

Richard A. Uderitz
Vice President -
Nuclear

Public Service Electric and Gas Company P.O. Box 236, Hancocks Bridge, NJ 08038 609 339-4800

January 16, 1985

Regional Administrator, Region 1
U.S. Nuclear Regulatory Commission
631 Park Avenue
King of Prussia, PA 19406

Attention: Mr. Richard W. Starostecki, Director
Division of Project and Resident Programs

Gentlemen:

SUPPLEMENTAL RESPONSE
NRC COMBINED INSPECTION 50-272/84-32, 50-311/84-32
SALEM GENERATING STATION
NO. 1 AND 2 UNITS
DOCKET NOS. 50-272 AND 50-311

Your letter of December 17, 1984 raised serious concerns relating to our response to violations documented in your letter of October 11, 1984 and, more generally, to management's ability to demand and achieve satisfactory corrective actions. We fully acknowledge the seriousness of your concerns and of our responsibility to address the matters properly and decisively.

This response is structured to address each of these concerns separately with part A responding to your request for supplemental information regarding the violation and part B responding to your concerns regarding corrective actions.

Part A - Supplemental Response to Violation

The original violation response inappropriately addressed the issue of whether the surveillance was satisfactory and whether a work order should have been issued. That response stated that no work order was necessary based upon our

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belief that the surveillance was satisfactory. However, work orders should be written for malfunctioning equipment and this has been our station policy. To reaffirm this policy, the General Manager - Salem Operations has met with station management and key supervisory personnel. During this meeting he stressed the importance of this policy and the role of work orders as a key element in the station's corrective action program. A follow-up letter from the General Manager - Salem Operations reiterating this message was sent to all station employees.

To thoroughly respond to the original violation, the following amplification is provided. This amplification is structured to provide an assessment of the safety and operational significance of the violation, a brief history of these pilot valves, and the corrective actions taken or in progress to satisfactorily address this issue.

An evaluation was conducted. However, the details of this evaluation were not documented. The pertinent facts associated with this evaluation are as follows:

1. The manual intervention to achieve a successful opening of the turbine stop valves does not have any safety significance.

The pilot valve is only used to allow the bypass valve to open which allows the turbine stop valves to open. The closure of the turbine stop valves is required to protect against turbine overspeed. This evolution is independent of the pilot valve operation.

The pilot valve did contribute to the trip of April 24, 1984, which you referenced. However, we determined during our investigation that the root cause of this was a procedural inadequacy. In particular, if the stop valves are not open when rolling the turbine and the governor demand signal is not minimum, any failure of the pilot valve, the bypass valve or stop valve could cause this same trip sequence if this failure initially prevented the stop valve from opening. The corrective action taken to rectify this situation thereby eliminating the potential for a trip from any of these postulated failures was to modify the procedure to require that all stop valves are open before governor demand signal is increased and the turbine run-up initiated.

2. These pilot valves have malfunctioned in the past with work orders prepared and various actions taken to correct the malfunction. These actions have included: the replacement of these valves, a review of the malfunctions with the vendor (it was discovered during this process, that these malfunctions are not unique to Salem), and conducting a design review to determine what design modifications might be made and still retain the manufacturer's objectives of a purely mechanical activated system.

Although these actions applied to date have not been effective in the long term, an alternate method of manual intervention has permitted continued safe operation.

3. The following corrective actions have been taken or are in progress:
 - a) The importance of documenting the malfunction of equipment has been communicated to all station personnel.
 - b) The pilot valves on Unit 1 were replaced prior to its return to service. The Unit 2 pilot valves were replaced in June 1983. Pending material availability, these valves will be repaired or replaced. If material availability does not permit repair or replacement, they will all be inspected, adjusted and tested prior to restart.
 - c) We are currently documenting and expanding the previous assessments to cover the operational impacts of pilot valve malfunctions with manual intervention.
 - d) We are also actively working with the vendor to determine if any options exist which satisfy the vendor requirements and achieve a long term solution.
 - e) A procedural change will be prepared to authorize manual assistance in operating these pilot valves pending implementation of a permanent corrective action.

In conclusion, we do not agree with your assessment that the actions associated with this violation indicate an overall policy or attitude by PSE&G management to accept "substandard operation".

Part B - Management Attention to Corrective Action

Management at PSE&G is not and has never been willing to accept substandard performance, informal operating procedures or operation with problems that affect the safe and reliable operation of the Salem Units. We therefore treat very seriously the concerns you have raised. To this end we have reviewed the record and circumstances associated with each of the examples you have identified in your December 17, 1984 letter. Additional background information, provided below, places these examples in their proper perspective.

In response to your July 20, 1983 Notice of Violation regarding control of changes in valve lineup lists, our response dated August 26, 1983 identified the root cause as personnel oversight in not having the valves added to a lineup. The appropriate corrective action was to provide an internal software subroutine in the Tagging Request and Inquiry System (TRIS) to ensure that all valves in the data base were assigned to a lineup and to periodically exercise this subroutine. We believe that this action will preclude recurrence of this type of incident.

The supplemental response was submitted to clarify the functions of the TRIS system and to explain our method of control for these types of changes. There were no additional root causes identified in this response.

The fact that several additional corrective actions were explained in the second response resulted from our concerted effort to increase the quality and documentation of the TRIS system. These improvements to the TRIS system were made during the time between the two responses and allowed additional information to be conveyed regarding the TRIS system and its associated procedures.

As you are well aware, the implementation of TRIS has significantly reduced the frequency of valve and tag problems.

In response to your letter of October 31, 1983 regarding AC electrical bus train requirements while in cold shutdown, we replied with the appropriate corrective action. The root cause was properly identified as a failure to establish

containment integrity or to have a contingency plan available to ensure compliance with the action statements. The corrective actions proposed were intended to preclude the same type of incident from recurring, and established a policy whereby unplanned entry into the action statement would initiate immediate required actions.

Shortly after transmitting this response, another incident occurred whereby we failed to establish containment integrity. However, this incident was caused by a different chain of events. We were advised by the resident inspector that we could include this incident in a supplemental response to the original violation concerning the other two instances. The corrective action instituted as a result of the third incident prohibits planned removal from service of more than one electrical train during modes 5 or 6.

While each of the above instances resulted in an additional response to a violation, an evaluation of the circumstances associated with each does not lead to the conclusion that a breakdown in the process has occurred.

Your letter of November 18, 1983, identified two changes in operational mode without having established proper containment integrity. We agree that the root cause as stated in the cover letter was not responded to nor previously identified by PSE&G management. The referenced commitment to provide a supplemental response addressing the original human factor concerns of the off-normal listing was made verbally. This verbal commitment was unanswered due to the fact that the verbal commitment was not documented. To preclude this from recurring, we are implementing a procedure (VPN-LEP-03, Commitment Management) to provide for documentation of verbal commitments.

PSE&G has initiated several permanent corrective actions that relate to this commitment regarding the human factors aspect of the off-normal components listing:

1. An extensive audit of the off-normal list was performed and the size of the printout was reduced, in part due to removal of components which were not required on the listing.
2. The printout has been divided into two parts to preclude confusion. Part one denotes components which are tagged in the off-normal position, and part two identifies components which are in off-normal positions and are not tagged out of service.

our letters of October 26, 1983 and March 26, 1984, addressed our failure to properly review and document changes to operating practices and procedures. These issues and our corrective actions were discussed with you and other C Staff at the July 17, 1984 meeting.

Consistent with PSE&G's desire to achieve excellence in our operations we have instituted several broad scope programs that are structured to improve our nuclear operations, including corrective actions. These are programs with significant resource requirements and, as such, take time to develop, implement and to produce results. Despite the fact that these programs are in their early stages, we have begun to see positive results from these and other management efforts, many of which we have previously discussed with you. We are committed to bring these programs to maturity in the shortest possible time.

While positive results have been seen, the ultimate goal has not been achieved and will not be achieved until satisfactory progress has been made toward addressing recurring problems and deficiencies and improving the material condition of the plant.

Significant progress toward this goal will occur when the programs that are under development or in the initial phase of implementation mature. The key programs in this category are:

1. **The Managed Maintenance Program** - This program is intended to provide management with a clear picture of areas where maintenance or design deficiencies exist.
2. **The Goals and Objective Process Combined with the Performance Indicators System** - This process is structured to communicate my desired direction of the Nuclear Department and to provide the various levels of management with the reports and trends necessary for them to evaluate their progress toward these goals.
3. **The Commitment Management System** - This system is structured to provide management with timely information on the status of open items or commitments that have been generated in response to the NRC or others. The reports generated by this system will assure the timely close out of these issues or the escalation of the visibility of the issue to assure appropriate management action is taken to satisfy the issue.

4. **Responses to violations** - The preparation of responses will include early involvement of appropriate support organizations (Engineering, Licensing, etc.) and management attention to their preparation and review. This activity and the final product will receive my personal attention.

I believe these and other programs being implemented will provide positive corrective action results in the long run. I am concerned, however, with the interim and therefore have directed a review be made of our current activities to determine what other actions must be taken to enhance existing performance.

This review of our current activities will be concluded by the latter part of February and I propose to meet with you at your convenience to discuss the results.

Sincerely,



C Mr. Donald C. Fischer
Licensing Project Manager

Mr. James Linville
Senior Project Inspector