Public Service Electric and Gas Company

Stanley LaBruna

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Vice President - Nuclear Operations

APR 1 5 1992

NLR-N92048

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

Gentlemen:

RESPONSE TO NOTICE OF VIOLATION INSPECTION REPORT NO. 50-311/91-81 SALEM UNIT 2 TURBINE GENERATOR OVERSPEED SALEM GENERATING STATION UNIT NO. 2 DOCKET NO. 50-311

Public Service Electric and Gas (PSE&G) hereby transmits its response to the Notice of Violation as described in your transmittal letter dated March 17, 1992.

As stated in your letter, PSE&G has already advised the Commission of its proposed corrective actions during the February 4th Enforcement Conference, and in our letter dated February 10th, 1992. (Ref: NLR-N92015)

Attachment 1 to this letter contains the NRC's Notice of Violation as described in Appendix A of the March 17, 1992 letter, and PSE&G's response to the Notice of Violation. Additionally, an updated status of the corrective actions as described in NLR-N92015 Attachment 1 items A, B and C, is provided.

Should you have any questions in regard to this letter, do not hesitate to call.

Sincerely, Milliuma



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APR 1 5 1992

Mr. T. T. Martin, Administrator - Region I U. S. Nuclear Regulatory Commission 475 Allendale Road King of Prussia, PA 19406

Mr. J. C. Stone, Licensing Project Manager - Salem U. S. Nuclear Regulatory Commission One White Flint North 11555 Rockville Pike Rockville, MD 20852

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Mr. T. P. Johnson (S09) USNRC Senior Resident Inspector

Mr. K. Tosch, Chief NJ Department of Environmental Protection Division of Environmental Quality Bureau of Nuclear Engineering CN 415 Trenton, NJ 08625



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REF: NLR-N92048

STATE OF NEW JERSEY

COUNTY OF SALEM

S. LaBruna, being duly sworn according to law deposes and says:

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I am Vice President - Nuclear Operations of Public Service Electric and Gas Company, and as such, I find the matters set forth in our letter dated, APR 15 1992 , concerning the Salem Generating Station, Unit No. 2, are true to the best of my knowledge, information and belief.

The Dun

Subscribed and Sworn to before me this 15th day of <u>April</u> , 1992 Notary Public of New Jersey

KIMBERLY A. HILL NOTARY PUBLIC OF NEW JERSEY My Commission Expires March 9, 1997

My Commission expires

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ATTACHMENT 1

During an NRC Augmented Inspection Team (AIT) inspection conducted on November 10 through December 3, 1991, violations of NRC requirements were identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," 10 CFR Part 2, Appendix C (1991), the violations are set forth below:

Technical Specification 6.8.1 requires that written procedures be established, implemented, and maintained covering the activities referenced in the applicable procedures recommended in Appendix A of Regulatory Guide 1.33, Revision 2, February 1978.

Regulatory Guide 1.33, Appendix A, Section 2, specifies General Plant Operating Procedures for operations activities, including Hot Standby to Minimum Load (nuclear plant startup) and Turbine Startup and Synchronization of the Generator. Regulatory Guide 1.33, Appendix A, Section 1, specifies Administrative Procedures describing requirements for Procedure Adherence.

Step 5.33 of Integrated Procedure IOP-3, Revision 8, "Hot Standby to Minimum Load," written to satisfy the requirements of Regulatory Guide 1.33, Appendix A, directed operators to "...PLACE turbine on the line IAW [in accordance with] OP III-1.3.1, Turbine Generator Operation" relative to startup of the turbine-generator system. Step 5.1.13 of OP III-1.3.1 directed operators to test the turbine Overspeed Protection Control (OPC) circuit by observing that the Interceptor Valves close rapidly when the OPC key switch is turned to the TEST position; and that the valves reopen when the OPC key test switch is returned to the IN SERVICE position.

Nuclear Administrative Procedure NC.NA-AP.ZZ-0005(Q), "Station Operating Practices," Section 5.7.4, written to satisfy the requirements of Regulatory Guide 1.33, Appendix A, requires written procedures to be followed exactly as written, in order specified, without deviation except as described in NC.NA-AP.ZZ-0001(Q), "Nuclear Department Procedure System."

Contrary to the above, during a Unit 2 reactor plant and turbine startup on October 20, 1991, IOP-3 and OP III-1.3.1 were not completely implemented (followed) as written relative to the startup activities. Specifically, two licensed Nuclear Plant Operators each conducted the OPC test as described by step 5.1.13 of OP III-1.3.1, but observed that the Interceptor Valves did not close as expected. Although this matter was further discussed with three other senior licensed individuals (i.e., The Unit 2 Shift Supervisor, The Senior Shift Supervisor, and the Operating Engineer), none of these licensed individuals effected, directed or caused the procedure to be followed exactly as written in that reactor plant and turbine-generator startup operations were continued without the test discrepancy being resolved.

Regulatory Guide 1.33, Appendix A, specifies Administrative Procedures for administrative activities involving Temporary Change Methods and Procedure Review and Approval.

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Nuclear Administrative Procedure NC.NA-AP.ZZ-0005(Q), Section 5.7.4, indicates that if a procedure cannot be performed as written, the activity should be stopped and supervisory personnel consulted. Further, NC.NA-AP.ZZ-0005(Q) directs that changes to a written procedure be performed in accordance with NC.NA-AP.ZZ-0032(Q), "Preparation, Review and Approval of Procedures." NC.NA-AP.ZZ-0032(Q) Section 5.1.1, requires, in part, that a user organization request revision of an existing procedure when problems are encountered in using the procedure.

Contrary to the above, during a Unit 2 reactor plant and turbine-generator startup on October 20, 1991, licensed operators failed to establish and implement changes to IOP-3, "Hot Standby to Minimum Load," and the procedure it referenced, OP III-1.3.1, "Turbine Generator Operation," to effect completion of the turbine-generator startup activities as originally written and approved. Specifically, although licensed operations personnel did not complete step 5.1.13 of OP III-1.3.1 as written, the individuals did not request an approved revision to the procedure in accordance with the requirements of NC.NA-AP.ZZ-0032(Q).

PSE&G DOES NOT DISPUTE THE VIOLATION

ROOT CAUSE

The root cause of this event has been attributed to personnel error, in that insufficient supervisory oversight and lack of attention to detail resulted in personnel failing to follow established standards of procedural compliance.

On the evening of October 20, 1991, a turbine generator startup was in progress on Unit 2, following a two day shut down for steam generator secondary side chemistry cleanup. In accordance with Integrated Operating Procedure No. 3 (IOP-3), the turbine is put on line utilizing Operating Procedure III-1.3.1 (OP III-1.3.1) "Turbine Generator Normal Operation." Step 5.1.13 of the Operating Procedure requires the functional testing of the Overspeed Protection Controller (OPC) actuation circuitry by inserting a key into the OPC keyswitch, and turning it to the TEST position. The test was performed twice, once by each control room operator, and each time the expected indication was not received. A discussion of the test results ensued between the control room operators and the Nuclear Shift Supervisor (NSS), with later participation by the Operating Engineer, and subsequently, the Senior Nuclear Shift Supervisor (SNSS).

Less than adequate communications concerning the test results and the test procedure, coupled with insufficient supervisory oversight, lack of attention to detail, and procedural compliance, resulted in all control room personnel involved misunderstanding that the test had been performed properly and Since no licensed personnel, involved in the had failed. discussion, understood the OPC function to be inoperable, the test was not performed again and the turbine start-up continued. Neither the Senior Nuclear Shift Supervisor nor the Operating Engineering understood that the OPC test had actually been Turbine roll-up and subsequent synchronization were performed. uneventful. A review of the control room narrative log (OD-21) revealed no entries documenting the test failure or the subsequent decision to continue with the turbine startup without rectifying the apparent failure.

CORRECTIVE ACTIONS TAKEN

Operations management reviewed this incident with the individuals involved and appropriate disciplinary actions were taken. This included development of personal corrective action plans, as well as shift supervision developing and presenting training topics to cover lessons learned from the event. Topics covered include: procedural compliance, attention to detail, communications, and the role and responsibility of the Operations Manager and Operating Engineers in the control room. An Information Directive #91-052, entitled "Conduct of Operations", was issued to all Operations Department personnel stressing that strict procedural compliance is the only allowed behavior within the Operations Department.

A Night Order Book entry was made and discussed, on November 22, 1991, stressing the importance of the requirements for proper and thorough log keeping.

The Operations Manager conducted one-on-one meetings with all Senior Nuclear Shift Supervisors (SNSS) to discuss their role and responsibilities and to re-emphasize management expectations.

The Operations Manager has directed the simulator training staff to reinforce Operations Management policy on procedure compliance and communications, and to ensure that these expectations are upheld at all times during simulator training. Operations management observes and evaluates the performance of the licensed operators during their simulator training sessions, every two weeks. In addition, INPO style Team Training will be conducted during the 1992 requalification training cycle.

The Vice President - Nuclear Operation and the General Manager -Salem Operations met with each operating shift during the first week of December. During these meetings, both team and individual performance were stressed. The October 20th startup was also reviewed with specific discussions of the failed barriers, procedural compliance, lessons learned, positive disciplinary actions taken as a result of the event, and refocusing the organization on future expectations and capabilities. Additionally, the role and responsibility of the operations management personnel in the control room during plant startup, along with their position in the chain of command, was reviewed.

The Vice President - Nuclear Operation and the General Manager -Salem Operations will hold quarterly meetings, through the remainder of 1992, with all operating shift and maintenance personnel. These meetings will provide an open forum of communication to discuss operating issues and management expectations. The first of these meetings was held on February 1992, with all maintenance personnel.

Concurrent with the turbine testing procedure review and upgrade as a result of the November 9 Turbine Generator event, the procedures used during the October 20 startup (which contributed to the apparent confusion on the test), will be reviewed and upgraded by the Procedure Upgrade Project (PUP) prior to the Units restart from their scheduled refueling outages.



The operation of the EHC/Auto Stop Oil system and the role that the OPC plays in turbine generator overspeed protection has been re-emphasized with all shift licensed personnel during the current annual requalification training cycle.

A thorough review of the various documents describing the "Conduct of Operations" for the NSS is being incorporated into the annual requalification training program. Some of these documents include: Standing Night Orders, Operations Directive-19, NC.NA-AP.ZZ-0005(Q), proper log taking in accordance with operating directives, and The Salem Work Standards Handbook. These topics are being incorporated into the requalification training.

INPO Good Practice (OE-906), Personnel Awareness of the Frequent Causes of Human Performance Problems, is being conducted. Two new lessons (Resource Management, and Managerial Methods), which had already been developed, have been added to the original 11 lessons of OE-906. Additionally, Enhanced Supervisory Methods (one of the original 11 lessons) has been upgraded to improve the Worker/Supervisor interface. These new lessons are being rolled down to all station employees.

Lessons learned from this event, as well as the SERT recommendations, have been reviewed by Hope Creek for technical design applicability and an understanding of the event root cause.

A Human Performance Evaluation (HPES) has been completed. A preliminary report has been issued and any additional HPES corrective actions will be evaluated for implementation as appropriate.

The Operations Manager is conducting half day discussions with all operating personnel regarding the practical and philosophical aspects of procedural compliance and the mechanisms available to change procedures.

CORRECTIVE ACTIONS TAKEN TO PREVENT RECURRENCE

PSE&G believes that this event was an isolated case of personnel error by multiple levels of licensed personnel as a result of insufficient supervisory oversight and lack of attention to detail resulting in personnel failing to follow established standards of procedural compliance.

As stated in your transmittal letter; the extent and thoroughness of the corrective actions described above in addition to the high standards of performance placed upon operating personnel, which has resulted in a significant reduction in the number of personnel errors and improvements in control room personnel performance, further supports PSE&G's belief in the isolated nature of this event.

PSE&G is in full compliance of NRC regulations.

The following documents PSE&G's corrective actions taken in regard to the apparent NRC's concern with the commitment tracking system. As stated in your letter dated March 17, 1991, these corrective actions were discussed during the Enforcement Conference of February 4, 1992. Additionally, some of these corrective actions were docketed on February 10, 1992 (Ref: NLR-N92015, Attachment 1 NRC statement C).

CORRECTIVE ACTIONS TAKEN

The Quality Assurance Department performed an independent verification that commitments (docketed in the last two years) were properly entered in ATS.

A new Nuclear Administrative Procedure (NC.NA-AP.ZZ-0030(Q), Commitment Management) has been approved and issued. This procedure provides clear guidance on the tracking of regulatory commitments and will not allow a commitment to be closed until the commitment (work) has been fully implemented. For example; the Action Tracking System (ATS) item regarding the Unit 2 solenoids replacement would not have been closed on the work order initiation, but rather closure would only be allowed upon task completion.

Previous LERs (1990 to 1991) were reviewed for other forced outage commitments. Specifically, the LERs were reviewed for any commitment activity which contained the words "forced outage" or "outage of sufficient duration." No other forced outage commitments were identified.

NC.NA-AP.ZZ-0055(Q), Outage Management Program, is being revised to require a multi-disciplinary review of outage priority work to be deferred. The approval level required for deferred work will be commensurate with the work items outage priority classification. In all cases, outage work items which are commitment items will receive General Manager review and approval prior to deferral. This procedure will be approved by April 30, 1992.

Procedure SC.OM-AP.ZZ-0001(Q) Rev. 0, Outage Scheduling, which was approved on December 6, 1991, provides clear and concise guidance to the outage schedulers on how to schedule regulatory commitments.



Due to the miscommunications between departments, Outage planning and System Engineers, the General Manager - Salem Operations issued a letter to all management employees stressing the need for clear and concise communications.

The Licensing and Regulation Department is presently performing a review of ATS items which have been closed in the last two years. The scope of this review is to ensure that if (and when) commitments were closed based on future actions, the actions were completed to satisfy the commitment.

The Salem Station Quality Assurance is presently performing a review of LER commitments that have been closed in the last two years. The scope of this review is to ensure that if (and when) commitments were closed based on future actions, the actions were completed to satisfy the commitment.

