

Public Service
Electric and Gas
Company

Joseph J. Hagan

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Vice President - Nuclear Operations

MAR 10 1994

NLR-N94047

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

Gentlemen:

RESPONSE TO NRC'S NOTICE OF VIOLATION
INSPECTION REPORT 50-272/93-27; 50-311/93-27
DOCKET NOS. 50-272; 50-311

Public Service Electric and Gas (PSE&G) has received the NRC Inspection Report 50-272/93-27, 50-311/93-27, dated February 10, 1994. Within the scope of this report, a Salem Unit 1 and 2 Technical Specification 6.8.1.a violation was identified. The violation involves the failure to control troubleshooting and corrective actions for the Residual Heat Removal check valves.

Accordingly, in the attachment to this letter, PSE&G submits its assessment and response to the identified violation.

Should you have any questions regarding this transmittal, please do not hesitate to contact me.

Sincerely,



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Attachment (1)

C Mr. J. C. Stone, Licensing Project Manager
U.S. Nuclear Regulatory Commission
One White Flint North
11555 Rockville Pike
Rockville, MD 20852

Mr. C. S. Marschall (S09)
USNRC Senior Resident Inspector

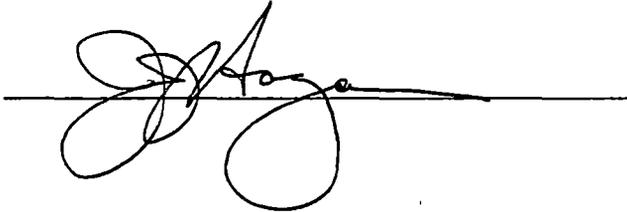
Mr. T. T. Martin, Administrator - Region I
U.S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, PA 19406

Mr. Kent Tosch, Manager, VI
New Jersey Department of Environmental Protection
Division of Environmental Quality
Bureau of Nuclear Engineering
CN 415
Trenton, NJ 08625

REF: NLR-N94047

STATE OF NEW JERSEY)
) SS.
COUNTY OF SALEM)

J. J. Hagan, being duly sworn according to law deposes and says:
I am Vice President - Nuclear Operations of Public Service
Electric and Gas Company, and as such, I find the matters set
forth in the above referenced letter, concerning the Salem
Generating Station, Unit Nos. 1 and 2, are true to the best of my
knowledge, information and belief.



Subscribed and Sworn to before me

this 10th day of March, 1994


Notary Public of New Jersey

My Commission expires on _____
KIMBERLY JO BROWN
NOTARY PUBLIC OF NEW JERSEY
My Commission Expires April 21, 1998

ATTACHMENT I

During an NRC inspection conducted on November 27, 1993 - January 15, 1994, a violation of NRC requirements was identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," 10 CFR Part 2, Appendix C (1992), the violation is listed below:

Technical Specification 6.8.1.a requires, in part, that licensees shall implement procedures for control of safety-related activities recommended in Regulatory Guide 1.33, revision 2, 1978 edition. Regulatory Guide 1.33, revision 2, Appendix A, section 9, states, in part, that detailed procedures are required for maintenance activities not within the skills of normally qualified personnel.

Contrary to the above, on December 30, 1993, in an effort to correct leakage past check valves forming the pressure boundary between the reactor coolant system and the residual heat removal system, operators at Salem Unit 2 closed safety-related valves 21RH19 and 22RH19 and opened safety-related valves 21SJ50 and 22SJ50, without using a procedure or without prior documented training for the activity. As a result, operators placed a safety system in an abnormal lineup for existing plant conditions.

Pursuant to the provisions of 10 CFR 2.201, Public Service Electric and Gas Company is hereby required to submit to this office within 30 days of the date of the letter which transmitted this Notice, a written statement or explanation in reply, including: (1) the corrective steps which have been taken and the results achieved; (2) corrective steps which will be taken to avoid further violations; and (3) the date when full compliance will be achieved. Where good cause is shown, consideration will be given to extending this response time.

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PSE&G RESPONSE

PSE&G does not dispute the violation.

As stated in the inspection report, on December 30, 1993, personnel at Salem Unit 2 were performing a plant heatup using Integrated Operating Procedure - 2 (IOP-2), Cold Shutdown to Hot Standby. As directed by the IOP, the Residual Heat Removal (RHR) system pressure was being monitored to ensure no upward trend of the RHR system pressure.

The RCS pressure increase was stopped by operations personnel. After securing the Residual Heat Removal (RHR) system it was noted that RHR pressure was following RCS pressure, thus indicating that the check valves between the RCS and the RHR piping were leaking. The maximum pressure reached on the RHR piping was 450 psig, which is significantly below the 600 psig RHR design pressure limit. IOP-2 adequately ensures that overpressurizing of the RHR system piping does not occur.

In accordance with the IOP, upon recognition of the leaking check valves, the operators notified the shift supervisor. Evaluation by the operators and the shift supervisor determined that while the increase in RCS pressure was properly accomplished, the required seating differential pressure across the check valves was probably not sufficiently established to seat the check valves. Consequently, it was decided to close the RHR cross-connect valves (21/22RH19) and open drain valves (21/22SJ50) to the Chemical Volume Control System (CVCS) Hold-up Tank (HUT) to provide greater differential pressure across the leaking check valves. As a result of these operator actions the appropriate differential pressure was established and the check valves properly seated.

REASON FOR VIOLATION

The root cause of this event has been attributed to less than adequate communication of PSE&G management's expectations. Work practices and previous corrective actions were identified as contributing factors.

Nuclear Control Operators (NCOs) clearly understand the risk of an inter-system Loss of Coolant Accident caused by leaking check valves between RCS piping and other low pressure system piping. Although NCOs are (were) not specifically trained in the specific valve manipulation described above, they receive extensive system training. For safety related systems, such as the RHR system, this training is not limited to classroom (text-book) training, but includes simulator (dynamic) training involving the system's normal and emergency operations, as well as its relationship with other safety related systems. Although the (immediate) actions taken to seat the leaking check valves were appropriate, it is expected that they would have been made in accordance with procedural guidance.

It is management's expectation that operational troubleshooting activities will be conducted with approved troubleshooting procedures with the content commensurate with the risk associated with the equipment and systems involved. By developing and/or requesting a troubleshooting procedure, in accordance with administrative directive SC.OP-DD.ZZ-AD-46 (AD-46), the troubleshooting is reviewed by performing a risk assessment determination to ensure that the troubleshooting is accomplished in the safest possible manner. Additionally, when performing troubleshooting activities under the auspices of AD-46 a work order will be initiated to control and document the activity, as well as to serve as a historical trending document.

In the past, both Salem units have experienced RCS leakage through these check valves (SJ43 and SJ56) while initially increasing system pressure, and operators have successfully resealed the valves by performing the same valve manipulations. The operators involved reviewed system drawings and Control Room indications, and used their knowledge of integrated plant systems to successfully seat the check valves. However, the operators did not utilize a troubleshooting plan which would have provided an additional opportunity for review and a formal documentation of the manipulations. The utilization of a documented troubleshooting procedure for a small number of valve manipulations had not been a consistent past practice. Troubleshooting procedures had been used previously for more complicated or detailed manipulations.

As a result of NRC Information Notice 89-41 (Operator Response to Pressurization of Low-Pressure Interfacing Systems), INPO SER 4-89 (Loss of Coolant Transient From Response to Open Check Valve), and PSE&G's internal operating experiences, procedure revisions were performed. IOP-2 and S1.OP-SO.RHR-0002, Terminating RHR, were revised to include requirements to closely monitor RHR/Safety Injection (SI) pressure, during RCS pressurization, and to notify the shift supervisor if a pressure increase was noted. Although the changes adequately addressed all concerns, they were not specific enough to allow the manipulations described above.

In conclusion, this event was the result of less than adequate communication of management's expectations coupled with (1) inadequate previous corrective actions, and (2) the successful results from past experience (work practice).

CORRECTIVE ACTIONS TAKEN

Operations has made Night Order Book entries to support and direct the use of AD-46.

In addition to the Night Order Book entries, management has communicated to the operating shifts management's philosophy regarding safety-related valve manipulations. Recent utilization of AD-46 has provided positive feedback regarding the effectiveness of these corrective actions.

CORRECTIVE ACTIONS TAKEN TO PREVENT RECURRENCE

Operations will revise the Standing Orders to clarify the application of the AD-46 procedure.

A procedure to provide operators with actions for coping with check valve leakage will be developed and will cover all Safety Injection and RHR system check valves. This procedure will be issued by October 1994.

DATE FOR FULL COMPLIANCE

PSE&G is currently in full compliance with the applicable NRC requirements.