

U.S. NUCLEAR REGULATORY COMMISSION  
OFFICE OF INSPECTION AND ENFORCEMENT

Region I

Report No. 50-213/80-14

Docket No. 50-213

License No. DPR-61 Priority -- Category C

Licensee: Connecticut Yankee Atomic Power Company

P.O. Box 270

Hartford, Connecticut 06101

Facility Name: Haddam Neck

Inspection at: Haddam, Connecticut

Inspection conducted: August 6-8/25-27, 1980

Inspectors: *L. E. Tripp*  
L. E. Tripp, Reactor Inspector

*9/24/80*  
date signed

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date signed

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date signed

Approved by: *L. E. Tripp*  
L. E. Tripp, Engineering Support Section  
No. 1, RC&ES Branch

*9/24/80*  
date signed

Inspection Summary:

Inspection on August 6-8/25-27, 1980 (Report No. 50-213/80-14)

Area Inspected: Routine unannounced inspection by a regional based inspector of the licensee's inservice inspection (ISI) program and related examination documentation. The inspection involved 38 inspector-hours onsite by one NRC regional based inspector.

Results: No items of noncompliance were identified.

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## DETAILS

### 1. Persons Contacted

#### Connecticut Yankee Atomic Power Company

- \*\*R. Graves, Connecticut Yankee Station Superintendent
- \*\*R. Traggio, Connecticut Yankee Unit Superintendent
- \*\*J. DeRoy, Connecticut Yankee Engineer
- \*\*R. Blewett, Connecticut Yankee Quality Assurance Supervisor
- \*J. DeLawrence, Inservice Inspection Coordinator
- G. Bouchard, Maintenance Supervisor

#### Hartford Steam Boiler Insurance and Inspection

- \*\*R. Smith, Authorized Inspector

\*\*Denotes those present during exit interviews of August 8, 27, 1980.  
\*Denotes those present during the exit interview of August 27, 1980.

### 2. Inservice Inspection (ISI) Activities

#### a. ISI Program

The licensee's ISI Program is based on the 1974 Edition of Section XI including the Summer 1975 Addenda of the ASME B&PW Code. Additionally, the licensee is using Appendix III of the Winter 1975 Addenda for pipe weld examinations. Nondestructive examination's (NDE's) scheduled to be performed during the 1980 refueling outage concludes the first 10-year ISI program interval. This audit was to determine whether requirements of the facility technical specifications (TS) had been met. Examination data are considered to be preliminary in that the licensee's review has not been completed.

The inspector found that the ten year plan identifies the components to be examined and specifies the method, extent and frequency of examination. The plan also identifies exemptions as provided in 10 CFR 50.55a, and/or the applicable ASME Code. The inspector found the ISI program to meet the licensee's TS requirements.

The inspector observed instances where examinations required by the ISI program to be performed during the first interval were not yet completed. This, however, was identified in an audit performed by the licensee February 13, 1980. Although, all audit findings have not been resolved by the licensee an effort is underway to make a final determination relative to the status of the ISI programs.

The inspector had no further questions regarding this item at this time.

### Implementing NDE Procedure

The inspector audited selected NDE procedures to determine their technical adequacy and compliance with applicable code requirements. Procedures audited included:

- NSD-ISI-10, Revision 4:
- ISI-909, Revision 0:
- ISI-8, Revision 7:
- ISI-11, Revision 9:
- ISI-15, Revision 6:
- ISI-41, Revision 4:
- ISI-47, Revision 2:
- ISI-70, Revision 0:
- OPS-NSD 101, Revision 5:

Attributes of the above procedures were considered with respect to the procedural requirements delineated in the applicable ASME B&PV Code Section.

The inspector determined that the procedures generally met the requirements of the appropriate Code Section. However, two exceptions were observed by the inspector involving the volumetric and surface examination of the reactor coolant pumps flywheel and reactor closure nuts respectively. Procedure ISI-41 used to UT the high stress areas of the flywheels does not clearly reflect the actual configuration of the components. Specifically, the flywheel plan view attached to the procedure does not show all machined obstructions shown on the suppliers drawing 896D161. Additionally, the magnetic particle (MT) examination procedure, ISI-70 as amended, does not require that a sketch be made of techniques used on complex component(s). These concerns were discussed with licensee representatives.

No items of noncompliance were identified.

#### c. ISI Examination Data

##### (1) Reactor Closure Head Stud/Nut Data

The inspector audited examination documentation associated with the reactor closure head studs and nuts. A surface examination

was performed on these components using the MT method. The implementing procedure was changed to require the use of magnetic yokes to examine the closure nuts. Preliminary documentation does not clearly show how this was accomplished to cover the entire length of the inside threaded portion of the nuts.

This item is considered unresolved pending the licensee's review of the documentation. (50-213/80-14-01)

(2) Reactor Coolant Pumps Flywheel

The inspector audited examination data associated with the inspection of the above captioned components. The TS requires that the high stress areas of the flywheels be examined periodically. The licensee has elected to perform an ultrasonic examination of these areas. This is accomplished by inserting a specially designed transducer into a series of holes drilled through the laminated flywheel. A review of the detail drawing of the flywheels shows that these holes are tapped at both the upper and lower end. Additionally, there are three other tapped holes shown on the drawing which could interfere with the sound directed at the cover of the large keyway. The examination data available does not clearly show that all the high stress areas of the flywheels were examined as required by the procedure. The documents indicate that only partial coverage was attained due to the unique configuration. Based on this review and discussion with licensee personnel the inspector determined that the data, as presented, does not assure that full coverage was accomplished during this outage. Additionally, other inspection data was reviewed by the inspector that disclosed loose pawl pins. These pawls are located around the outer periphery of each flywheel and serve as an anti-rotational device. There was no data made available to assure that this condition had been corrected. The licensee is pursuing this item. Although the flywheels are a safety related component there is not a formal inspection program promulgated to assure their integrity relative to their safety significance. However, the licensee representatives stated that an informal inspection is routinely made of the flywheels.

This item is considered unresolved. (50-213/80-14-02)

(3) Ultrasonic Examination Data

The inspector's audit of examination data associated with the residual heat removal (RHR) system disclosed anomalies with the UT calibration standards. Specifically, they involve five stainless steel pipe standards. Calibration standards used on the RHR system involved nos. 31 and 32. These were used to calibrate for 10" and 6" pipe diameters only. The anomalies

recorded were related to the defraction of sound passing through the calibration standard which was observed to be altered by undetermined causes. Examination data of the affected system welds show the sound angle to be within procedural limits (+2°). However, this was apparently determined on a standard ITW bTock. A verification check was made using a stainless steel pipe standard with a machined calibration notches. Although, the method used was not documented in a detailed procedure there was, reportedly, a substantial shift in the angle of transmitted sound. Discussions with licensee representatives indicate that there was a controversy over this issue and it has not been clearly resolved.

This item is considered to be unresolved. (50-213/80-14-03)

d. Personnel Qualification Records

The inspector audited training and qualification records of NDE personnel. The records identified the discipline in which the individual had been certified. Records of physical examinations indicated whether visual aids were used during these examinations. No departures from practices recommended by SNT-TC-IA were identified.

No items of noncompliance were identified.

3. Unresolved Item(s)

Unresolved items are matters about which more information is required in order to ascertain whether they are acceptable items, items of noncompliance or deviations. Unresolved items identified during this inspection are discussed in paragraphs 2.c(1), 2.c(2) and 2.c(3) of this report.

4. Exit Interview

The inspector met with licensee representatives denoted in Paragraph 1. The inspector summarized the scope and results of the inspection as described in this report. The licensee's representatives acknowledged the inspector's summarization and concern as herein described.