Public Service
Electric and Gas
Company

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NLR-N89116

United States Nuclear Regulatory Commission
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Gentlemen:

RESPONSE TO NOTICE OF VIOLATION
NRC COMBINED INSPECTION REPORT
NO. 50-272/89-01 AND 50-311/89-01
SALEM GENERATING STATION
UNITS NOS. 1 AND 2
DOCKET NOS. 50-272 AND 50-311

Public Service Electric and Gas Company (PSE&G) has received the subject inspection report dated March 31, 1989, which included a Notice of Violation concerning failure to implement procedures and concerning inadequate corrective actions for recurrent nonconformances relating to material classification and mixed storage. Pursuant to the requirements of 10 CFR 2.201, our response to this Notice of Violation is provided in the attachment to this letter.

Should you have any questions in regards to this transmittal, do not hesitate to call.

Sincerely,

S. E. Miltenberger

Attachment

IE01

C Mr. J. C. Stone
Licensing Project Manager

Ms. K. Halvey Gibson
Senior Resident Inspector

Mr. W. T. Russell, Administrator
Region I

Mr. Kent Tosch, Chief
New Jersey Department of Environmental Protection
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ATTACHMENT

NLR-N89116

PUBLIC SERVICE ELECTRIC AND GAS COMPANY
SALEM GENERATING STATION
UNITS NOS. 1 AND 2
RESPONSE TO NOTICE OF VIOLATION

Public Service Electric and Gas Company (PSE&G) has reviewed the Inspection Report dated March 31, 1989, containing the Notice of Violation. The subject violations and PSE&G's respective responses are provided below.

VIOLATION A

Technical Specification 6.8.1 requires that procedures be established implemented and maintained for surveillance and test activities of safety related equipment.

Contrary to the above, surveillance procedures were not properly implemented as follows:

1. On February 6, 1989, a licensed reactor operator failed to switch steam generator water level control to the alternate protection channel as required by procedure SP(O)2.6.060, "No 14 Steam Generator Pressure Channel Functional Test"; which subsequently resulted in a reactor trip from full power for Unit 1.

2. On February 7, 1989, a licensed reactor operator failed to defeat the second level undervoltage protective relay for the C vital bus as required by procedure SP(O)4.3.1.1.1, "Reactor Coolant Pump Breaker Status Indication"; which resulted in an emergency diesel generator start and sequencing of blackout loads on the C vital bus.

3. On February 18, 1989, an instrument and controls technician failed to verify the proper status of reactor protection system panel lights for turbine stop valves and turbine low oil pressure as required by procedure 1IC-2.6.025 "1PT-506 First Stage Turbine Impulse Pressure"; which resulted in a reactor trip at low power for Unit 1.

RESPONSE

PSE&G DOES NOT CONTEST THE VIOLATION

PSE&G fully understands the seriousness and significance of these events. PSE&G recognizes it's responsibility in assuring that human errors are maintained at a minimum and does not contest the violation.

PSE&G considers procedure compliance and attention to detail as high priority items. In practice, PSE&G considers minimizing and reducing human error essential in it's efforts to attain improved operating performance. To date PSE&G has taken significant actions to prevent and deter human errors. These actions include:

Labeling and color coding the specific components and areas of the plant to visually enhance which unit personnel are working in.

Color coding the procedures and tagging paperwork to ensure use and application to the proper unit.

Computerizing the Operations tagging system (TRIS) to significantly reduce the tagging workload on the control room operators and thereby reducing distractions. TRIS also provides for standard tagging which eliminates human errors made in generating tagging requests for repetitive work.

Use of letters from the General Manager - Salem Operations to station personnel for specific operational concerns. Recent examples include attention to detail and mid-loop operations concerns.

Detailed operator training, including the use of the simulator and/or the use of video equipment, in areas such as: Team training, conduct of operations, job performance and attention to detail training.

Use of the simulator for training on specific plant changes and for start-up training prior to restart after shutdowns.

Transferring most of the station procedures to the Technical Department to allow for better technical review and support.

Performance of HPES evaluations on selected incidents.

Developing Job Performance Measures (JPMs) to allow for better training of personnel in the areas they need to know on the job.

Revising OD-15, Use of Operations Department Procedures, to provide greater detail on the use and application of procedures.

Controlling access to the Control Room Area to minimize distractions to the operators. This includes setting up the Work Control Center to interface on component and system tagging to reduce the distraction and work load on the operators.

Use of second verifications, signature sign-offs, supervisory reviews and verification reviews to minimize the chance of errors going undetected.

PSE&G's actions to minimize and reduce human error are still ongoing with the Control Room Design Review modifications, being made over the present and next two refueling outages, leading the way.

ROOT CAUSE

The root cause of these events has been attributed to personnel error of separate individuals in each occurrence.

PSE&G has conducted an investigation to determine if other factors contributed to the events. Interviews with the individuals and subsequent root cause determination investigations have not revealed any pertinent conditions that could have contributed to the event. Overtime was determined not to be a factor in any of the events nor did any of the individuals feel that they were distracted by other activities. Therefore, the only pertinent outside contributor to the events was the actual surveillances, which cause the personnel to operate components in higher risk situations than normal operations. PSE&G is developing a License Change Request to reduce the frequency of Reactor Trip Protection and Engineered Safeguards Features Actuations System surveillances, based on generic Westinghouse methodology. This along with other "Trip Reduction" type Amendments should help reduce operation in higher risk situations.

CORRECTIVE ACTIONS TAKEN AND RESULTS ACHIEVED

In regards to the specific items of concern stated in the Notice of Violation, PSE&G has taking the following corrective actions:

Management has ensured that each individual has been held accountable for their actions in these events.

The Operations Department Management has reviewed the events of February 6th and 7th with the appropriate Operations Department personnel.

The Unit 1 procedures associated with the turbine impulse pressure transmitter channel have been revised to indicate that a reactor trip will occur if the respective procedure is performed with the turbine unlatched.

CORRECTIVE STEPS TAKEN TO PREVENT RECURRENCE

The event of February 18, 1989 will be reviewed with all Maintenance Department personnel to stress procedure compliance by May 30, 1989.

The Technical Department Procedure Upgrade Project has been tasked with addressing high-risk procedures/steps. The project will identify the high-risk procedures/steps to alert technicians and operators of a potential for plant trips during the performance of the appropriate procedures.

Installation of DCR 1EC-2193 will replace the Reactor Trip/Turbine Trip with the P-9 function. This DCR will eliminate the possibility of tripping the reactor from repeating this occurrence. This DCR will be completed during the current Unit 1, 8th Refueling Outage and is scheduled for completion by May 30, 1989. The Technical Specification Amendment (a "Trip Reduction" Amendment) had been approved prior to the event; however, the design change could only be performed during an outage. The design change was installed in Unit 2 during the last Refueling Outage.

PSE&G is continuing to investigate appropriate "Trip Reduction" Technical Specification Amendment and/or Design Modification changes.

PSE&G is developing a detailed training video to educate all personnel in proper attention to detail practices.

PSE&G management is continuing in its efforts to improve job performance work standards and procedure usage.

VIOLATION B

The Code of Federal Regulations 10 CFR 50 Appendix b, Section XVI, requires, in part, that measures shall be established to assure that the causes of significant conditions adverse to quality (nonconformances) be determined and that corrective action be taken to preclude repetition.

Contrary to the above, licensee corrective actions for recurrent nonconformances relating to material classification and mixed storage discrepancies have not effectively precluded repetition of previous nonconformances as evidenced by the following findings:

1. On or about April 1, 1987, a Corrective Action Request, MC-87-C001 was issued for nonconformances in the area of material control;

2. On or about June 6, 1988 a Quality Action Request, SP-88-Q001 was issued for failure to correct material identification and control deficiencies identified in February 1988;

3. On or about July 7, 1988 and again on or about November 30, 1988 material in the Salem Warehouse was found to be incorrectly identified;

4. On or about August 1988 a Management Action Request, MA-88-M001 was issued in part for continuing nonconformances in the areas of material identification and control; and

5. On or about October 31, 1988 a Quality Action Request, MR-88-Q005 was issued for continuing nonconformances in the areas of material identification and control.

RESPONSE

PSE&G DOES NOT CONTEST THE VIOLATION

DISCUSSION

The subject violation is apparently based on the failure of PSE&G to correct or prevent recurrence of self-identified material control nonconformances over a 3 year period. The majority of the problem reports of concern stem from two major areas: shelf life and inconsistent classification of materials in the same bin. As a result of the Self Identified discrepancies, stated in the Violation, the NRC has concluded that management decisions have been made not to attempt to identify similar occurrences of the identified problems, not to physically segregate material, and not to establish any compensatory formal controls to prevent questionable material issuance.

Presently approximately 1400 Problem Reports, identifying possible deficiencies, have been identified. To date these problem reports have not been dispositioned in an expeditious manner. Until this backlog is eliminated, the identified material discrepancies shall exist.

BACKGROUND

Inconsistent Classification of Material In the Same Bin

Approximately 3 years ago, PSE&G revised its procedures for performing material classification reviews to incorporate the upgraded regulatory and industry procurement standards. As the material that was presently in storage was purchased under the required standards in effect at that time, PSE&G believed these material classifications to be satisfactory. Since the revised procedure was an enhancement of the existing material classification process (which was in compliance), it was believed that the prior material would not impact safety or quality and that no formal review of previous procured material was necessary. Consequently, a management decision was made to perform the revised classification reviews by the material reorder method.

As an enhancement to the material control process, it was intended to use the Problem Report process to identify and ensure prompt disposition of material in which the previous procurement classification differed from the current procurement classification. Thus all material in stock was assigned a unique code to identify that it had been procured prior to implementation of the revised classification review procedures. When the classification of material procured under the new procedures differs from the classification of the uniquely coded in stock material, a Problem Report is initiated and the previous classified material tagged to prevent issuance. The Problem Report material was maintained in the same bin as the material that was allowed to be issued. However, Procurement and Material Control Procedures instruct the material handling personnel not to issue Problem Report material.

To date, approximately 400 Problem Reports associated with inconsistent classifications have been identified as a result of implementing the aforementioned program.

Shelf Life Program Discrepancies

In 1988 the Shelf Life Program was modified. This resulted in new shelf life limited material, as well as removing some materials from their shelf life limitations. Certain other materials had shelf lives that had changed under the new (modified) program. To ensure that all shelf life discrepancies were identified, various walkdowns of the existing stock materials were performed. The Problem Report process was used as the appropriate mechanism for identifying and resolving these discrepancies. This effort has resulted in approximately 1000 Problem Reports.

As stated previously the Problem Report material is allowed to remain in the bin; however, the material handling personnel are prohibited from issuing the material until the Problem Report is dispositioned. Additionally, Procurement and Material Control Procedure M11-P-301 requires that material be reviewed prior to issuance to insure that it has not exceeded its assigned shelf life. Furthermore, if material has exceeded its assigned shelf life it cannot be issued and must be tagged and controlled in accordance with Procedure M11-P-300.

Control of the Problem Reporting Process

Problem Reports are utilized as a tool for identifying and controlling potential material discrepancies. A majority of the Problem Reports written, have been associated with material tagging differences related to mixed classifications or shelf life discrepancies. Administrative controls are in place to physically identify, tag and preclude issuance of material with potential discrepancies until proper Engineering and Quality

Assurance (QA) reviews have been completed. Procurement and Material Control Procedure M11-P-300 provides the material handling personnel with instructions on how to identify and preclude issuance of potential problem material.

A 1986 QA audit identified programmatic problems related to material shelf life. A Corrective Action Request (CAR) was issued for resolution of the problems. Subsequently, QA follow-up activities revealed that programmatic shelf life problems continued and the CAR was escalated to a Management Action Request (MAR). This time the QA follow-up resulted in a positive finding, based on adequate control of the shelf life program and the use of the Problem Report program. Thus, the MAR was closed.

Two of the Action Requests (SA-88-C016-0 and MA-88-M001-0) referenced by the Inspector were issued as a result of identification and traceability problems. Detailed responses to these items were generated, with one item closed and continuing follow-up on the other. Neither of these Action Requests were related to shelf life and mixed classification.

The remainder of the Surveillance Reports and Action Requests, presented to the Inspector, were written in conjunction with planned QA Program Surveillances. The Action Requests were issued to properly document shelf life and mixed classification conditions found by the QA Engineer. In each case isolated occurrences were identified which were not considered programmatic in nature. PSE&G will continue to perform audits and surveillances of these activities to ensure effective implementation of the Problem Reporting System.

ROOT CAUSE

The root cause has been attributed to inadequate management attention that resulted in untimely resolution of Problem Reports which allowed an unacceptable backlog to develop.

As stated earlier the use of the Problem Report to identify classification differences was meant as an enhancement, to further assure that all possible material discrepancies were identified. It was intended that any potential material problems identified within this process would be resolved in a timely manner. In reality the volume of problems identified could not be handled expediently within the staffing level. The addition of the Problem Reports pertaining to shelf life put an additional burden on the working staff. Based on the fact that administrative controls were in place to preclude issuance of potentially deficient material, and knowing that previous material classifications were performed to the regulatory requirements in effect at time of purchase, the problem was not determined to be a high priority item. Thus, a management decision was made to disposition Problem Reports consistent with the Station material needs. Consequently, the Problem Reports were not resolved in a timely manner and a backlog of Problem Reports accumulated.

IMMEDIATE CORRECTIVE ACTIONS

The PSE&G Procurement Engineering Group has added additional temporary staff personnel to disposition and thus eliminate the backlog of Problem Reports. The elimination of Problem Reports relative to shelf life and mixed classification will be completed by September 1, 1989.

In conjunction with the backlog elimination effort, the Procurement and Material Control Department will perform an initial walkdown of open Problem Reports to assure that material is properly tagged and that checks are performed to assure that tagged material is not issued. Additional walkdowns will be performed as necessary to ensure administrative controls are being followed.

The permanent staffing level of the Procurement Engineering Group has been significantly increased as a result of a 12 month analysis of the work load and resource allocation of the Procurement Engineering Organization. This staffing level will insure that adequate resources will be available to disposition Problem Reports in an efficient manner.

CORRECTIVE ACTIONS TO PREVENT RECURRENCE

Currently, PSE&G has two projects underway which will consolidate identical inventory items and process unreviewed, open requisitions. This will significantly reduce the number of remaining inventory items requiring classification review. These projects are scheduled for completion by December, 1989. PSE&G will scope the remaining inventory (requiring classification review) and develop a project plan and schedule for completing the classification review of the remaining inventory as a dedicated project in lieu of using the current reorder method.

As mentioned earlier, PSE&G has recently increased the permanent staff in the Procurement Engineering Group. This staffing level will insure that processing of Procurement Documents and Problem Reports can be maintained within targeted processing performance indicators.

Process performance indicators will be developed and reviewed by management to insure that unsatisfactory performance trends will be readily identified. Thereby insuring that remedial action can be implemented to preclude recurrence of the issues cited herein.