



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA ST., N.W.
ATLANTA, GEORGIA 30323

Report No.: 50-425/88-52

Licensee: Georgia Power Company
P. O. Box 4545
Atlanta, GA 30302

Docket No.: 50-425

License No.: CPPR-109

Facility Name: Vogtle 2

Inspection Conducted: August 29 - September 1, 1988

Inspector: P. A. Taylor 9-21-88
P. A. Taylor Date Signed

Approved by: Frank Jape 9/21/88
F. Jape, Chief Date Signed
Test Programs Section
Engineering Branch
Division of Reactor Safety

SUMMARY

Scope: This routine, unannounced inspection was conducted in the areas of hot functional controlling procedure review and reactor coolant system primary hydrostatic test results evaluation.

Results: In the areas inspected, violations or deviations were not identified.

The review of the controlling procedure for hot functional testing indicated a well planned document had been developed to establish requirements and to sequence intergrated hot functional testing. Minor procedural corrections were identified (Paragraph 2) during the review.

REPORT DETAILS

1. Persons Contacted

Licensee Employees

- M. Ajulni, Operations Superintendent
- *M. Bagale, Hot Functionals Test Manager
- *B. D. Carter, Hot Functionals Operations Manager
- *A. B. Gallant, Project Compliance Coordinator
- *E. D. Groover, Quality Assurance Site Manager - Construction
- *S. M. Hall, Procedures Superintendent - Unit 2
- *H. M. Handfinger, Project Startup Manager
- *M. Horton, Superintendent Test Engineers
- *P. D. Rice, Vice President and Project Director

Other licensee employees contacted during this inspection included engineers, and administrative personnel.

NRC Resident Inspector

R. S. Schepens

*Attended exit interview

2. Review of Hot Functional Sequencing Procedure (70308)(70300)

- a. The licensee approved on June 21, 1988, RCS Hot Functional Test Procedure 2-300-07, Revision 0. This procedure is used to control and sequence hot functional testing during the heatup of the Reactor Coolant System (RCS) to normal operating conditions and the subsequent cooldown demonstration of the RCS. This test procedure was reviewed to confirm that:
 - The test procedure is consistent with FSAR Chapter 14 and Regulatory Guide (RG) 1.68 commitments regarding demonstration of component and system operability in all modes and throughout full design operating range.
 - Thermal expansion, vibration (piping and reactor vessel internals) and restraint tests are scheduled during hot functionals.
 - Water chemistry controls are established.
 - Preconditioning criteria for RCS internals are established.
 - Overall plant testing has been identified and scheduled to be performed.

- Plant procedures are checked to determine their adequacy.
- The test procedure contained the required reviews, management approvals, precautions and acceptance criteria.
- Prerequisites are provided which require that system open items, punch listed items, outstanding construction and preoperational tests are reviewed to determine that plant systems are ready to support the hot functional testing sequence.

The review of the controlling procedure for hot functional testing resulted in the following Inspector Followup Item.

- (1) Inspector Followup Item (IFI) 425/88-52-01, Correct Hot Functional Procedural Items listed below:
 - (a) Procedure 2-300-07 Step 6.5.2.4 Test Results Review. Add the following preoperational tests to the list of tests requiring review prior to cooldown.
 - Special Test-39, Metal Impact Monitoring System
 - 2-3BB-02, Pressurizer Relief Tank
 - 2-3BG-03, Boro Thermal Regeneration System
 - 2-3AE-01, Main Feedwater
 - (b) Provide a method to ensure test personnel are aware of requirements to document any planned or unplanned actuation of safety injection during hot conditions, RG 1.79, Revision 2, Section C.2.a.
 - (c) 2-300-07 Step 6.6.1.4, Cooldown From Outside the Control Room. Add the specific RCS pressure which operator will be required to achieve.
 - (d) 2-300-10, Shutdown Panel Preoperational Test. Provide for recording RCS pressure decreases on existing data table. RG 1.68.2 requires a demonstration of pressure control as well as temperature control during the cooldown at the remote shutdown panels.
 - (e) 2-300-10, and Abnormal Operating Procedure 18038, Operation From Remote Shutdown Panels. These two documents do not agree as to appropriate step number to use in the AOP and plant pressure to be obtained and maintained.

Within the areas inspected, no violations or deviations were identified.

3. Reactor Coolant System Hydrostatic Test Results Evaluation (70562)

The inspector reviewed the test results of Test Procedure 2-300-03, RCS Primary Hydrostatic Test, Revision 1, approved April 27, 1988, to verify that:

- Test steps and data sheets identified data recorders
- Test results met the acceptance criteria
- Changes made to the procedure did not change the purpose of the test
- The licensee had evaluated the test results and management approval received as required by administrative controls
- Deficiencies identified during the test were evaluated and corrective action identified as required.

The RCS hydrostatic test was completed satisfactorily May 9, 1988.

With the areas inspected, no violation or deviations were identified.

4. Exit Interview

The inspection scope and results were summarized on September 1, 1988, with those persons indicated in Paragraph 1. The inspector described the areas inspected and discussed in detail the inspection results listed below. Proprietary information is not contained in this report. Dissenting comments were not received from the licensee.

IFI 425/88-52-01, Correct Hot Functional Procedural Items, Paragraph 2.



Public Service Electric and Gas Company P.O. Box E Hancocks Bridge, New Jersey 08038

Salem Generating Station

October 4, 1988

U. S. Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555

Dear Sir:

SALEM GENERATING STATION
LICENSE NO. DPR-70
DOCKET NO. 50-272
UNIT NO. 1
SUPPLEMENTAL SPECIAL REPORT 88-3-2

This supplemental Special Report addresses additional fire barrier penetration impairments which have not been restored to functional status within seven (7) days. These impairments have been discovered by the Penetration Seal Task Force. This report satisfies the reporting requirements of Technical Specification Action 3.7.11.a pursuant to Technical Specification 6.9.2. It is being submitted within thirty (30) days as per the Action Statement.

Sincerely yours,

L. K. Miller
General Manager-
Salem Operations

MJP:pc

Distribution

88101/
PDR
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The Energy People

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PLANT IDENTIFICATION:

Salem Generating Station - Unit 1
Public Service Electric & Gas Company
Hancock's Bridge, New Jersey 08038

IDENTIFICATION OF OCCURRENCE:

Technical Specification 3.7.11; Fire Barriers Impaired For Greater Than 7 Days

Event Date(s): 7/20/88, 8/09/88, 9/07/88

Report Date: 10/04/88

This report was initiated by Incident Report No. 88-268.

CONDITIONS PRIOR TO OCCURRENCE:

N/A

DESCRIPTION OF OCCURRENCE:

As identified in PSE&G letter NLR-N88037 dated March 4, 1988, PSE&G has initiated a comprehensive review/inspection of fire barrier penetration seals. Due to the additional review by the Penetration Seal Task Force, penetrations found impaired are not being repaired within seven days as specified by Technical Specification Action Statement 3.7.11.a. This report summarizes the task force findings associated with inadequate penetration seals. The inadequate penetration seals found, to the date of issue of this report, include:

On July 13, 1988 two fire Barrier cable penetration were found degraded. The penetration contained electrical sleeving containing an electrical cable surrounded by foam type fire sealant. The area (approximately 1/8" gap and 1/4" gap respectively) surrounding the electrical sleeves were not sealed thereby constituting an impaired seal. The fire barrier is in the east wall of the 100' Elevation Relay Room.

On July 25, 1988 three (3) degraded fire barrier cable penetration seals were found on the south wall in the 100' Elevation Relay Room. Two (2) of these penetrations are 3" in diameter and the other is 5.5" (located 18 feet above the floor). The 3" penetrations contain fire wrapped cabling. This fire wrap extends over the penetration. There is no foam behind the fire wrap. It provides a 1 hour rated barrier, however, the wall is a 3 hour barrier. The 5.5" penetration contains a 4" conduit surrounded by foam. The foam contains an 1/8" gap at the base of the conduit.

On July 28, 1988 one (1) 3.5" degraded fire barrier cable penetration seal was found on the north wall in the 100' Elevation Relay Room. The penetration contains cabling surrounded by foam. The foam contains an 1/2" diameter hole.

Between August 2, 1988 and August 30, 1988, 138 additional penetration seals were found impaired of which 134 penetrations

DESCRIPTION OF OCCURRENCE: (cont'd)

are located in the Unit 1 Relay Room and 4 penetrations are located in the Unit 1 1A 125 V Battery Room. The penetrations range in size from 3 inches to 6 inches in diameter. The nature of the impairments include 6 with no seal, 14 with a hole in the seal (unknown cause), 2 with foreign material imbedded in the seal (one imbedded with a rag and the other with duct tape), 30 with a void in the seal (due to inadequate quantity of foam injection upon installation), 6 with apparent degradation (e.g., cable pulled through) 47 with inadequate color/cell structure (reference LER 272/88-013-00) and 32 that are not deep enough into the penetration per design (less than 6 inches).

Between August 31, 1988 and September 30, 1988, 74 additional penetration seals were found impaired. The majority of penetrations range in size from 3 inches to 6 inches in diameter. One floor penetration in the 84' Elevation Aisle #1 East Section is 47"x12".

Page 3 of this report contains a table of the penetration seals found impaired, between August 31, 1988 and September 30, 1988, in relation to the fire zone where they were found. The impairment designator terms include:

No Seal	NOS
Hole in Seal	HOL
Void in Seal	VIS
Depth Not Great Enough	DPT
Color/Cell Structure	CEL
Seal Degradation	DEG

An hourly fire watch patrol had been established for the above areas previously due to other fire protection concerns. Therefore, the requirements of Tech. Spec. Action Statement 3.7.11.a are met.

Technical Specification 3.7.11 states:

"All fire penetrations (including cable penetration barriers, fire doors and fire dampers), in fire zone boundaries, protecting safety related areas shall be functional."

Technical Specification Action Statement 3.7.11.a states:

"With one or more of the above required fire barrier penetrations non-functional, within one (1) hour either establish a continuous fire watch on at least one (1) side of the affected penetration, or verify the OPERABILITY of fire detectors on at least one (1) side of the non-functional fire barrier and establish an hourly fire watch patrol. Restore the non-functional fire barrier penetration(s) to functional status within 7 days or, in lieu of any other report required by Specification 6.9.1, prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 30 days outlining the action taken, the cause of the non-functional penetration and plans and schedule for restoring the fire barrier penetration(s) to functional status."

TABLE OF INOPERABLE PENETRATION SEALS
8/31/88 - 9/30/88

AREA	NOS	HOL	VIS	DPT	CEL	DEG
U-1 Relay Room		8	16	17	8	2
U-1 1A 125 V Battery Room	1 *			2		1
U-1 #1 250 V Battery Room	3 *		1	1	5	
#12 RHR Pump Room	2					
U-1 #3 Stairwell	1				1	
U-1 84' Elevation, Aisle #1 Auxiliary Building	4					1

* - Three of these penetrations are 18"x8" and one penetration is 8"x6"; all contain fire dampers with NOS around perimeter of dampers

APPARENT CAUSE OF OCCURRENCE:

The cause of the degraded fire barrier penetrations could not be positively determined.

The east wall penetrations (discovered 7/13/88) from the Relay Room side "appeared" sealed visually due to the use of a bushing on the sleeve which hid the gap. The 3.5" south wall penetrations (discovered 7/25/88) also appeared sealed from the Relay Room side, as described in the Description of Occurrence section. Closer inspection, as required by the Seal Penetration Review Group procedures, revealed the nature of the impairments. Technical Specification Surveillance 4.7.11 requires verification of the functional status of fire barrier penetrations every eighteen months via a visual inspection. This inspection would not necessarily identify the non-functional status of the subject penetrations.

The 5.5" south wall penetration (found July 25) is located in a difficult to reach location. The gap in the seal may have formed due to shrinkage. It does not appear as though a cable was pulled (forming the gap).

The 3.5" north wall penetration (found July 28) is also located in a difficult to reach location. The gap in the seal appears to have formed as a result of a cable pull. It has not been determined when or by whom the cable was pulled.

The penetrations with non-functional seals, found between August 2, 1988 and September 30, 1988, are similar in configuration (except as noted) to the penetrations identified in the original issue of this Special Report. The cause of their degraded condition also could not positively be determined.

ANALYSIS OF OCCURRENCE

The function and integrity of the penetration fire barriers ensures that fires are confined or adequately retarded from spreading to adjacent portions of the facility. This design feature minimizes the possibility of a single fire involving several areas of the facility. The fire barrier penetration seals are a passive element in the facility fire protection program and are subject to periodic inspections. This report satisfies the reporting requirements of Technical Specification 3.7.11.a pursuant to Technical Specification 6.9.2 since the time between discovery and eventual repair of the fire barrier impairments is greater than seven (7) days. Appropriate actions were already in place in accordance with the requirements of Technical Specification Action Statement 3.7.11.a to establish a one hour roving fire watch for the impaired fire barriers once the impairments were identified.

The subject fire area contains detection in addition to the roving fire watch patrol. Therefore, it is reasonable to assume that a fire in either area would be detected before it could involve an adjacent area. This occurrence therefore involved no undue risk to the health or safety of the public.

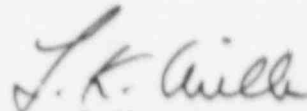
CORRECTIVE ACTION:

The hourly fire watch, as addressed in the Description of Occurrence section, will continue until all fire protection concerns associated with these areas are resolved.

The repair of the penetrations was not accomplished within seven (7) days due to the additional review being conducted by the Penetration Seal Task Force. Upon completion of this review the penetrations will be sealed.

Those penetrations in the Relay Room (a halon discharge area) which either have no seal or holes through the seal have been sealed using approved station procedure M3Y-1, "Installation of Fire Barrier and Flood Protection Seals".

This review and corrective action will be completed in accordance with PSE&G letter NLR-N88037, dated March 4, 1988, to the NRC which discusses the Penetration Seal Review Program schedule and the telecommunication between PSE&G and the NRC Region 1 office conducted on August 26, 1988.



General Manager -
Salem Operations

MJP:pc

SORC Mtg. 88-082