U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No. 86-23

Docket No. 50-272
50-311

License No. DPR-70
DPR-75 Category C

Licensee: Public Service Electric and Gas Company

80 Park Place

Newark, New Jersey 07101

Facility Name: Salem Generating Station, Units 1 and 2

Meeting At: NRC Region I Office, King of Prussia, PA

Prepared by: C J Anderson 3/4/87

C. Anderson, Chief, Plant Systems Section, DRS — date

Meeting Summary: Meeting at NRC Region I on February 3, 1987 to discuss several of the findings related to the Equipment Qualification inspection 50-272/86-23; 50-311/86-23.

The major items discussed were items 86-23-04, 05 and 06 in inspection report 86-23 related to the equipment qualification of Limitorque operators, Exo Sensors Hydrogen Analyzers and ASCO Solenoid valves respectively.

DETAILS

1. Participants

1.1 Public Service Electric and Gas Company

C. McNeill, Vice President, Nuclear
B. Preston, Manager-Licensing and Regulation
R. Gura, Manager-Engineering
R. Smith, Engineer
G. Lambert, Principal Engineer

1.2 Nuclear Regulatory Commission

S. Ebneter, Director Division of Reactor Safety
W. Kane, Director Division of Reactor Projects
R. Gallo, Chief, Projects Branch 2
L. Norrholm, Chief, Reactor Projects Section 2B
C. Anderson, Chief, Plant Systems Section
G. Hubbard, Engineer, IE
R. Paolino, Lead Reactor Engineer
L. Cheung, Reactor Engineer

2. Purpose and Background

An inspection was conducted on August 11-15, 1986, at Salem Nuclear Generating Station, Units 1 and 2 of their program to meet the requirements of 10 CFR 50.49. The licensee responded to the inspection findings in two letters from C. McNeill of PSE&G to J. Taylor of NRC dated November 7, 1986 and December 15, 1986. In these letters they indicated that they disagreed with some of the inspection findings.

This meeting was held at the request of Public Service Electric and Gas Company so they could provide their views on several of the findings of the inspection.

3. Presentation and Discussion

A copy of the meeting notice and the meeting agenda is attached. The licensee indicated that they wished to discuss items 86-23-04, 05 and 06 in inspection 86-23. They indicated that they were not contesting the inspection findings for items 03 and 09. A copy of the licensee's presentation slides for items 04, 05 and 06 is attached.

Items 86-23-04 related to the equipment qualification of Limitorque operators. The NRC concern related to the absence of operator gear case grease relief valves. Public Service Electric and Gas, PSE&G, personnel stated that they had determined through a phone call with Limitorque,

prior to the inspection, that grease relief valves were not required to satisfy the EQ requirements for their application at Salem. They provided the technical basis for their conclusion. The NRC agreed that their arguments had technical merit. However, it was noted by the NRC that PSE&G should have documented these arguments in the Limitorque EQ file prior to the time of the inspection.

Items 86-23-05 related to the equipment qualification of Exo Sensors Hydrogen Analyzers. The NRC concern was that the files did not provide an adequate basis for the qualified life for the pressure transmitters and the RTDs used in the analyzers. PSE&G personnel indicated that information included in the file at the time of the inspection supported a ten year life for these subcomponents. In addition, at the end of the inspection, they provided information to the NRC to support the subcomponent life. The NRC stated that the information provided near the end of the inspection appeared to support the subcomponent ten year life. However, the NRC noted that the technical basis for the analyzer subcomponents' life of ten years should have been documented in the Exo Sensors Hydrogen analyzer EQ file prior to the NRC inspection.

Item 86-23-06 related to the qualification of ASCO solenoid valves. The NRC concern was that the EQ file for this item was not clear regarding support of a 120 day post-accident operability requirement. PSE&G personnel provided clarification regarding the information in the file. The NRC agreed that this clarification appeared adequate to support the required post-accident operating time.

The NRC requested an opportunity to conduct a summary review of a report documenting the review of the PSE&G EQ program that PSE&G personnel had performed by an outside consultant. PSE&G personnel stated their view that their contractor's review went beyond the requirements of 10 CFR 50, Appendix B for licensee internal audits. The NRC conducted a summary review of the subject report. The staff concluded that the report identified deficiencies similar to those identified by the NRC EQ inspection team.

The licensee indicated that they planned to take a closer look at the EQ findings identified by their consultant. They also indicated that they plan to develop an engineering manual which will address some of the EQ documentation deficiencies identified by the EQ team.

4. Concluding Remarks

The NRC staff thanked the licensee for their presentation. The information presented by the licensee during the meeting will be considered in the NRC review of potential enforcement actions related to the EQ inspection.

MEETING AGENDA

DISCUSSION OF POTENTIAL ENFORCEMENT/UNRESOLVED ITEMS
- SALEM EQUIPMENT QUALIFICATION INSPECTION

LOCATION: NRC Region I
DATE: February 3, 1987
TIME: 9:30 A.M.

PURPOSE OF MEETING

To discuss the status of those items identified as Potential Enforcement/Unresolved Items in Inspection Report 50-272/86-23; 50-311/86-23 under the enforcement criteria delineated in NRC Generic Letter 86-15.

ITEMS OF DISCUSSION

1. Introduction of attendees

2. Current status of EQ Enforcement Criteria
   - Clarifications
   - Enforcement Actions
   - Regulatory implications

   NRC Representatives

3. PSE&G Responses to IR 50-272/86-23; 50-311/86-23 Potential Enforcement/Unresolved Items identified under Generic Letter 86-15 enforcement criteria.

   - 86-23-03 Rockbestos coaxial and EPR cables
   - 86-23-04 Limitorque Operator Gear Case Grease Relief Valves
   - 86-23-05 Exo Sensors Hydrogen Analyzers
   - 86-23-06 ASCO Solenoid Valves
   - 86-23-09 Scotch 70/construction electric wiring splices

   PSE&G Representatives

4. Summary Discussion

   - NRC response to technical presentation
   - Projection of enforcement action and schedule

PSE&G Attendees

C.A. NcNeill, Jr./ R.A. Burricelli
R.L Gura
C.W. Lambert
R. Smith
B.A. Preston/ D.J.Vito

LIMITORQUE OPERATORS

POTENTIAL ENFORCEMENT/UNRESOLVED ITEM 86-23-04:

PSE&G HAD NOT ESTABLISHED QUALIFICATION OF INSIDE CONTAINMENT LIMITORQUE OPERATORS BECAUSE PSE&G HAD NOT DEMONSTRATED THAT THE USE OF OPERATORS WITHOUT GEAR CASE GREASE RELIEF VALVES WAS ACCEPTABLE. JUSTIFICATION FOR USE OF THE OPERATORS WITHOUT THE RELIEF VALVES WAS PROVIDED DURING THE INSPECTION.

PSE&G's POSITION

° PSE&G CONTACTED LIMITORQUE BY PHONE IN APRIL 1986, REQUESTING CLARIFICATION ON THE ISSUE OF CORRECT INSTALLATION OF GREASE RELIEF VALVES.

° PHONE CONVERSATION LEAD PSE&G TO BELIEVE THAT THE USE OR NON-USE OF GREASE RELIEF VALVES WOULD:

- NOT AFFECT THE OPERABILITY OR SAFETY FUNCTION OF THE OPERATOR
- NOT AFFECT THE QUALIFICATION STATUS OF THE OPERATOR
- NOT MANDATORY, BASED ON ENGINEERING JUDGEMENT

° LIMITORQUE DOES NOT ISSUE WRITTEN INSTRUCTIONS ON THE PROPER INSTALLATION OF GREASE RELIEFS

° ENGINEERING JUDGEMENT, BASED ON AVAILABLE INFORMATION, DETERMINED GREASE RELIEFS WERE NOT A SIGNIFICANT PROBLEM FOR THE SALEM STATION AND NO CORRECTIVE ACTION WAS REQUIRED.

° SUPPLEMENTAL ANALYSIS WAS PROVIDED TO THE INSPECTORS AND WAS JUDGED ACCEPTABLE.

° SUPPLEMENTAL ANALYSIS CONFIRMED PSE&G'S POSITION.

EXO SENSORS HYDROGEN ANALYZER

POTENTIAL ENFORCEMENT/UNRESOLVED ITEM 86-23-05:

AT THE TIME OF THE INSPECTION, THE QUALIFICATION FILES DID NOT PROVIDE ADEQUATE BASIS FOR THE QUALIFIED LIFE FOR THE PRESSURE TRANSMITTERS AND THE RTDs USED IN THE EXO SENSORS HYDROGEN ANALYZERS.

PSE&G's POSITION

PSE&G BELIEVES THIS POTENTIAL ENFORCEMENT ITEM IS UNWARRANTED FOR THE FOLLOWING REASONS:

- COMPONENT DESIGN LIFE WAS ORIGINALLY STATED AS SIGNIFICANTLY IN EXCESS OF THE LEVELS REQUIRED, THEREFORE, THE VENDOR DETERMINED AGING TESTS WERE NOT REQUIRED TO BE EXTENDED PAST 2 YEARS.

- THE EXO SENSOR STATED MAINTENANCE CYCLE OF 120 MONTHS FOR THE PRESSURE TRANSDUCER AND RTD WAS CONTAINED IN THEIR OPERATION AND MAINTENANCE (O&M) MANUAL.

- THE QUALIFICATION REPORT WAS MARKED TO SHOW THAT THE EQUIVALENT AGE FOR THE PRESSURE TRANSDUCER AND RTD WAS 10 YEARS PER TELECON WITH EXO-SENSOR ON 9/5/84.

- TESTING TO SUPPORT THE LIFE EXTENSION WAS AVAILABLE TO SUPPORT THE TELECON DISCUSSION OF 9/5/84.

- O&M MANUAL REPLACEMENT PERIOD OF 10 YEARS CORRELATED WITH 10 YEARS EQUIVALENT AGE OBTAINED DURING VENDOR TELECON.

- SUMMARY DATA SUPPORTING THE EXTENDED LIFE WAS MADE AVAILABLE FROM EXO-SENSOR'S FILES DURING THE INSPECTION SUPPORTING THIS POSITION.

DAll

ASCO SOLENOID VALVES

Potential Enforcement/Unresolved Item 86-23-06:

At the time of the inspection, the qualification files for ASCO solenoid valves failed to demonstrate that the valves could meet the specified post-accident operability requirements.

PSE&G's Position

- Information in the qualification file did adequately demonstrate, by an acceptable means, that the valve post-accident operability time enveloped the 120 day requirement.

- Part of the package reviewed by the inspectors was a general purpose document listing examples of extrapolation methods to the 10°C rule and Arrhenius theory. (QD Analysis 1 and 2)

- QD Analysis 3 is "file specific" and adequately demonstrates that the valves meet the 120 day requirement.

- Salem station reaches a steady state condition after 24 hours (1 day). Actual test data must be used for this period.

- Extrapolation must demonstrate that (120-1 = 119) 119 days can be obtained by the Arrhenius methodology.

- Result of analysis indicates that "T plant >> 119 days"

- Extrapolation greater than 119 days plus 1 day actual test data = 120 days