Public Service
Electric and Gas
Company

Louis F. Storz
Senior Vice President - Nuclear Operations

Public Service Electric and Gas Company P.O. Box 236, Hancocks Bridge, NJ 08038 609-339-5700

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RESPONSE TO NRC NOTICE OF VIOLATION
INSPECTION REPORT 50-272/97-21 AND 50-311/97-21
SALEM GENERATING STATION
UNIT NOS. 1 AND 2
DOCKET NOS. 50-272 AND 50-311

Gentlemen:

Combined Inspection Report No. 50-272/97-21 and 50-311/97-21 for Salem Nuclear Generating Station Unit Nos. 1 and 2 was transmitted to Public Service Electric & Gas Company (PSE&G) on March 5, 1998. Within the scope of this report, three violations of NRC requirements were cited. The violations involved; 1) a violation of Technical Specification 6.8.1., 2) a violation of 10 CFR 50, Appendix B, Criterion XI, and 3) a violation of Technical Specification 3.8.3.1.

I have clearly established and communicated my expectations relative to: 1) prompt identification and resolution of conditions adverse to quality, and 2) procedure adherence. Although these expectations are continually being reinforced throughout the organization, there are cases (just as the violations responded herein) where individuals have failed to meet them.

From a human performance point of view, my expectations relative to problem identification and procedure adherence include proper implementation of PSE&G's disciplinary policy in accordance with the Management Associated Results Company

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(MARC) principles. This positive approach to discipline is primarily focused on improving personnel performance. This is accomplished through a multi-stage approach of providing direct employee feedback for their actions via coaching, counseling, verbal and written feedback. Termination of employment is also a viable option for failure to meet the fundamental expectations of problem identification and procedure adherence.

Notwithstanding these efforts to improve personnel performance, the Nuclear Business Unit will continue to search for ways to improve its processes and programs to ensure safe operation.

In accordance with 10 CFR 2.201, PSE&G is submitting its response to the cited violations in Attachment II to this letter. Attachment I contains the Notice of Violation as cited by the NRC. Should there be any questions regarding this submittal, please contact us.

Sincerely,

Attachments (2)

C Mr. Hubert J. Miller, Administrator - Region I
U. S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, PA 19406

Mr. P. Milano, Licensing Project Manager - Salem
U. S. Nuclear Regulatory Commission
One White Flint North
11555 Rockville Pike
Mail Stop 14E21
Rockville, MD 20852

Mr. S. Morris - Salem (S09)
USNRC Senior Resident Inspector

Mr. K. Tosch, Manager, IV
NJ Department of Environmental Protection
Division of Environmental Quality
Bureau of Nuclear Engineering
CN 415
Trenton, NJ 08625

APPENDIX A
NOTICE OF VIOLATION

Public Service Electric and Gas Company Docket Nos:50-272
Salem Nuclear Generating Station 50-311
Units 1 and 2
License Nos: DPR-70
DPR-75

During an NRC inspection conducted on December 1, 1997 through February 1, 1998, violations of NRC requirements were identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," NUREG-1600, the violations are listed below:

A. Technical Specification (TS) 6.8.1 requires, in part, that written procedures be implemented for procedures recommended in Appendix "A" of Regulatory Guide 1.33, Revision 2, February 1978. Regulatory Guide 1.33 recommends that equipment control of safety related systems be covered by written procedures. Administrative procedure SC.OP-AP.ZZ-0103, Step 5.1, requires that components in an off-normal position be tagged to identify the abnormal condition and that the position be updated in the Tagging Request Inquiry System database (TRIS).

Contrary to the above, the licensee did not properly implement administrative procedure SC.OP-AP.ZZ-0103 as evidenced by the following examples:

1. On December 6, 1997, the operators isolated non-essential chilled water loads to comply with Technical Specification Action Statement (TSAS) 3.7.10.a.1, and did not identify the off-normal position of the associated isolation valves with tags or update the valves' positions in TRIS. The non-essential loads were improperly restored on December 11, since the requirement to have the valves in their off-normal position was not recognized by the control room operators. This resulted in violation of TSAS 3.7.10.a.1.

2. On January 30, 1998, the operators opened breakers 2-INCOR-DRY1 and 2-INCOR-DRY2 to comply with TSAS 3.8.3.1.a, and did not identify their off-normal position with tags or update their position in TRIS. The breakers were subsequently repositioned closed on February 3, by Reactor Engineering personnel without knowledge of the on-shift operators.

This is a Severity Level IV Violation (Supplement I).

B. 10 CFR 50, Appendix B, Criterion XI, "Test Control," requires, in part, that test results shall be documented and evaluated to assure that test requirements have been satisfied.

Contrary to the above, on or before January 31, 1998, PSE&G failed to properly document and evaluate the results of VOTES testing to assure that the test requirements had been satisfied, as evidenced by the following examples:

1. The equation for calculating maximum allowable thrust readings, on Attachment 15 of test procedure SC.MD-EU.ZZ-0012 (Q), includes values for Thrust Switch Repeatability (TSR) and Torque Correction Factor (TCF).

   In calculating the maximum allowable thrust reading for valves 1 PR6, 2PR6 and 12CC16, PSE&G used an incorrect value for TSR and, for valve 2PR6, an incorrect value for TCF. These errors were not identified.

2. Attachments 18 and 19 of test procedure SC.MD-EU.ZZ-0012 (Q) require the recording of the valve maximum allowable thrust reading for comparison to actual test results.

   The maximum allowable thrust reading recorded on Attachments 18 and 19 for valves 1PR6 and 1PR7 was incorrect. In addition, for valve 12CC16 the maximum (closed) thrust was slightly larger than the maximum allowable thrust reading. The errors were not identified.

This is a Severity Level IV Violation (Supplement I).

C. Sections 4.8.3.1.a.2 and 4.8.3.1.b of the Salem Unit 2 Technical Specification (TS) require, in part, that containment penetration conductor overcurrent protective devices be demonstrated operable by (a) selecting and functionally testing a representative sample of at least 10% of the molded case circuit breakers of that type at least once per 18 months; and (b) subjecting each circuit breaker to an inspection and preventive maintenance in accordance with manufacturers recommendations at least once per 60 months.

Contrary to the above, on and before January 31, 1998, PSE&G failed to demonstrate operability of a molded case circuit breaker, used as a containment penetration conductor overcurrent device, in that the circuit breaker in Panel 97-2 was not in the molded case circuit breaker testing program and no record existed of it having undergone inspection and preventive maintenance.

This is a Severity Level IV Violation (Supplement I)

Attachment 1
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PSE&G RESPONSE TO VIOLATION A1

PSE&G concurs with the violation

(1) The reason for the violation.

The reason for the violation is attributed to personnel error (inadequate configuration control tracking). Operations personnel did not: 1) update the Tagging Request Inquiry System (TRIS) or tag the control room switches to reflect the off-normal position when the valves were shut to comply with Technical Specification Action Statement (TSAS), and 2) properly communicate in restoring the Control Area Ventilation (CAV) system to service.

On December 6, 1997 (~2139hrs), 23 Chiller was declared inoperable and TSAS 3.7.10 a.1 was entered. TSAS 3.7.10.a.1 requires isolation of non-essential heat loads. Non essential heat loads were isolated by closure of 1CH150/2CH30 and 1CH117/2CH151; however, these valves were not tagged and TRIS was not updated.

On December 8, 1997 (~0400hrs), the CAV system was placed in the Maintenance mode of operation in accordance with approved procedures. Placing the CAV system in the Maintenance mode of operation requires closure of 1CH150/2CH30 and 1CH117/2CH151, which were already closed to comply with 3.7.10.a.1.

On December 11, 1997(~0243hrs), during restoration of the CAV from the Maintenance mode of operation to the Normal mode, Unit 1 personnel, were unaware that 23 Chillier was inoperable, and reopened the valves that were required to be closed to comply with TSAS 3.7.10.a.1.

On December 12, 1997 (~2220hrs), control room personnel noted this condition while preparing for a troubleshooting activity on 23 Chiller.

Contributing causes included:

- Less than adequate communications between Unit 1 and Unit 2 control room personnel,
- Unit 1 control room personnel manipulating Unit 2 components, and

- Procedures S1(S2) OP-SO.CAV-0001(Q), "Control Area Ventilation Operation," do not reference the applicability of the Chilled Water System Technical Specification (3/4.7.10).

(2) The corrective steps that have been taken.

Immediately upon discovery, the TRIS database was updated and the control room switches were promptly tagged to document the off-normal position for these valves.

Lessons Learned from this event were communicated to Operations personnel on February 11, 1998.

Procedures S1(S2).OP-SO.CAV-0001(Q), "Control Area Ventilation," were revised on February 3, 1998, to reference the applicability of the Chilled Water Technical Specifications.

Procedure SC.OP-DD.ZZ-0004(Z), "Operations Standards," was revised on March 10, 1998, to require that cross unit manipulations be performed under the oversight of the applicable unit control room personnel.

Personnel involved in this event have been held accountable in accordance with PSE&G's procedures and policies.

(3) The corrective steps that will be taken to avoid further violations.

Procedure SC.OP-AP.ZZ-0103 (Q), "Component Configuration Control," will be revised by May 31, 1998, to clarify requirements for updating TRIS and tagging components placed in an off-normal position.

(4) The date when full compliance will be achieved.

PSE&G achieved full compliance on December 12, 1997, when the Unit 2 Control Room Operator updated the TRIS database and the control room switches were promptly tagged to document the off-normal position for these valves.

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PSE&G RESPONSE TO VIOLATION A2

PSE&G concurs with the violation

(1) The reason for the violation.

The reason for the violation is attributed to personnel error.

On January 30, 1998, control room personnel were notified of a non-compliance with Technical Specification 3.8.3.1.a. Specifically, control room personnel were notified that a breaker in Panel 97-2 (Unit 2) may not have been tested in accordance with Technical Specifications. The Panel contains one 10 amp breaker and two 35 amp breakers. Engineering suspected that one of the 35 amp breakers supplying a circuit which contains three dehumidifiers in the flux mapping system had not been tested. Since Unit 2 was operating in Mode 1, the suspected 35-amp breaker that was identified as not being tested and the corresponding primary breaker were opened to comply with TSAS 3.8.3.1.a. Although the breakers were opened to comply with the TSAS, they were not tagged or identified as being off-normal in TRIS, or included in the TS Action Statement tracking log.

On February 3, a flux map was performed by reactor engineering personnel. At the completion of the flux map, the procedure for the flux map required that the 35 amp breaker supplying the dehumidifiers be closed to ensure that the flux map dehumidifiers are operating. The reactor engineer closed the 35 amp breaker, because he was unaware that the breaker had been opened to comply with TSAS 3.8.3.1.a.

On February 5, upon discovery that the 35-amp breaker was closed in, the 35 amp breaker was opened and tagged. Upon further review of the activities with the flux mapping system, on February 8 control room personnel determined that an entry to the TS Action Statement tracking log was not performed for the 35-amp breaker when the breaker was originally opened on January 30. Subsequent investigation determined that the 35 amp breaker had been tested, and that the 10 amp breaker supplying control power for the flux map drive unit was not tested. The 10 amp breaker is a normally open breaker, and is closed only once every 31 days when performing a flux map.

(2) The corrective steps that have been taken.

Personnel involved in this event have been held accountable in accordance with PSE&G's procedures and policies.

The Unit 2 ten (10)-amp breaker was satisfactorily tested on March 5, 1998.

Other corrective actions associated with this event are listed in our response to violation C.

(3) The corrective steps that will be taken to avoid further violations.

Other corrective actions associated with this event are listed in our response to violation C.

(4) The date when full compliance will be achieved.

PSE&G achieved compliance when the 10 amp breaker was tested satisfactorily on March 5, 1998.

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PSE&G RESPONSE TO VIOLATION B1 and B2

PSE&G concurs with the violation

(1) The reason for the violation.

The reason for the violation is attributed to personnel error. Inattention to detail by technicians during performance and verification of calculations associated with VOTES test procedure resulted in the violation.

During an NRC inspection on January 12, 1998, concerning the Thermal Binding/Pressure Locking issue the inspector reviewed six completed work order activities for static tests performed on six Motor Operated Valves (MOVs). The tests were performed in accordance with maintenance procedure SC.MD-EU.ZZ-0012(Q). The tests are performed using the Valve Operation Test and Evaluation System (VOTES) data acquisition equipment. The data recorded by this equipment is analyzed on attachments to the procedure, and a number of minor mathematical errors in the completed VOTES Testing procedures were identified. Although the errors were not significant, it indicated a weakness in the performance of the procedures by the contract technicians.

(2) The corrective steps that have been taken.

PSE&G evaluated the errors associated with the valves cited in examples B1 and B2 of Appendix A of the Notice of Violation, and determined that the errors were minor in nature and did not require any field work to correct any valve settings. The valves were operable.

In addition, a review of the data entered in the most recent work orders for all of Salem Unit 1 Generic Letter 89-10 MOVs was performed. Although errors were found, the nature of the errors were minor, and did not necessitate any physical changes to the valves, or affect the ability of the valves to perform their intended safety function. This review was completed on February 2, 1998.

A sampling of Salem Unit 2 and Hope Creek GL 89-10 MOVs were reviewed with no errors identified. This review was completed on February 11, 1998.

The Salem and Hope Creek MOV test procedures were reviewed with the PSE&G MOV technicians to ensure that they understand the differences and the importance of accurate completion of attachments. This review was completed on February 26, 1998.

(3) The corrective steps that will be taken to avoid further violations.

MOV testing is now controlled by the Site Maintenance Organization with trained, qualified and proficient technicians for MOV testing at Salem and Hope Creek.

Procedure SC.MD-EU.ZZ-0012 will be reviewed for enhancements, streamlining, and to incorporate guidance on procedure compliance. This review will be completed by July 1, 1998.

(4) The date when full compliance will be achieved.

PSE&G achieved compliance with 10 CFR 50, Appendix B, Criterion XI, "Test Control," when the test results were evaluated on February 11, 1998, to assure that test and Technical Specifications requirements had been satisfied.

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PSE&G RESPONSE TO VIOLATION C

PSE&G concurs with the violation

(1) The reason for the violation.

The cause for the failure to test the third penetration breaker in Panels 97-1 and 97-2 is attributed to inadequate configuration control, and personnel error.

On September 16, 1997, condition report (CR) No. 970916253 was issued to document an apparent test discrepancy in panels 97-1 (Unit 1) and 97-2 (Unit 2). Each panel contains three breakers (two 35 amp breakers and one 10 amp breaker). Two of the three breakers provided containment penetration protection and were included in the maintenance test procedure, and were being tested. However, because the third breaker could also provide penetration protection, an action request corrective maintenance was issued to trace the circuit. Two action requests resulted, one for each unit.

Since Unit 1 was in Mode 5, its circuit was traced first. The circuit traced indicated that the "unlisted" breaker (one of the 35 amp breakers) fed through a containment penetration to three dehumidifiers in the flux map system. Therefore, this breaker should have been included in the maintenance test procedure and tested in accordance with Technical Specification requirements. This breaker was not included in the plant prints nor in the vendor supplied documents. Therefore, this breaker was not included in the list of breakers requiring periodic surveillance testing and had not undergone periodic inspection and preventive maintenance, as required by the Salem Technical Specifications.

The circuit trace of Unit 2 was not completed, since these panels are vendor supplied panels and are identical for both Units. For Unit 2, however, it was determined that both 35 amp breakers were listed in the maintenance test procedure and were tested, but the 10 amp breaker was not included in the procedure, and thus had not been tested as required. It is believed that in 1992, the procedure was changed to incorporate the second 35 amp breaker, but the 10 amp breaker was deleted. Inattention to detail and inadequate configuration control led to eliminating the 10 amp breaker from the procedure. Personnel involved with this procedural change are not presently employed by PSE&G.

(2) The corrective steps that have been taken.

The Unit 2 10-amp breaker was satisfactorily tested on March 5, 1998.

The Unit 1 breakers in Panel 97-1 were satisfactorily tested on January 23, 1998.

Procedure SC.MD-ST.ZZ-0004(Q) was revised on February 17, 1998, to correctly identify the penetration breakers in panels 97-1 and 97-2.

Surveillance Testing recurring tasks were created to ensure that the third containment penetration protection breaker in panels 97-1 and 97-2 are periodically tested in accordance with the TS 4.8.3.1.

An additional comparison of calculations ES-13.005 and ES-13.010 with the maintenance procedure has been performed to determine that all containment penetration breakers are correctly listed in both the draft revision of the calculations and the procedure. This review was completed on March 31, 1998.

Component identification numbers have been issued for all three breakers in Panels 97-1 and 97-2 in the TRIS (tagging) database.

3) The corrective steps that will be taken to avoid further violations.

The appropriate wiring diagrams and vendor documents associated with flux mapping breaker panels 97-1 and 97-2 will be updated to reflect the actual plant configuration. The updates to these documents will be completed by June 30, 1998.

A sample of vendor supplied panels which contain containment penetration breakers will be reviewed to determine if similar conditions exist in other vendor supplied breaker panels. This review will be completed by July 30, 1998.

The appropriate design change documentation for calculations ES-13.005, ES-13.010 and Engineering Evaluation S-C-VAR-EEE-1057 will be issued to add the third penetration protection breaker identified in panels 97-1 and 97-2. The design change documentation will be issued by June 30, 1998.

(4) The date when full compliance will be achieved.

PSE&G achieved compliance when the affected breakers were satisfactorily tested on January 23 and March 5, 1998, in accordance with Technical Specifications 3.8.3.1.a.