

Richard A. Uderitz  
Vice President -  
Nuclear

Public Service Electric and Gas Company P.O. Box 236, Hancocks Bridge, NJ 08038 609 935-6010

May 9, 1983

Mr. Richard C. DeYoung, Director  
Office of Inspection and Enforcement  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Dear Mr. DeYoung:

NRC COMBINED INSPECTION 50-272/82-33, 50-311/82-31  
SALEM GENERATING STATION  
UNITS NO. 1 AND 2  
APRIL 5 THRU OCTOBER 16, 1982

Public Service Electric and Gas Company is in receipt of your letter of March 25, 1983, and the enclosed Notice of Violation and Proposed Imposition of Civil Penalty. This letter constitutes our response to that document.

Pursuant to 10 CFR 2.201, Attachment A hereto addresses the item of violation identified in your letter.

The management of PSE&G has reviewed your letter. While acknowledging a procedural inadequacy as the root cause of the violation, we feel that our initiatives that identified and corrected the procedural problem before the violation was discovered and reported to the NRC, demonstrate our desire to continually improve the operation of our nuclear facilities.

As Licensee, we will not protest the imposition of the civil penalty; accordingly, a check in the amount of \$20,000 is enclosed in payment.

Sincerely,



Attachment

CC: Mr. Richard W. Starostecki, Director  
Division of Project & Resident Programs, Region I

Mr. Donald C. Fischer  
Licensing Project Manager

Mr. Leif Norrholm  
Senior Resident Inspector

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PDR ADOCK 05000272  
Q PDR

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NRC COMBINED INSPECTION 50-272/82-33, 50-311/82-31  
SALEM GENERATING STATION  
UNITS NO. 1 AND 2  
APRIL 5 THRU OCTOBER 16, 1982

ITEM OF VIOLATION

Technical Specifications 3.3.3.1 and 3.9.9 require the containment gaseous, particulate, and iodine radiation monitors to be operable to provide automatic purge and pressure vacuum relief isolation capability during plant venting operations. If these monitors are inoperable, each of the purge and pressure-vacuum relief penetrations providing direct access from the containment atmosphere to the outside atmosphere are to be kept closed.

Contrary to the above:

During the period April 5, 1982 to October 16, 1982, the containment gaseous, particulate, and iodine radiation monitors were inoperable in the "plant vent" mode due to a capped suction line, resulting in a loss of an automatic purge and pressure-vacuum relief isolation capability. During this period, containment venting operations, which provide direct access from the containment atmosphere to the outside atmosphere were conducted on 368 occasions, for periods of 30 to 260 minutes, for an aggregate of 711 hours.

Reply to Item of Violation

During the period of April 5 to October 16, 1982, the particulate, iodine, and gaseous monitors were inoperable when aligned in the "plant vent" mode. The cause of the inoperability was a capped suction line from the plant vent to the radiation monitor.

The original design for plant vent effluent radiation monitoring consisted of low range radiation monitors 1R11A, 1R12A, 1R12B, sensing from the plant vent stack. These monitors had the dual function of sampling either the plant vent effluent or containment atmosphere. The 1R11A monitors air particulates, the 1R12A monitors noble gases, and the 1R12B monitors radioactive iodine.

The above system was utilized until a need for an improved, independent set of radiation monitors was identified. A design change was initiated and installation commenced in January 1982. In general, it provided new monitors to sample only the plant vent, thus allowing the 1R11A, 1R12A, 1R12B monitors to

Reply to Item of Violation (Continued)

monitor only the containment atmosphere. These new, independent radiation monitors are identified as 1R41A, 1R41B and 1R41C, sampling air particulates, iodine, and noble gases, respectively.

The modification required cutting and capping the suction lines from the vent stack to the 1R11A, 1R12A, and 1R12B monitors, and installing new suction lines from the vent stack to the 1R41A, 1R41B, and 1R41C monitors.

In late March, 1982, the startup of Salem Unit No. 1 was imminent. Since this modification would not be completely installed prior to startup, it was decided to leave the 1R11A, 1R12A, 1R12B monitors intact as they were originally designed, and in parallel have the new R41 monitors operate in an "indication" mode only. This would allow Unit No. 1 to operate until the next refueling outage in October 1982, when the modification could be completed. Instructions were issued to the site contractor delineating all the necessary changes to achieve this condition. The site contractor implemented these changes between March 10 through March 26, 1982 and signed their work packages off as such.

Basically, these instructions provided for the reconnection of the existing sensing line back into the plant vent stack. To do this, the site contractor needed to tee that sensing line into the newly installed R41 sensing line which connected into the stack. This would allow the 1R11A, 1R12A, and 1R12B to draw plant vent stack samples as before and also allow the R41 monitors to draw off the same line.

During the conversion, the site contractor left the tubing cap on the existing sensing line instead of making it tee into the R41 line as the instructions dictated. This action rendered the 1R11A, 1R12A and 1R12B radiation monitors inoperable for plant vent stack sampling since this line was their common suction line for this mode of operation. Conversely, the site contractor removed the tubing cap from the previous return line and tee'd it into the suction line. Since this spare line was open ended at the other end, this caused the R41A, R41B and R41C monitors to sample the plant vent stack as designed, but also the atmosphere of north Mechanical Penetration Area thus, diluting the sample. This condition went undetected at this time and subsequently, Unit No. 1 was in operation until October 1982 with impaired plant vent stack effluent radiation monitoring capabilities.

A series of special calibrations were being conducted by a consulting firm on the Unit 1 RMS vent and letdown channels during the recent Unit 1 shutdown of October 16 thru 18, 1982. These

Reply to Item of Violation (Continued)

calibrations utilized the relatively hot radiogases that are generated during reactor shutdown and depressurization of the primary coolant. While these calibrations were in progress, it was noted that 1R12A noble gas channel appeared to be working properly while sampling the containment, but did not appear to function properly when sampling the Unit 1 vent. It was also calculated that 1R41C noble gas channel was responding with much less sensitivity than expected. Further investigation into this problem revealed that the plant vent had been erroneously capped during implementation of the design modification.

It was later discovered that the vacuum relief device on the suction of the APD sample pump was lifting at normal operating pressures in the sample line. This vacuum relief device lifting caused a dilution of containment air with small amounts of air from the penetration area when aligned in the "containment" sampling mode. Inoperability of the APD violates Technical Specification Limiting Condition for Operation 3.3.3.1.

The vacuum relief device was apparently damaged soon after the unit was returned to power (April 5, 1982). It is believed that this damage resulted from attempting to draw a sample through the capped line when in the "plant vent" sampling mode. Since the vacuum relief device was in the open position when the APD was in the "plant vent" alignment, a low flow alarm would not be received.

The test requirements for the partially completed design modification did not specify a pressure type continuity test. The required testing was of an operational nature utilizing existing procedures and failed to detect the capped suction line and operation of the vacuum relief device under normal pressures.

Upon discovery, the sample lines were connected properly and the failed vacuum relief device was repaired. Subsequently, the vacuum relief device was moved from upstream of the low flow alarm to downstream in order to allow accurate low flow indication, while still protecting the pump.

An Operational Test Group (OTG) had been established on-site prior to the discovery of the incident, but had not yet been made functional. As described in Administrative Procedure AP-8, "The OTG performs a review of each DCP to determine testing requirements and generates a Design Change Package-Test Package. They also direct operational tests (when required) and review and accept results of all DCP related testing." Due to the large number of DCPs being worked, the OTG is presently testing only contractor installed packages. The station installed DCPs are being tested by the installing department. By the beginning of the next refueling outage the OTG will be

Reply to Item of Violation (Continued)


fully functional, and testing all installed DCPs. Implementation of the OTG will prevent recurrence of incidents of this type.

In addition, the site contractor has added instructions and QC inspection points to controlled work packages for the installation of instrument tubing. These instructions include an air flow test to verify proper tube routing and termination. This measure is fully implemented at this time.

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

RICHARD A. UDERITZ, being duly sworn according to law deposes  
and says:

I am a Vice President of Public Service Electric and Gas  
Company, and as such, I find the matters set forth in our  
attached response to the NRC's Combined Inspection Report  
50-272/82-33 and 50-311/82-31, and the Notice of Violation  
and Proposed Imposition of Civil Penalty, are true to the  
best of my knowledge, information and belief.

  
\_\_\_\_\_  
RICHARD A. UDERITZ

Subscribed and sworn to before me  
this 9TH day of May, 1983

  
\_\_\_\_\_  
Notary Public of New Jersey

RUDOLPH L. VON FISCHER JR.  
Notary Public of New Jersey  
My Commission Expires Sept. 10, 1986

My Commission expires on \_\_\_\_\_



## BILL FOR COLLECTION

Bill No. \_\_\_\_\_

U. S. Nuclear Regulatory Commission

Date May 12, 1968

(Department or Establishment and Bureau or Office)

Washington, DC 20535

(Address)

PAYER:

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

*This bill should be returned by the  
payer with his remittance.*

*SEE INSTRUCTIONS BELOW.*

Date	DESCRIPTION	Quantity	Unit Price		Amount
			Cost	Per	
5/12/68	Full payment for EA 83-06 dated 3/25/63, Docket Nos. 50-272 & 50-311.				\$20,000.00
AMOUNT DUE THIS BILL.					\$20,000.00

*This is not a receipt*

### INSTRUCTIONS

Tender of payment of the above bill may be made in cash, United States postal money order, express money order, bank draft, or check, to the office indicated. Such tender, when in any other form than cash, should be drawn to the order of the Department or Establishment and Bureau or Office indicated above.

Receipts will be issued in all cases where "cash" is received, and only upon request when remittance is in any other form. If tender of payment of this bill is other than cash or United States postal money order, the receipt shall not become an acquittance until such tender has been cleared and the amount received by the Department or Establishment and Bureau or Office indicated above.

Failure to receive a receipt for a cash payment should be promptly reported by the payer to the chief administrative officer of the bureau or agency mentioned above.