydro.

The STD response stated that a review of issued WLD WR's had been conducted and that this occurrence was an isolated case. In addition closer attention would be given to equipment turnover status in the future. The response was accepted by STD QA on April 10, 1985. DN No. 072 was closed.

- QASR Q 2.6.21.8475, Surveillance of 1-PT-10, completed on May 1, 1985. The QA inspector verified test prerequisites had been met prior to proceeding to actual test performance. The test was delayed due to questionable level readings. See Paragraph 3.0 of this report. No deficiencies were observed by the QA inspector.

- QASR Q 2.6.21.8366, Surveillance of 1-AT-4.2, Condenser Air Evacuation-Water Box Priming Pumps, completed on April 12, 1985. The QA inspector verified several portions of the test. The system performed as required with one exception, computer input D5104 annunciated at 18 in. Hg. vacuum vice the the desired point of 10 in. Hg vacuum. A test exception to 1-AT-4.2 was written as required. No deficiencies were observed by the QA inspector.

No unacceptable conditions were observed during the above review of QASR's.

#### 8.0 Plant Tours

The inspector made several tours of the various areas of the facility to observe work in progress, housekeeping, cleanliness controls and status of construction, preoperational and special testing activities (Paragraph 3 and 5).

No unacceptable conditions were noted.

#### 9.0 Unresolved Items

Unresolved items are matters about which more information is required in order to ascertain whether they are acceptable, an item of noncompliance or a deviation. Unresolved items identified during this inspection are discussed in Paragraph 4.2 and 6.0 of this report.

#### 10. Exit Interview

A management meeting was held at the conclusion of the inspection on May 3, 1985, to discuss the inspection scope, findings and observations as detailed in this report (see Paragraph 1 for attendees). No written information was provided to the licensee at any time during this inspection.