U. S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No. 50-272/82-23

Docket No. 50-272

License No. DPR-70 Priority -- Category C

Licensee: Public Service Electric and Gas Company

P. O. Box 570

Newark, New Jersey 07101

Facility Name: Salem Nuclear Generating Station Unit 1

Inspection At: Hancocks Bridge, New Jersey

Inspection Conducted: August 31 and September 1-3, 1982

Inspectors: W A Rekito 9/27/82
W. A. Rekito, Reactor Inspector date

Approved by: L H Bettenhausen 9/29/82
L. H. Bettenhausen, Chief, Test Programs Section, Engineering Programs Branch date

Inspection Summary: Inspection on August 31 and September 1-3, 1982 (Report No. 50-272/82-23)
Areas Inspected: Routine announced licensing action review and inspection of the inservice testing surveillance program for pumps and valves; and containment penetration leakage testing surveillance. The inspection involved 29 inspector-hours on-site by one region based NRC inspector.
Results: No violations were identified.

1. Persons Contacted

The technical and supervisory personnel listed below were contacted.

* J. Gallagher, Maintenance Manager
* L. Lake, ISI Engineer
* F. Meyer, Manager Site Maintenance
* H. Midura, General Manager - Salem Operations
* J. Zupko, General Manager - Nuclear Services

NRC Personnel

L. Norrholm, Senior Resident Inspector
R. Summers, Resident Inspector

*denotes those present at the exit meeting on September 3, 1982.

2. Inservice Testing (IST) Program for Pumps and Valves

2.1 Documents Reviewed

-- Revised Pump and Valve Test Program Description submitted to NRC on April 29, 1981.

-- Procedure SP (O) 4.0.5 - P (GEN), Revision 5, Inservice Testing.

-- Procedure SP (O) 4.0.5 - P - AF (11), Revision 5, Inservice Testing - Auxiliary Feed.

-- Procedure SP (O) 4.0.5 - P - AF (12), Revision 5, Inservice Testing - Auxiliary Feed.

-- Procedure SP (O) 4.0.5 - P - AF (13), Revision 5, Inservice Testing - Auxiliary Feed.

-- Procedure SP (O) 4.0.5 - V - SJ, Revision 5, Inservice Testing Valves - Safety Injection

-- Procedure SP (O) 4.0.5 - V - CS, Revision 5, Inservice Testing Valves - Containment Spray

-- Procedure SP (O) 4.0.5 - V - AF, Revision 5, Inservice Testing Valves - Auxiliary Feedwater

-- Procedure SP (O) 4.0.5 - V - RH, Revision 5, Inservice Testing Valves - Residual Heat Removal

-- Procedure SP (O) 4.4.6.3, Revision 3, Emergency Core Cooling - ECCS Subsystems

-- Twenty-two selected system drawings, Piping Diagrams.

2.2 Scope of Review

The inspector reviewed the above documents to ascertain compliance with 10 CFR 50.55 a (g) and Salem Technical Specification 4.0.5 which requires In-Service Testing (IST) of pumps and valves in accordance with Section XI of the ASME Boiler and Pressure Vessel Code. A major portion of this review was to finalize an NRC Staff evaluation of the licensee's IST program and pursuant to 10 CFR 50.55 a(g)(6)(i), determine acceptability of requested relief from certain code testing requirements found to be impracticable.

With the exception of the items described below, no major problems were identified with the IST program or its implementation.

2.3 IST Program Scope

The regulation and code require the IST program include all class 1, 2 and 3 pumps and valves. By letter dated January 5, 1978 the NRC staff issued guidance limiting the IST program scope, but including all safety related pumps and valves. The inspector acknowledged some previous confusion on this subject, but explained to the licensee the current NRC:RI position that applicable components in the Fire Protection and Emergency Diesel Generator Auxiliary systems be included in the IST program. The current IST program does not include these components. The licensee acknowledged the NRC position and stated that a review of these systems for applicable components and their testability would be conducted with appropriate changes to the IST program. This statement, along with discussions of possible alternate tests considered acceptable, satisfied the inspector's concern. The inspector informed the licensee that this matter would be carried as an open item in the Safety Evaluation Report (SER) approving the IST program and that a formal response would be expected sometime after issuance of the SER. (50-272/82-23-01).

2.4 Valve Leak Rate Testing

The code subparagraph IWV-3420 requires seat leak testing of category A valves. The NRC considers reactor coolant system pressure isolation valves to be category A and, as such, need to be included in the IST program. The licensee explained that 26 of these valves are currently being tested in accordance with TS 4.4.6.3 and procedure SP (O) 4.4.6.3 which the inspector considered a suitable alternate test. The inspector did however identify two more subject isolation valves (1RH1, 2) which should be leak tested. The licensee agreed and stated that they would be added to the test procedure and the IST program. This satisfied the inspector's concern. The matter will be carried in the SER as an open item pending NRC verification of the IST Program change to classify all 28 valves as

category A and to describe the alternate test acceptance criteria deviating from IWV-4320. (272/82-23-02).

2.5 Stroke Testing of Check Valves

Code subparagraph IWV-3520 requires check valves to be exercised to their safety function position. The licensee was previously given the NRC position that exercising check valves to the open position required positive indication of disc position or demonstration of the minimum safety analysis design flow rate through the valve. The licensee representative believed that the SP (O) 4.0.5 - V - SERIES procedures satisfied the minimum flow rate criteria but did not have each system's minimum safety analysis flow rate information readily available during the inspection. He committed to confirm his belief and forward the appropriate information to NRC - Region I. The inspector explained that this information was necessary to complete the Safety Evaluation. (275/82-23-03)

While reviewing the SP (O) 4.0.5 - V - SERIES test procedures listed in paragraph 2.1 the inspector noted that some of the subject check valves were fully exercised by verifying a minimum specified flow rate but, for most valves, a minimum flow rate was not specified. Based on the previously described NRC position, this is not considered adequate for procedure acceptance criteria. The licensee acknowledged the inspector's concern and stated that, coincident with the review of safety analysis minimum required flow rates, these procedures would be revised to specify same. The inspector considered this proposed action to be appropriate, but stated that the matter would be carried as an unresolved item pending NRC review of revised test procedures to provide adequate acceptance criteria for exercising check valves. (272/82-23-04)

3. Containment Penetration Leakage Testing

The inspector reviewed procedure M16E, revision 14, Containment Isolation Type B and C Tests, to ascertain compliance with regulatory requirements of 10 CFR 50, Appendix J, and Salem Technical Specification 4.6. This review also supported the IST program review in that all containment isolation valves are category A valves and the licensee takes credit for the Appendix J testing to satisfy the code leak-testing requirements. In addition, the inspector inquired about licensee plans for the upcoming Containment Integrated Leakage Rate Test (CILRT) and described current NRC positions regarding the evaluation of CILRT "AS FOUND" condition and valve leakage improvements preceding it. One unacceptable condition was identified and is described below.

3.1 Scope of Valve Leakage Rate Testing

The inspector questioned the completeness and adequacy of the containment isolation valve (CIV) local leakage rate testing (LLRT) program, citing examples of several check valves and normally closed

manual CIVs which were not being leakage rate tested as required by 10 CFR 50 Appendix J. The inspector also questioned the completeness and correctness of TS Table 3.6-1, Containment Isolation Valves, which did not include most of the examples and exempted some of the manual CIVs from LLRT. The licensee acknowledged the inspector's concern and stated that a review of the LLRT program adequacy was currently in progress. Preliminary results of this were documented in a licensee memo to the Manager - Nuclear Engineering Systems. The memo identified approximately forty CIVs which should be included in the LLRT program. The licensee management further explained their intentions to complete this evaluation expeditiously, change the LLRT procedures in support of the Unit 1 refueling outage scheduled to start in mid October and correct the TS - Table 3.6-1 accordingly. The licensee also stated that this expected increase in LLRT program scope would apply to Unit 2, also.

After detailed discussions with the licensee staff conducting this review, the inspector concluded that the licensee's actions and plans were appropriate for the circumstances. However, the inspector stated that this matter would be brought to NRC management attention and examined more closely during the upcoming unit 1 refueling outage. The item is considered unresolved pending revision of the LLRT program and further NRC review for conformance with 10 CFR 50 Appendix J. (Item 50-272/82-23-05)

4. Facility Tour

The inspector made tours of the facility including the auxiliary building, and emergency diesel generator rooms with a licensee representative.

During these tours, the inspector observed operations and activities in progress, implementation of radiological controls, and general condition of safety-related equipment. In addition the inspector examined certain pumps and valves in the EDG auxiliary systems to assess their accessability and meaningful testability.

No unacceptable conditions were identified.

5. Unresolved Items

Items about which more information is required to determine acceptability are considered unresolved. Paragraphs 2.5 and 3.3 contain unresolved items.

6. Exit Interview

The inspector met with licensee representatived (see paragraph 1 for attendees) on September 3, 1982. The inspector summarized the scope and findings of the inspection at that time. The inspector also explained plans and expected schedule to complete and issue a SER giving final approval of the IST program for the first 10 year service interval.