

February 3, 1998

Mr. Harold W. Keiser
Executive Vice President
Nuclear Business Unit
Public Service Electric & Gas Company
PO Box 236
Hancocks Bridge, NJ 08038

SUBJECT: Inspection Report 50-354/97-07

Dear Mr. Keiser:

This letter refers to your December 12, 1997 correspondence (LR-N97767), in response to our November 13, 1997 letter regarding the Hope Creek facility.

Thank you for informing us of the corrective and preventive actions for the Notice of Violation, as documented in your letter. The first violation involved two examples of Hope Creek maintenance technicians failing to implement procedural adherence requirements during maintenance activities. The second violation involves a failure to promptly identify an inoperable electric motor-driven fire pump supply breaker. Your actions will be examined during future inspections at Hope Creek.

Your cooperation with us is appreciated.

Sincerely,

ORIGINAL SIGNED BY:

James C. Linville, Chief
Projects Branch 3
Division of Reactor Projects

Docket No. 50-354

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cc:

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E. Salowitz, Director - Nuclear Business Support
M. Bezilla, General Manager - Hope Creek Operations
J. McMahon, Director - Quality/Nuclear Training/Emergency Preparedness
D. Powell, Manager - Licensing/Regulation and Fuels
A. C. Tapert, Program Administrator

cc w/cy of Licensee's Letter:

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J. A. Isabella, Manager, Joint Generation
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Consumer Advocate, Office of Consumer Advocate
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Mr. Harold W. Keiser

3

Distribution w/copy of Licensee's Response Letter:

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Louis F. Storz

Senior Vice President - Nuclear Operations

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LR-N97767

United States Nuclear Regulatory Commission
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REPLY TO NOTICE OF VIOLATION
INSPECTION REPORT NO. 50-354/97-07
HOPE CREEK GENERATING STATION
FACILITY OPERATING LICENSE NPF-57
DOCKET NO. 50-354

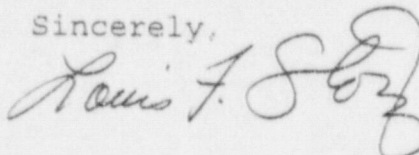
Gentlemen:

Pursuant to the provisions of 10CFR2.201, Public Service Electric and Gas Company (PSE&G) hereby submits a reply to the Notice of Violation (NOV) issued to the Hope Creek Generating Station in a letter dated November 13, 1997. The violations contained in Appendix A of the November 13th letter concerned: 1) a failure to promptly identify an inoperable electric motor-driven fire pump, as required by 10CFR50, Appendix B, Criterion XVI; 2) two examples of a failure to follow procedures, as required by Technical Specification 6.8.1.a, during maintenance activities; 3) a failure to appropriately perform a 10CFR50.59 safety evaluation for a design modification; 4) a failure to follow the requirements of 10CFR50.49 applicable to the environmental qualification of Struthers-Dunn relays; and 5) a failure to follow the requirements of 10CFR50, Appendix B, Criterion III, Design Control, when extending the service life of the safety-related Agastat and Telemechanique relays.

As discussed with NRC management on November 18, 1997, the details of this reply address the first two violations contained in the inspection report. The reply to the last three violations contained in Appendix A of the inspection report will be provided by January 12, 1998.

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

Sincerely,



Attachment (1)



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DEC 12 1997

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RESPONSE TO NOTICE OF VIOLATION
INSPECTION REPORT NO. 50-354/97-07
HOPE CREEK GENERATING STATION
DOCKET NO. 50-354

I. REPLY TO THE NOTICE OF VIOLATION

A. 10 CFR 50, Appendix B, Criterion XVI Violation

1. Description of the Notice of Violation

"10 CFR 50 Appendix B, Criterion XVI, requires in part that conditions adverse to quality, such as failures, malfunctions and deficiencies, be promptly identified and corrected.

Contrary to the above, on September 14, 1997, the electric motor-driven fire pump supply breaker opened during an electrical bus swap which rendered the pump inoperable, a condition adverse to quality. Despite several opportunities to detect this condition earlier, the inoperable fire pump was not identified and corrected until September 15, 1997, approximately 34 hours after electrical supply breaker opened."

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

2. Reply to Notice of Violation

PSE&G agrees with the violation.

3. Reason for the Violation

PSE&G has attributed the cause of the 10 CFR 50, Appendix B, Criterion XVI, violation to personnel error. During the electrical bus swap, operators failed to follow a procedure precaution, which required unloading of equipment from the bus prior to transferring infeed power. During the bus transfer, the fire pump breaker was racked in (which energized a downstream control panel); however, the pump itself was de-energized. When the electrical bus was de-energized, the undervoltage condition caused the fire pump breaker to trip, rendering the fire pump inoperable. The operators had incorrectly concluded that the fire pump breaker would not trip with the pump in the de-energized condition.

Prior to the bus transfer, fire protection personnel were notified by the operators of a temporary

interruption of power to the motor driven fire pump. When the bus was de-energized, several alarms annunciated. The alarm for the inoperable fire pump was received and acknowledged, but the operators failed to recognize that the fire pump breaker had tripped during the bus de-energization. Because of the assumption that the fire pump breaker would not trip during the bus de-energization, no follow-up was performed by either operations or fire protection personnel upon power restoration to the bus to ensure that the fire pump was appropriately energized.

Subsequently, one operations round and two fire protection rounds were conducted through the fire pump house while the fire pump was inoperable. During these rounds, the operations and fire protection personnel failed to notice that an indication light was extinguished on the fire pump panel, which would have alerted them that the fire pump was inoperable. Inattention to detail on the part of these individuals perpetuated the inoperable condition of the fire pump for the approximately 34 hour period.

4. Corrective Steps That Have Been Taken and Results Achieved

- a. Breaker 52-590-43 was reset and the electric motor-drive fire pump was retested satisfactorily on September 15, 1997.
- b. Fire protection and operations personnel involved with the failure to recognize the inoperability of the fire pump have been held accountable for their actions in accordance with PSE&G's disciplinary policy.
- c. The lessons learned from this event have been discussed with Operations and Fire Protection Department personnel.

5. Corrective Steps That Will Be Taken to Avoid Further Violations

- a. The Training Department will evaluate this event to determine if additional training is required on breaker design and performance. The evaluation on the need for training modifications will be completed by January 15, 1998.
- b. Procedure revisions will be made to provide additional guidance on breaker operation and bus power supply transfers. These revisions will be completed by February 18, 1998.

6. Date When Full Compliance Will Be Achieved

Full compliance was achieved on September 15, 1997, when the fire pump breaker was closed and the fire pump was declared operable.

B. Technical Specification 6.8.1.a Violation

1. Description of the Notice of Violation

"Hope Creek technical specification 6.8.1.a requires in part that written procedures shall be established and implemented for the applicable activities specified in Appendix A of Regulatory Guide (RG) 1.33 Revision 2. RG 1.33 requires administrative procedures be implemented which prescribe procedure adherence practices. PSE&G Nuclear Administrative Procedure NC.NA-AP.ZZ-0001 (NAP-1), specifies procedure usage requirements, including Category I (in-hand with verbatim step-by-step compliance) and Category II (available at work site and completed as applicable).

Contrary to the above, two examples of failures by maintenance technicians to implement the procedure adherence requirements of NAP-1 were identified as follows:

(1) On September 18, 1997, technicians deviated from the sequence of steps specified in a Category I maintenance procedure, HC.MD-ST-PB-0010(Q), in order to complete a 4160 VAC vital bus relay test.

(2) On October 4, 1997, technicians completed feed water system flow transmitter calibration checks and adjustments without completing the applicable sections of the governing Category II maintenance procedure, HC.IC-DC.ZZ-0030(Q)."

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

2. Reply to Notice of Violation

PSE&G agrees with the violation.

3. Reason for the Violation

PSE&G has attributed the cause of both of the examples cited in the Technical Specification 6.8.1.a violation to personnel error. During the 4160 VAC vital bus relay test, the relay technicians inappropriately implemented "skill of the craft" to compensate for unexpected conditions encountered during the testing. This failure to adhere to the Category I procedure requirements,

which does not permit "skill of the craft" to perform steps out of sequence, was the result of a lack of understanding concerning this aspect of compliance with Category I procedures.

During the feed water system flow transmitter calibration checks and adjustments, the contractor technicians did not appropriately sign off steps in applicable sections of the procedure. The calibration procedure for the feed water flow transmitter was used by the technicians as a guide and not followed step-by-step as is required. In this particular case, the calibration was performed and the procedure initials completed later. There were three other transmitter calibrations completed at the same time by the same technicians. When the procedures were filled out, all four were done the same way; however, one of the transmitters did require adjustments, which was not documented properly by the technicians when the procedure was completed. The technician's inattention to detail was the cause of the procedure non-compliance.

4. Corrective Steps That Have Been Taken and Results Achieved

- a. The relay technicians involved in the 4160 VAC vital bus relay tests were held accountable for their actions in accordance with PSE&G's disciplinary policy.
- b. The contractor technicians involved in the feed water system flow transmitter calibration checks and adjustments were terminated. The contract supervisor of those technicians was also removed from his position.
- c. Following the 4160 VAC vital bus relay test procedure non-compliance, a work stand-down was conducted for Relay Department personnel to review this event and reinforce procedure compliance requirements. Following this stand-down, Relay Department personnel have been identifying cases where "skill of the craft" use needs to be incorporated in procedure revisions.
- d. The procedure for the 4160 VAC vital bus relay tests was enhanced to address the condition where "skill of the craft" was implemented. Additional procedural guidance has also been established to address "skill of the craft" and compliance with written procedures.
- e. Following the feed water system flow transmitter calibration checks and adjustments procedure non-compliance, a work stand-down was conducted with the contract group involved with the event to review this event and reinforce procedure compliance requirements.

In addition, a field verification was performed to ensure that the appropriate procedure steps had been actually completed during the flow transmitter calibration checks and adjustments.

- f. A review of selected work packages completed by the contract group performing the feed water system flow transmitter calibrations was conducted and only one other similar case of an inadequately filled out procedure was identified. However, the cause of this issue was attributed to an ambiguously worded procedure step and not technician inattention to detail as in the violation example. A field verification was also performed to ensure that the appropriate procedure steps had been actually completed in this case as well.

5. Corrective Steps That Will Be Taken to Avoid Further Violations

No additional corrective actions are planned.

6. Date When Full Compliance Will Be Achieved

Hope Creek is in full compliance. The two examples of procedure non-compliance were determined to have no adverse impact on equipment operability. Corrective actions have been implemented to address the cause of the procedure non-compliance.