

U.S. NUCLEAR REGULATORY COMMISSION  
REGION I

Report No. 50-272/84-22

Docket No. 50-272

License No. DPR-70

Priority --

Category C

Licensee: Public Service Electric and Gas Company  
P.O. Box 236  
Hancock's Bridge, New Jersey 08038

Facility Name: Salem Nuclear Generating Station, Unit 1

Inspection At: Hancocks Bridge, N.J.

Inspection Conducted: May 30 to June 8, 1984

Inspector: Robert A. Mc Brearty  
R.A. Mc Brearty, Reactor Engineer

July 6, 1984  
date

Approved by: Jacques P. Burr  
J.P. Burr, Chief, Materials and  
Processes Section, EPB, DETP

7/9/84  
date

Inspection Summary:

Inspection on May 30, 1984 to June 8, 1984 (Report No. 50-272/84-22)

Areas Inspected: Routine, unannounced inspection of licensee action on previous inspection findings, ISI Program and related activities including observation of work in progress and review of NDE data. The inspection involved 55 hours onsite by one region based inspector.

Results: No violations were identified.

## DETAILS

### 1. Persons Contacted

#### Public Service Electric and Gas Company

R. Brandt, Nuclear Plant Services - Engineer  
\*R.J. Dulee, NOQA  
\*L. Lake, ISI Engineer  
H. Lowe, Supervisor, QA Audits  
\*T.L. Patterson, Principal Engineer, Nuclear Licensing  
D. Perkins, Station QA Engineer  
R.J. Skibinski, Senior Staff QA Engineer  
\*D.J. Tauber, NOQA  
W.P. Treston, ISI Coordinator  
\*J.M. Zupko, Jr., General Manager - Salem Operations

#### U.S. Nuclear Regulatory Commission

\*J.C. Linville, Senior Resident Inspector  
\*R.J. Summers, Resident Inspector

\*Denotes those present at the exit meeting.

### 2. Licensee Action on Previous Inspection Findings

(Closed) Inspector Follow-up (272/82-34-02): Provide surveillance for potential corrosion problems in the Service Water Piping System for CCHX cooling. In response to Field Directive S-1-M600-NFD-107, the licensee performed radiography on 16 welds in the Service Water System to assess the quality of the welds. The inspector reviewed the radiographic records of the 16 welds and found that 9 welds were rejected due to degradation. The licensee is replacing the piping. This item is closed.

### 3. Inservice Inspection (ISI) Program

The inspector reviewed the following to ascertain compliance with applicable ASME Code requirements, licensee commitments and regulatory requirements:

- The facility Technical Specification 4.0.5
- Long-term Inservice Examination Plan for Class 1, Class 2 and Class 3 Components and Systems at Salem Generating Station Unit 1.

The long term plan was prepared for the licensee by Southwest Research Institute (SWRI) and is intended to meet the applicable requirements of the ASME Code, Section XI, 1974 Edition through Summer 1975 Addenda. The use of that particular edition of Section XI complies with 10 CFR 50.55a(g) and the facility Technical Specification 4.0.5. The plant is now in the 3rd period of the 1st 10-year inspection interval.

No violations were identified.

A. ISI Program Administration

The inspector reviewed the following to ascertain that program control is maintained by the licensee:

- PSE&G Document No. M9-IAP-1, Revision 00, "Inservice Inspection Department Administrative Instructions".
- PSE&G Document No. M9-IAP-2, Revision 00, "Inservice Inspection Department Inservice Inspection (ISI) Program".
- SwRI Procedure No. X-FE-101-2, Revision 2, "Onsite NDE Records Control".
- SwRI Procedure No. XVII-AG-101-1, Revision 1, "Data Storage and Retrieval".

The licensee documents listed above assign responsibility to the ISI Department for establishing and maintaining the ISI program. They further specify that the 10-year plan and outage plans shall be maintained at SwRI in San Antonio, Texas and provide for licensee control of the program by assigning this responsibility to the ISI Engineer who is listed as the "responsible supervisor". The SwRI procedures define the method that ISI related records are controlled onsite and at SwRI.

The licensee maintains control through the QA audit function by performing periodic QA audits of SwRI at San Antonio. See paragraph 3.B of this report.

No violations were identified.

B. QA Audits

The inspector reviewed the following to ascertain that ISI activities are audited by the QA department and that verification of SwRI implementation of their QA Program is done to assure control of the licensee's ISI program at SwRI:

- QA Audit Report No. S-84-8 of audit performed on January 9-13, 1984 at SwRI, San Antonio, Texas
- Surveillance Report No. WET-84-007 dated 4/16/84
- Surveillance Report No. 84-ISI-006 dated 4/26/84
- Surveillance Report No. 84-ISI-014 dated 5/7/84

The inspectors review indicated that various aspects of the ISI Program were examined including steam generator tubing eddy current examination, testing of snubbers and Type C leak rate testing. Audit findings were properly documented, proper close out was done and the licensee concluded that SwRI should remain on his list of "Suppliers With Approved Quality Systems".

A follow-up audit is planned at SwRI later in 1984. At the time of this inspection no date for the audit was decided upon.

No violations were identified.

C. Licensee Review of ISI Findings

Licensee personnel were interviewed and the following documents were reviewed to ascertain that ISI examination findings are properly reviewed and dispositioned and that items such as modifications are added to the ISI Program:

- AP-20, Revision 9, "Nonconformance Program"
- Memoranda dated 12/30/82 and 2/17/83 regarding "Nuclear Engineering Design Checklist"

The inspector found that the above listed documents address aspects of the ISI Program including the handling of nonconforming items and the review by the ISI department of design change packages to assure that modifications, when required, are added to the ISI Program.

No violations were identified.

4. Observation of Nondestructive Examination (NDE) In Progress

The inspector observed the liquid penetrant (PT) examination and a portion of the magnetic particle (MT) examination of reactor coolant pump flywheel number RCP-13 to ascertain that program requirements were met and that the examinations were done by qualified personnel in accordance with approved procedures.

The licensee requested a re-examination of one keyway by liquid penetrant to observe the indications which were noted during the initial PT examination. Based on the re-examination results, the decision was made to mechanically improve the surface and perform a re-examination of the entire bore surface. Bore surface improvement of flywheel No. RCP-14 was recommended prior to liquid penetrant examination.

The inspector found that the examinations were performed by qualified SwRI personnel in accordance with approved procedures.

No violations were identified.

## 5. Review of NDE Implementing Procedures

The following SwRI NDE procedures were reviewed by the inspector to ascertain compliance with applicable ASME code and regulatory requirements.

- SwRI-NDT-200-1, Revision 56, "Liquid Penetrant Examination Color Contrast Method"
- SwRI-NDT-300-1, Revision 26, "Dry Powder Magnetic Particle Examination"
- SwRI-NDT-600-3, Revision 6, "Manual Ultrasonic Examination of Pressure Piping Welds"
- SwRI-NDT-600-6, Revision 22, "Manual Ultrasonic Examination of Reactor Coolant Pump Flywheels"
- SwRI-NDT-600-39, Revision 2, "Manual Ultrasonic Examination of Small Diameter Piping Welds"
- SwRI-NDT-800-36, Revision 28, "Manual Ultrasonic Examination of Thin Wall Piping Welds"

The inspector's review indicated that the applicable code and regulatory requirements were met.

No violations were identified.

## 6. ISI Data Review

The inspector selected for review ISI records (steam generator eddy current examination results and SwRI Customer Notification Forms (CNF) from previous outages to ascertain that the records are available and that recordable conditions were properly evaluated and dispositioned by the licensee. The following were included in the inspector's review:

- Steam Generator eddy current examination data from refueling outages 1 through 4
- CNF No. 821014 dated 2/12-14/82
- CNF No. 821016 dated 2/15-16/82
- CNF No. 821017 dated 1/11-19/82
- CNF No. 821007 dated 1/14/82
- CNF No. 001 dated 11/2/82

The inspector found that the above records were readily available, complete and that the closeout was based on supplemental NDE, plots of ultrasonic indications and comparison of results with applicable ASME Code acceptance criteria.

In addition to the above, NDE data sheets representing examinations performed during the current refueling outage were reviewed with regard to completeness, calibration technique, including the use of the proper calibration block, and compliance with the ISI Program.

Data representing the following welds were included in the inspector's review:

- Weld 3-RC-1123-15 Reactor Coolant System flange to pipe weld
- Weld 8-SJ-1162-13, Safety Injection System elbow to pipe weld
- Weld 10-SJ-1121-3, Safety Injection System pipe to pipe weld
- Weld 6-SJ-1141-6, Safety Injection System pipe to elbow weld
- Weld 6-SJ-1142-11, Safety Injection System elbow to pipe weld

The inspector examined calibration blocks used to establish examination sensitivity for the above listed welds. The blocks were examined with respect to ASME Code requirements including material, reflector size, type and location, and block thickness. The blocks were stored on shelves in a locked room and were adequately maintained.

The reviewed data were legible, readily available, accurate and complete with two exceptions.

One of the reported indications in weld 8-SJ-1162-13 was not evaluated although all other reported indications in the weld were plotted and evaluated. A possible inaccuracy involved the type of weld listed on a data sheet which did not agree with the listing in the ISI Program. The inspector stated that licensee review of the data would detect instances of this type. He further recommended that the licensee should review all ISI data generated by SwRI rather than the sample review now being done. At the exit meeting on June 8, 1984, the licensee stated that beginning on June 12, 1984, he would have the required personnel and at that time all data would be reviewed as was the practice during previous outages. This is considered unresolved pending licensee action and subsequent NRC review of that action (272/84-22-01).

No violations were identified.

#### 7. NDE Personnel Qualification/Certification Records

The inspector reviewed the records of the licensee's ISI vendor, SwRI, personnel who participated in the examinations observed by the inspector

and those whose name appeared on data sheets reviewed by the inspector. This review was done with regard to compliance with applicable requirements of SNT-TC-1A and with regulatory requirements.

The inspector found that the records were complete, including current eye examination reports, and that each individual was properly qualified to perform the examinations in which he participated.

No violations were identified.

8. Unresolved Items

Unresolved items are items about which more information is required to ascertain whether they are acceptable, violations or deviations. An unresolved item is discussed in Paragraph 6.

9. Exit Interview

The inspector met with licensee representatives (denoted in Paragraph 1) at the conclusion of the inspection on June 8, 1984. The inspector summarized the purpose and scope of the inspection and the findings. At no time during this inspection was written material provided by the inspector to the licensee.