

U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No. 50-443/86-11

Docket No. 50-443

License No. CPPR-135

Licensee: Public Service Company of New Hampshire
1000 Elm Street
Manchester, New Hampshire 03105

Facility Name: Seabrook Station, Unit 1

Inspection At: Seabrook, New Hampshire

Inspection Conducted: February 10-14, 1986

Inspectors: *Karel Mearns for* 3/10/86
R. A. McBrearty, Reactor Engineer date

Karel Mearns for 3/10/86
A. J. Lodewyk, Reactor Engineer date

Approved by: *Karel Mearns for* 3/10/86
J. T. Wiggins, Chief, Materials and date
Processes Section Engineering Branch, DRS

Inspection Summary: Inspection Conducted February 10-14, 1986 (Report No. 50-443/86-11)

Areas Inspected: A routine unannounced facility inspection by two region-based Inspectors of the licensee's preservice inspection activities. The inspection consisted of program and procedure reviews, observation of field activities, and resolution of previously identified open items. The inspection involved 63 hours onsite and 3 hours of inspection followup at the regional office.

Results: No violations were identified.

DETAILS

1. Persons Contacted

- *R. A. Jeffrey, PSI - YNSD
- *D. B. King, NDE Level III - YNSD
- *G. Kingston, Compliance Manager - NHY
- *W. T. Middleton, QA Staff Engineer - NHY
- *W. Nicholas, ANII - Factory Engineer - NHY
- *P. A. Oikie, Manager, Audit/Trending - YAEC
- *D. W. Perkins, QA Engineer - NHY
- *V. W. Sanchez, Engineer-Licensing - YAEC
- *J. Warnock, Nuclear Quality Manager - NHY
- *M. Welch, QAS - NHY

USNRC

- *R. S. Barkley, Resident Inspector
- *A. Cerne, Senior Resident Inspector
- *M. Dev, Reactor Engineer - Region I
- *D. Ruscitto, Resident Inspector

*Denotes those present at the exit meeting.

2. Licensee Action on Previous Inspection Findings

(Closed) Unresolved Item (443/85-19-01): This item included ten concerns associated with preservice inspection activities and are separately addressed as follow:

Concern (a) - Weld surface preparation does not provide for satisfactory ultrasonic transducer contact.

Based on PSI ultrasonic data sheets, the following welds were selected by the inspectors as worst case examples of the suspected problem:

- Main Coolant Loop B weld 1-RC-6-1-1
- Main Coolant Loop C weld 1-RC-8-1-4
- Safety Injection weld 1-SI-203-2-5
- Safety Injection weld 1-SI-203-2-6

The inspectors visually examined the above welds and used a profile gauge to obtain weld surface contours to compare with the contour depicted on the associated data sheets. Three of the welds exhibited satisfactory surface preparation. The inspectors found that the data sheets contained sketches which were not to scale and exaggerated the transition contour

of the welds. The inspectors stated that the surface preparation of those welds was acceptable and that the maximum possible transducer contact was provided for.

The surface contour of weld 1-RC-6-1-1 agreed closely with the sketch on the data sheet. The licensee agreed that additional surface preparation would provide for a more complete ultrasonic examination of the weld. The licensee will review the PSI records to determine the need for further surface preparation of additional welds to provide for better transducer contact. This item remains unresolved pending completion of the licensee's action and subsequent NRC review of that action (443/86-11-01).

The aforementioned weld 1-RC-6-1-1 showed evidence of having been repaired. Weld records, including radiographs, were reviewed and these confirmed the presence of a repaired area in the weld. The radiographs were not identified with an "R" to designate that they represented a repaired weld, nor were the films available upon which the repair was based. The licensee stated that its intention was to so identify applicable films and to retain all films associated with a repaired weld although ASME Sections III and V, 1977 Edition through Winter 1978 Addenda do not require these actions.

The licensee agreed to indicate in the film package that the films represent a repair to weld 1-RC-6-1-1 to preclude future questions in this regard. The inspectors had no further questions regarding this matter.

Concern (b) - Main reactor coolant cast elbow welds have not been ultrasonically examined. No calibration standard was available for the examination of the cast elbows at the site.

The licensee has fabricated an ultrasonic calibration standard of purchased cast material. The standard will be used to determine whether or not the welds can be ultrasonically examined. If ultrasonic examination proves feasible, examination of the main coolant cast elbow welds will be performed prior to plant startup. The inspector noted further, that this matter is presently being reviewed by NRR. The inspector had no further questions at this time regarding this item.

Concern (c) - Suitability of the calibration standard for the ultrasonic examination of the main coolant piping welds (ASME SA 376 type 304).

Inspection Report 443/84.06 discusses actions taken by the licensee and witnessed by the inspector, to verify that the calibration standard number SB-RC-4 was suitable for use. The inspector had no further questions regarding this item.

Concern (d) - Site PSI ultrasonic data did not cross-reference previous ultrasonic examinations of the same weld.

The licensee has onsite a copy of the NES data log which cross-references examinations. Other methods are under consideration by the licensee to assure that all the required examinations are completed on each weld included in the PSI program. This concern remains unresolved pending completion of the licensee's action and subsequent NRC review of the action (443/86-11-02).

Concern (e) - Ultrasonic data for weld 1-RH-158-5-6 indicated the presence of a support obstruction which precluded a complete examination of the weld. A walkdown of the piping by the inspector revealed no obstruction existed.

The licensee has established a program for the review of all data that documents obstructions which preclude the performance of complete examinations of the associated welds. The presence of the listed obstruction will be verified and, if no obstruction now exists, the questioned portion of the weld will be examined. The inspector reviewed evidence that the review and verification program is being implemented and had no further questions regarding this item.

Concern (f) - Verification of as-built weld seam location on the reactor closure head revealed a 45° discrepancy between locations shown on As-Built Drawing 10873-161-003-03 and the NES preservice inspection document 80A6401.

The licensee investigated this concern and found that the NES document depicted the true location of the subject weld seams. Combustion Engineering drawing No. E-10873-161-003-03 was found to be incorrect and the licensee issued Deficiency Report No. 82-1173A regarding this matter. The inspector stated that the licensee's action was considered satisfactory and had no further questions at this time regarding the item.

Concern (g) - Weld seam As - Built Drawing E-10873-161-003, Revision 3 was not referenced by Reactor Procedure 80A6483, nor was the As-Built drawing referenced by Vessel PSI Ultrasonic Procedures 80A6965 and 80A6466.

The licensee has determined that the drawings referenced by applicable NES procedures are correct and that the As-Built drawing was in error. Additionally, the procedures are in compliance with the applicable ASME Code Section XI Edition. The inspector had no further questions regarding this concern.

Concern (h) - Document YA-SBISI-I, Revision 2, states that the contractor will advise the Engineering Supervisor of interferences created by construction as they are determined.

Documentation provided by the licensee to the inspector confirmed that written notifications are submitted by the contractor to the licensee.

Additionally, the licensee memorandum, File MSG#39/86, IMS# G1.1.17, stated that significant interferences were documented by respective data sheets. The licensee considers its review of these data sheets as written notification by the contractor of obstructions/conditions which resulted in limited examinations. The licensee's action in response to concern (e) will further verify significant interferences which may exist. The inspector had no further questions regarding this matter.

Concern (i) - Preservice Inspection Document 80A8984, page 12, Figure D-02, "RH System Line Nos. 155 and 162 Weld and Hanger Map" had erroneous elevation data for weld RH 155-5. The Site Control Drawing 9763-800155, Revision 18 was found to contain accurate information regarding weld RH155-5 elevation.

The licensee is updating the PSI Program Plan in accordance with Line Controlled drawings. The inspector had no further questions regarding this matter.

Concern (j) - The inspector noted that the licensee was experiencing difficulty with the ultrasonic examination of 6" diameter stainless steel welds. Additionally examinations were not being performed from the valve side of the 6" piping welds. The inspector could not determine what type of examination was planned by the licensee of these welds.

The licensee's response to this concern states the intent is to perform a code examination to the extent possible. In the event that a complete code examination is not feasible a relief request would be considered at the appropriate time. The inspector had no further questions regarding this item.

3. Preservice Inspection Program Review

As a result of the exemption criteria applied to Safety Class II piping in the Balance of Plant PSI Program Plan, Unit 1, certain areas of piping systems providing Residual Heat Removal (RHR), Emergency Core Cooling (EEC) and/or Containment Heat Removal (CHR) functions are exempt from the requirements of inspection. The licensee has used Code Case N-408 as guidance in selecting welds to be examined for those portions of Reactor Make-Up Water (RMW), Safety Injection (SI), Containment Building Spray (CBS) and Chemical Volume and Control (CVC) which are necessary for RHR, ECC and CHR.

The inspector reviewed the Supplemental Examination Program Plan (SEPP), document SEPP, Revision 0 to ascertain that Code and regulatory requirements are met.

The program plan was established to meet certain supplemental requirements in FSAR Section 6.6.1. Approximately 15% of the welds in each of the aforementioned systems have been selected for the preservice

inspection. Code Case N-408 requires that 7.5% of the welds be examined. During subsequent inservice inspection, 7.5% of the identified welds shall be examined in accordance with the Code Case N-408 requirements.

No violations were identified.

4. Preservice Inspection Procedure Review

The inspector reviewed the following procedures to ascertain that ASME Code and regulatory requirements were met:

- Procedure YA-UT-18, Revision I, "Ultrasonic Examination of Austenitic Stainless Steel Piping Welds for Seabrook Station - Class 2 Supplemental Examination Program (SEPP)"
- Procedure YA-UT-19, Revision 0, "Component Profile Procedure Using the Pulse Echo Ultrasonic Technique"
- Procedure YA-UT-1, Revision 3, "Ultrasonic Examination - General Requirements"

The above listed procedures are intended for the implementation of the Supplemental Examination Program and were found to meet applicable Code and regulatory requirements.

No violations were identified.

5. Observations Of Field Activities

The inspector reviewed the licensee's nondestructive testing activities being performed to complete the preservice inspection program. Those activities observed during this inspection included the liquid penetrant testing of safety injection line weld Nos. SI-202-1 W2 and No. SI-203-2 W1.

The test were performed in accordance with liquid penetrant examination procedure 80A6472, revision 2, field change 1. The following ASME B&PV Code Section V, Article 6 procedure requirements were found acceptable in the written test procedure and during test performance:

- Surface preparation and temperature
- Drying, penetrant dwell and bleedout times
- Penetrant application and removal methods.

The inspector reviewed certification records of penetrant materials for sulfur and halogen content. Personnel certification records were reviewed in comparison with SNT-TC-1A qualifications requirements. No discrepancies were identified by the inspector during observation of penetrant testing or through the records review.

6. Independent Measurements

Ultrasonic testing calibration blocks No. SB-RC-4 and No. SB-RC-5 were examined to determine if the requirements stated in ASME Section XI, IWA-2232, 1977 Summer 1978 Edition, were being met. Calibration Block No. SB-RC-4 is used for ultrasonic examination of large bore stainless steel piping. Block No. SB-RC-5 is intended for ultrasonic examination of cast stainless steel pipe and is currently in the development stage. During this inspection, applicable block physical dimensions were measured including notch depth, hole size and location. Block material, surface condition and thickness were examined. No discrepancies between ASME code requirements and block configurations were identified.

No violations were identified.

7. Unresolved Items

Unresolved items are matters about which more information is required in order to ascertain whether they are acceptable, violations or deviations. Unresolved items are discussed in paragraph 2 of this report.

8. Exit Meeting

The inspectors met with licensee representatives, listed in paragraph 1, at the conclusion of the inspection to summarize the scope and findings of the inspection. At no time during this inspection was written material provided to the licensee.