

Public Service
Electric and Gas
Company

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MAY 28 1996

LR-N96128

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

Gentlemen:

REPLY TO A NOTICE OF VIOLATION
PROCEDURE NON-COMPLIANCE
INSPECTION REPORT NO. 50-354/96-03-02 (APPENDIX A)
HOPE CREEK GENERATING STATION
FACILITY OPERATING LICENSE NPF-57
DOCKET NO. 50-354

Pursuant to the provisions of 10CFR2.201, this letter submits the response of Public Service Electric and Gas Company to the notice of violation issued to the Hope Creek Generating Station (HCGS) in a letter dated April 26, 1996.

Should you have any questions or comments on this transmittal, do not hesitate to contact us.

Sincerely,



L. F. Storz
Senior Vice President -
Nuclear Operations

Attachment

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Handwritten initials/signature

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The following items represent commitments that Public Service Electric & Gas (PSE&G) made to the Nuclear Regulatory Commission (NRC) relative to this NOV Response to Inspection Report 50-354/96-03-02 (Appendix A).

- a. Review and establish enhanced human factor controls for ALNOR usage to minimize or eliminate reliance on memory. This review will be completed by September 30, 1996.
- b. Review potential hardware weakness issues associated with the ALNOR computer system. This review and appropriate changes will be completed by October 31, 1996.
- c. Management will hold a communication session that will stress the requirements of the radiation protection program. Specifically, the session will include the use of ALNORs and consequences of failure to follow the program requirements. This corrective action will be completed by July 31, 1996.
- d. Review the RWT program for enhancements in disseminating radiation protection program information, including the use of ALNORs, self-checking and STAR. This review will be completed by September 30, 1996.
- e. A refuel outage communication program will occur to heighten employee awareness to use ALNORs during periods of peak RCA work. This program will be conducted in close proximity to the next refueling outage (RF07).
- f. Self-assessments will be conducted to evaluate the effectiveness of the new corrective actions. Trending error rates will be used to aid in the self-assessment process.



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ATTACHMENT

REPLY TO NOTICE OF VIOLATION
PROCEDURE NON-COMPLIANCE
INSPECTION REPORT NO. 50-354/96-03-02 (APPENDIX A)
HOPE CREEK GENERATING STATION
FACILITY OPERATING LICENSE NPF-57
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I. INTRODUCTION

During the NRC's Resident Inspection conducted at Hope Creek Generating Station between February 11, 1996 and March 30, 1996, a violation of the NRC requirements was identified. As a result, the NRC issued a notice of violation (VIO 354/96-03-02) in a letter dated April 26, 1996. This response addresses this violation.

In accordance with the provisions of 10CFR2.201, Public Service Electric and Gas Company hereby submits a written response to the notice of violation which includes: (1) the reason for the violation; (2) the corrective steps that have been taken and the results achieved; (3) the corrective steps that will be taken to avoid further violations; and (4) the date when full compliance will be achieved.

II. REPLY TO THE NOTICE OF VIOLATION

1. Description of the Notice of Violation

"Technical Specification 6.11.1 requires that procedures for [personnel] radiation protection shall be prepared consistent with the requirements of 10 CFR 20 and shall be approved, maintained, and adhered to for all operations involving personnel radiation exposure.

NC.NA-AP.ZZ-0024(Q), Radiation Protection Program, section 5.3.2 states all personnel entering the Radiological Control Area (RCA) should wear a self-reading dosimeter (SRD, ALNOR, or digital alarming dosimeter). Attachment 7, Use of Radiation Work Permits (RWP), to the Radiation Protection Program states in part that individuals shall read and comply with the RWP, which specify use of personnel dosimetry (ALNORs).

Contrary to the above, on March 3, 5, 6, and 14, 1996, individuals entered the RCA on RWPs 0010, 0164, 0277, and 0015

respectively, without adhering to the requirements of the RWPs by not properly using personnel dosimetry (ALNORs).

This is a Severity Level IV violation (Supplement IV)."

In addition, the NRC inspector noted other examples of incorrect ALNOR usage and ineffective corrective actions, see inspection report 950-354/96-03 Executive summary page iii and section 5.1. The incorrect use of ALNOR's was self-identified by PSE&G and captured as part of the Hope Creek Radiological Occurrence Report (ROR) program. This response is encompassing as to the causal factors and corrective action for all events identified.

2. Response to Notice of Violation

PSE&G has reviewed the circumstances described by the NRC and concurs with the facts cited in the violation.

i. Description of Event

On March 3, 1996, an individual was using a reader to activate an ALNOR. During the activation process the individual became distracted and forgot to remove the ALNOR from the reader. Thereafter, without the ALNOR, the individual entered the radiologically controlled area (RCA). The ALNOR was discovered in the reader, the individual was contacted, and within 22 minutes the individual exited the RCA.

On March 5, 1996, an individual was using a reader to activate an ALNOR. During the activation process the individual became distracted, due to carrying equipment into the RCA, and forgot to remove the ALNOR from the reader. Thereafter, without the ALNOR, the individual entered the RCA. The ALNOR was self-identified by the individual as missing and within 10 minutes the individual exited the RCA.

On March 6, 1996, an individual failed to use a reader to activate an ALNOR upon re-entering the RCA. While working, the individual believed the ALNOR became deactivated when inadvertently dropped and appeared to be in the off condition. The fact that the ALNOR was not properly activated was

discovered by health physics personnel when the individual returned to the health physics control point.

On March 14, 1996, an individual inadvertently failed to use the reader to activate an ALNOR. This was detected by health physics personnel upon exiting the RCA.

The above events are characteristic of the other events identified by the ROR program. Specifically, the general problems are personnel (utility and contractor) in the RCA without an ALNOR or with an ALNOR in the off condition. In addition, in all cases the dose received by the individuals was determined to be negligible and, therefore, well below 10 CFR 20 personnel radiation exposure protective limits.

ii. Reason for the Violation

The frequency of improper ALNOR usage events is low in relation to the number of radiation areas entries (approximately 1.5 per 10,000). However, these events represent management standards policy and administrative controls in place that were not used or were less than adequate. Specifically, individual actions were inconsistent, comprehensive previous corrective actions were ineffective, and the importance of the program was inadequately disseminated to all workers. Further, the program human factor controls and engineering barriers were inadequate to prevent these types of events. The following table identifies some of the inappropriate actions identified and associated causal factors:

INAPPROPRIATE ACTION	CAUSAL FACTOR
1) Did not use ALNOR reader.	Inattention to detail. Misjudgment. Expectation and communications less than adequate (LTA).
2) Left ALNOR in the reader.	Committed actions not carried out. Expectation and communications LTA.

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|--|--|
| 3) Removed ALNOR too soon. | Inadequate work practice.
Expectation and communication
LTA.
Inadequate user knowledge. |
| 4) Left the ALNOR behind. | Inattention to detail.
Expectation and communication
LTA. |
| 5) Believed Radiation
Protection had signed
them in. | Inadequate communications.
Poor control point design. |

A momentary lapse in radiation protection practices was common to a number of these events. Controls to eliminate or minimize reliance on memory to prevent procedural violations need enhancement. A corrective action to review and establish enhanced human factor controls is in place. This review will evaluate other utilities practices and consider physical controls, like barriers, gates, alarms and traffic control patterns. (See section iv, corrective action a) The potential for hardware issues with the ALNOR computer system will also be reviewed for possible weaknesses. (See section iv, corrective action b)

Corrective actions to communicate the radiation protection program expectations will include a management communications session to discuss this event with site workers. The communications session will be disseminated by the management team and will stress the individuals responsibility to comply with RWP requirements and wear individual radiation monitoring devices as proscribed and the consequences of failure to follow the program. (See section iv, corrective action c) The Radiological Worker Training (RWT) program will be reviewed for enhancements to ensure experienced workers clearly are indoctrinated in the requirements of the radiation protection program. This review will ensure the self-checking principles and the Stop Think Act Review (STAR) program are being re-enforced. (See section iv, corrective action d)

Due to the increased number of RCA entries during outage periods, a communication program will be provided around each outage (See section iv, corrective action e). To assess these

new programs and controls a self-assessment will be conducted periodically. The self-assessment will trend error rates and aid in evaluating the effectiveness of the corrective actions based on performance trends (See section iv, corrective action f).

PSE&G is committed to a world class radiation protection program, the above actions will further this effort. PSE&G is confident that the above measures will redress this concern. Further, the above measures will continue to be performed throughout the next refueling outage (RFO7), thereafter PSE&G may re-evaluate the effectiveness of the new programs and enhance or modify these commitments as warranted.

iii. Corrective Steps That Have Been Taken and Results Achieved

- a. An in depth root cause investigation and report was completed on this issue. This report was self-critical and comprehensive on the ALNOR use issues. The corrective actions developed in the root cause are being tracked for closure.
- b. The individuals involved in the specific events have been re-indoctrinated in the radiation protection program and ALNOR use. Corrective actions for individuals were established based on the facts and severity of the infraction. To heighten the workers awareness, in some instances, the individual was assigned for a shift at the radiation control point to observe proper radiation protection work practices with a Radiation Protection Technician.

iv. Corrective Steps that Will Be Taken to Avoid Further Violations

- a. Review and establish enhanced human factor controls for ALNOR usage to minimize or eliminate reliance on memory. This review will be completed by September 30, 1996.

- b. Review potential hardware weakness issues associated with the ALNOR computer system. This review and appropriate changes will be completed by October 31, 1996.
- c. Management will hold a communication session that will stress the requirements of the radiation protection program. Specifically, the session will include the use of ALNORs and consequences of failure to follow the program requirements. This corrective action will be completed by July 31, 1996.
- d. Review the RWT program for enhancements in disseminating radiation protection program information, including the use of ALNORs, self-checking and STAR. This review will be completed by September 30, 1996.
- e. A refuel outage communication program will occur to heighten employee awareness to use ALNORs during periods of peak RCA work. This program will be conducted in close proximity to the next refueling outage (RF07).
- f. Self-assessments will be conducted to evaluate the effectiveness of the new corrective actions. Trending error rates will be used to aid in the self-assessment process.
- v. Date When Full Compliance Will Be Achieved

PSE&G believes substantial compliance has always been maintained with regard to ALNOR usage. This belief is based on the historically low frequency of these events. However, the reviews and actions taken will bolster the current programs. The new programs rely on trending data and self-assessment activities, these actions by necessity require a time for the collection and analysis of data. Therefore, the preferred time period for determining full compliance would be after the next period of high RCA usage (RF07).