

Public Service
Electric and Gas
Company

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Senior Vice President - Nuclear Operations

JUL 16 1997

LR-N970449

United States Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555

**SUPPLEMENTAL RESPONSE TO A NOTICE OF VIOLATION
INSPECTION REPORT 50-311/97-06
SALEM GENERATING STATION
UNIT NO. 2
DOCKET NO. 50-311**

Gentlemen:

Inspection Report No. 50-311/97-06 for Salem Nuclear Generating Station Unit No. 2 was transmitted to Public Service Electric & Gas Company (PSE&G) on May 30, 1997. Within the scope of this report, one violation of NRC requirements was cited. The violation involved the failure to follow established procedures for the documentation of test results.

By letter dated June 30, 1997 (Our Ref: LR-N970371), PSE&G submitted its response to the cited violation. As stated in the original PSE&G response, the root cause of the violation (all cited examples) was attributed to poor human performance of personnel performing the activities and poor human performance by management in the oversight of these activities. The corrective actions stated in the June 30 response were designed to address the root cause in its broadest form. To provide a complete understanding of PSE&G's actions taken, PSE&G is supplementing the June 30, 1997 original response to address the specific actions taken relative to each of the cited examples. Msrs. D. Powell and M. Rencheck of PSE&G discussed the submittal of this supplemental response with Mr. W. Ruland (NRC Region I) via telephone on July 9, 1997.

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JUL 16 1997

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LR-N970449

2

Additionally, by letter dated April 11, 1997 (Our Ref: LR-N97194), PSE&G responded to a similar violation transmitted in Inspection Report 50-311/96-21. This violation involved deficient conditions for the testing of the Control Room Area Air Conditioning System. As a result of subsequent PSE&G investigation, as well as NRC inspections, other deficient conditions were identified relative to the same design modification test procedures. In light of the applicability of these findings to Control Room Area Air Conditioning, and in response to Inspection Report 50-311/97-06 request, PSE&G considers the information provided in the June 30, 1997 letter to be relevant to the April 11, 1997 response.

In the June 30, 1997 response, PSE&G stated that (Corrective action E) ten non-HVAC system Special Test Procedures (STPs) in five systems were reviewed. PSE&G would like to expand on this corrective action by identifying the procedures reviewed. The STPs reviewed are:

Fire Protection

2EC-3298 Package 1 - STPs 1-3
1EC-3701 Package 1 - STP 1

Electrical

2EC-3332 Package 2 - STPs 1 & 2

Diesel

1EC-3529 Package 2 - STP 1

Service Water

2EC-3590 Package 6 - STPs 1-3
2EC-3590 Package 11 - STP 1
2EC-3590 Package 6 - STPs 1-3
2EC-3590 Package 17 - STPs 1-7
2EC-3590 Package 18 - STPs 1-5

Safety Injection

2EC-3461 Package 1 - STPs 1 & 2



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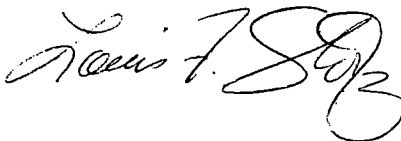
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JUL 16 1997

Attachment I to this letter contains the original violation as cited in Inspection Report 50-311/97-06. Attachment II contains PSE&G's supplemental information relative to these events.

Should there be any questions regarding this submittal, please contact us.

Sincerely,



JUL 16 1997

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LR-N970449

4

Attachment

C Mr. Hubert J. Miller, Administrator - Region I
U. S. Nuclear Regulatory Commission
475 Allendale Road
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Mr. C. Marschall - Salem (X24)
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Mr. K. Tosch, Manager, IV
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33 Arctic Parkway
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ATTACHMENT I
LR-N970449

NOTICE OF VIOLATION

Public Service Electric & Gas Company Docket No: 50-311
Salem Nuclear Generating Station License No: DPR-75
Unit 2

During an NRC inspection conducted on March 1 to April 12, 1997, 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:

Appendix B, Criterion V of 10 CFR 50 requires that activities affecting quality be prescribed by procedures and shall be accomplished in accordance with those procedures.

Procedure NC.DE-AP.ZZ-0012(Q), "Test Program", Revision 6, Section 5.2.c requires testing to be conducted with approved step-by-step Special Test Procedures, existing procedures, or standards. Section 5.2.e requires recording test data on data sheets. Section 5.2.f requires evaluating test results to ensure they are acceptable prior to restoring plant equipment.

Contrary to the above, post-modification test procedures for Salem control room area air conditioning system (CAACS) were not followed, required data was not recorded, and plant equipment was restored with test results outside established acceptance criteria, as evidenced by the following examples:

1. Procedure 1EC-3505 package No. 1 STP-2, Revision 2, Control Area Air Conditioning System (CAACS) and Emergency Air Conditioning System (EACS) Coil Test Procedure (to verify heat transfer capability of Unit 1 CAACS and Unit 1 EACS cooling coil units), steps 5.5.3.7 and 5.5.4.7 required the initiation of an Action Request (AR) to clean the coils if the coil appearance was not "bare metal or shiny appearance". The condition of the coil for 1HVE200, recorded on Attachment 7.12 was "...covered with white chalky film..." and an AR to clean the coil was not initiated.

ATTACHMENT I
LR-N970449

2. Procedure 1EC-3505 Package No. 1, STP-4, Revision 3, Control Area Ventilation (CAV) Leakage Test [for leak testing the ductwork and filter housing which have the potential for leakage into the control room pressure boundary], attachment 7.3 establishes EACS charcoal filter housing and duct maximum allowable leakage test acceptance criteria of 8.0 cubic feet per minute (cfm). Actual leakage rates recorded were 10.78 cfm for Unit 1 and 10.59 cfm for Unit 2. Both recorded leakage rates were outside the established acceptance criteria, but the test results were approved and the EACS system was restored to service.
3. Procedure 1EC-3505 Package No. 1 STP-4, Revision 3, attachment 7.3 requires an EACS charcoal filter housing and duct test pressure of 4.0 inches water column (inwc). Based on the atmospheric pressure recorded in inches of mercury (inHg) and initial boundary pressures in pounds per square foot (psf) absolute (abs.), the test pressures were less than the required 4 inwc.
4. Procedure 1EC-3505 Package No. 1 STP-4, Revision 3, Appendix A, steps 2.e and 2.h require recording the initial and final times of the test. The times were not recorded.
5. Procedure 1EC-3505 Package No. 1, STP-4, Revision 3, Step 5.6.1, requiring review of test data by the test engineer was incorrectly deleted by Modification Concern and Resolution 297.

This is a Severity Level IV problem (Supplement 1).

ATTACHMENT II
SUPPLEMENTAL RESPONSE TO NOTICE OF VIOLATION
SALEM GENERATING STATION UNIT 2
LR-N970449

"1. Procedure 1EC-3505 package No. 1 STP-2, Revision 2, Control Area Air Conditioning System (CAACS) and Emergency Air Conditioning System (EACS) Coil Test Procedure (to verify heat transfer capability of Unit 1 CAACS and Unit 1 EACS cooling coil units), steps 5.5.3.7 and 5.5.4.7 required the initiation of an Action Request (AR) to clean the coils if the coil appearance was not "bare metal or shiny appearance". The condition of the coil for 1HVE200, recorded on Attachment 7.12 was "...covered with white chalky film..." and an AR to clean the coil was not initiated."

(1) The reason for the violation.

The root cause for the violation was provided in LR-N970371, dated June 30, 1997, and restated below for completeness;

"The reason for the violation was poor human performance by the CAV project team and testing personnel and management oversight. Personnel involved failed to meet PSE&G's standard of procedural compliance. Personnel did not properly revise CAV Special Test Procedures (STPs) in accordance with PSE&G procedures to reflect changes in testing methodology and acceptance criteria. In addition inadvertent removal of the test engineer acceptance signoff by the project team is an example of inattention to detail. PSE&G management also did not provide an adequate level of management oversight of personnel preparing and implementing the CAV Special Test Procedures."

(2) The corrective steps that have been taken.

1. AR 970320247 was issued to evaluate the white chalky film observed on the coil. The white chalky film (lead oxide) observed on the coil was the result of chemical cleaning of the EACS coil by the vendor. This white chalky substance was evaluated and determined to have no effect on the heat transfer characteristic of the coil.

ATTACHMENT II
SUPPLEMENTAL RESPONSE TO NOTICE OF VIOLATION
SALEM GENERATING STATION UNIT 2
LR-N970449

2. The design change test procedure acceptance criterion was revised as per the above evaluation and vendor recommendation.
3. LR-N970371, dated June 30, 1997, contains additional information.
- (3) The corrective steps that will be taken to avoid further violations.

LR-N970371, dated June 30, 1997, contains the required information.

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

PSE&G achieved compliance when the AR 970320247 was issued.
LR-N970371, dated June 30, 1997, contains additional information.

ATTACHMENT II
SUPPLEMENTAL RESPONSE TO NOTICE OF VIOLATION
SALEM GENERATING STATION UNIT 2
LR-N970449

"2. Procedure 1EC-3505 Package No. 1, STP-4, Revision 3, Control Area Ventilation (CAV) Leakage Test [for leak testing the ductwork and filter housing which have the potential for leakage into the control room pressure boundary], attachment 7.3 establishes EACS charcoal filter housing and duct maximum allowable leakage test acceptance criteria of 8.0 cubic feet per minute (cfm). Actual leakage rates recorded were 10.78 cfm for Unit 1 and 10.59 cfm for Unit 2. Both recorded leakage rates were outside the established acceptance criteria, but the test results were approved and the EACS system was restored to service."

(1) The reason for the violation.

The root cause for the violation was provided in LR-N970371, dated June 30, 1997, and restated below for completeness;

"The reason for the violation was poor human performance by the CAV project team and testing personnel and management oversight.

Personnel involved failed to meet PSE&G's standard of procedural compliance. Personnel did not properly revise CAV Special Test Procedures (STPs) in accordance with PSE&G procedures to reflect changes in testing methodology and acceptance criteria. In addition inadvertent removal of the test engineer acceptance signoff by the project team is an example of inattention to detail. PSE&G management also did not provide an adequate level of management oversight of personnel preparing and implementing the CAV Special Test Procedures."

(2) The corrective steps that have been taken.

1. Engineering Evaluation S-C-SC-MEE-1212, Control Area Ventilation: Review of CREACS Filter Housing Test Requirements and Acceptance Criteria, issued on May 30, 1997, evaluated the recorded leakage rate acceptable.
2. Modification Concern and Resolution (MCR) 193 to the design change test procedure revised the leakage rate

ATTACHMENT II
SUPPLEMENTAL RESPONSE TO NOTICE OF VIOLATION
SALEM GENERATING STATION UNIT 2
LR-N970449

acceptance criterion based on Control Room Dose Calculation and was evaluated in Engineering Evaluation S-C-SC-MEE-1212.

3. LR-N970371, dated June 30, 1997, contains additional information.
- (3) The corrective steps that will be taken to avoid further violations.

LR-N970371, dated June 30, 1997, contains the required information.

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

PSE&G achieved compliance when the Engineering Evaluation was issued demonstrating that the recorded leakage rate was acceptable, and MCR 193 to 1EC-3505 revised the leakage rate acceptance criterion. LR-N970371, dated June 30, 1997, contains additional information.

ATTACHMENT II
SUPPLEMENTAL RESPONSE TO NOTICE OF VIOLATION
SALEM GENERATING STATION UNIT 2
LR-N970449

"3. Procedure 1EC-3505 Package No. 1 STP-4, Revision 3, attachment 7.3 requires an EACS charcoal filter housing and duct test pressure of 4.0 inches water column (inwc). Based on the atmospheric pressure recorded in inches of mercury (inHg) and initial boundary pressures in pounds per square foot (psf) absolute (abs.), the test pressures were less than the required 4 inwc."

(1) The reason for the violation.

The root cause for the violation was provided in LR-N970371, dated June 30, 1997, and restated below for completeness;

"The reason for the violation was poor human performance by the CAV project team and testing personnel and management oversight. Personnel involved failed to meet PSE&G's standard of procedural compliance. Personnel did not properly revise CAV Special Test Procedures (STPs) in accordance with PSE&G procedures to reflect changes in testing methodology and acceptance criteria. In addition inadvertent removal of the test engineer acceptance signoff by the project team is an example of inattention to detail. PSE&G management also did not provide an adequate level of management oversight of personnel preparing and implementing the CAV Special Test Procedures."

(2) The corrective steps that have been taken.

1. Engineering Evaluation S-C-SC-MEE-1212, Control Area Ventilation: Review of CREACS Filter Housing Test Requirements and Acceptance Criteria, issued on May 30, 1997, evaluated the higher initial test pressures and accepted the test data.
2. The HEPA and Charcoal Filter Housing decay calculations were revised with acceptable results.
3. The test procedure acceptance criteria was revised.
4. LR-N970371, dated June 30, 1997, contains additional information.

ATTACHMENT II
SUPPLEMENTAL RESPONSE TO NOTICE OF VIOLATION
SALEM GENERATING STATION UNIT 2
LR-N970449

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

LR-N970371, dated June 30, 1997, contains the required information.

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

PSE&G achieved compliance when the Engineering Evaluation was issued determining that the higher recorded test pressures were acceptable, the test procedure acceptance criteria was revised, and the HEPA and Charcoal Filter Housing decay calculations were revised. LR-N970371, dated June 30, 1997, contains additional information.

ATTACHMENT II
SUPPLEMENTAL RESPONSE TO NOTICE OF VIOLATION
SALEM GENERATING STATION UNIT 2
LR-N970449

"4. Procedure 1EC-3505 Package No. 1 STP-4, Revision 3, Appendix A, steps 2.e and 2.h require recording the initial and final times of the test. The times were not recorded."

(1) The reason for the violation.

The root cause for the violation was provided in LR-N970371, dated June 30, 1997, and restated below for completeness;

"The reason for the violation was poor human performance by the CAV project team and testing personnel and management oversight. Personnel involved failed to meet PSE&G's standard of procedural compliance. Personnel did not properly revise CAV Special Test Procedures (STPs) in accordance with PSE&G procedures to reflect changes in testing methodology and acceptance criteria. In addition inadvertent removal of the test engineer acceptance signoff by the project team is an example of inattention to detail. PSE&G management also did not provide an adequate level of management oversight of personnel preparing and implementing the CAV Special Test Procedures."

(2) The corrective steps that have been taken.

1. The test engineers responsible have been counseled and advised of the importance of strict procedure compliance. Although the start and finish time were not recorded and cannot be retrieved, the total test duration time was recorded, which was the only value necessary for the required calculation.
2. LR-N970371, dated June 30, 1997, contains additional information.

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

LR-N970371, dated June 30, 1997, contains the required information.

ATTACHMENT II
SUPPLEMENTAL RESPONSE TO NOTICE OF VIOLATION
SALEM GENERATING STATION UNIT 2
LR-N970449

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

PSE&G achieved compliance when the test was completed satisfactorily. Although the start and finish time were not recorded and cannot be retrieved, the total test duration time was recorded, which was the only value necessary for the required calculation. LR-N970371, dated June 30, 1997, contains the required information.

"5. Procedure 1EC-3505 Package No. 1, STP-4, Revision 3, Step 5.6.1, requiring review of test data by the test engineer was incorrectly deleted by Modification Concern and Resolution 297."

(1) The reason for the violation.

The root cause for the violation was provided in LR-N970371, dated June 30, 1997, and restated below for completeness;

"The reason for the violation was poor human performance by the CAV project team and testing personnel and management oversight. Personnel involved failed to meet PSE&G's standard of procedural compliance. Personnel did not properly revise CAV Special Test Procedures (STPs) in accordance with PSE&G procedures to reflect changes in testing methodology and acceptance criteria. In addition inadvertent removal of the test engineer acceptance signoff by the project team is an example of inattention to detail. PSE&G management also did not provide an adequate level of management oversight of personnel preparing and implementing the CAV Special Test Procedures."

(2) The corrective steps that have been taken.

1. The test engineer responsible for removing the procedure step was counseled.
2. A review signature was added for a level III sign off of test results.
3. The test results were reviewed by a level III test engineer.

ATTACHMENT II
SUPPLEMENTAL RESPONSE TO NOTICE OF VIOLATION
SALEM GENERATING STATION UNIT 2
LR-N970449

4. LR-N970371, dated June 30, 1997, contains additional information.
- (3) The corrective steps that will be taken to avoid further violations.

LR-N970371, dated June 30, 1997, contains the required information.

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

PSE&G achieved compliance when a review signature was added for a level III sign off of test results and the test results were reviewed by a level III test engineer. LR-N970371, dated June 30, 1997, contains additional information.