



PECO ENERGY

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July 25, 1994

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

Docket No. 50-277
50-278
License Nos. DPR-44
DPR-56

Subject: Peach Bottom Atomic Power Station Units 2 & 3
Response to Notice of Violation (Combined Inspection Report No. 50-
277/94-06 & 50-278/94-06)

Dear Sir:

In response to your letter dated June 23, 1994, which transmitted the Notice of Violation concerning the referenced inspection report, we submit the attached response. The subject report concerns a routine resident's safety inspection that was conducted May 1 through June 4, 1994.

If you have any questions or desire additional information, please do not hesitate to contact us.

Sincerely,

Garrett D. Edwards

GDE/RKS:bah

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cc: R. A. Burricelli, Public Service Electric & Gas
W. P. Dornsife, Commonwealth of Pennsylvania
T. T. Martin, US NRC, Administrator, Region I
W. L. Schmidt, US NRC, Senior Resident Inspector
H. C. Schwemm, VP - Atlantic Electric
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RESPONSE TO NOTICE OF VIOLATION

Restatement of Violation

During an NRC inspection conducted on May 1 through June 4, 1994, a violation of NRC requirements was identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," 10 CFR Part 2, Appendix C (1992), the violation is listed below:

10 CFR 50, Appendix B, Criterion III, states, in part, that measures be established to assure that applicable design requirements are correctly translated into drawings, procedures, and instructions.

Contrary to the above, between May 1 and 5, 1994 three examples were identified where applicable design requirements were not correctly translated into drawings, procedures, and instructions. Specifically, revised system operating and alarm response procedures were not implemented following declaration that the control room radiation monitor A train (channels A and C) were operable following the modification installation. Additionally, the A train of the control room radiation monitoring (CRM) system was operated in a mode not specified by the design, which affected its response time to initiate the control room emergency ventilation (CREV) system. Finally, because of a cumbersome modification drawing change process, a temporary plant alteration, designed as part of the modification package, did not have the desired effect. The alteration was to temporarily allow either of the A train channels (A or C) to cause a system start, but inadvertently jumpered the C channel out of the CREV initiation logic circuitry.

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

Background

Modification 5281 was developed to replace the skid mounted air sampling control room radiation monitoring (CRM) system with a microprocessor based system that utilizes in duct sensors. The installation of this modification was completed in phases. Implementation of the Division A modification work was completed under a seven day Limiting Condition of Operation (LCO) during the week of April 25, 1994. On April 30, 1994, Temporary Plant Alteration (TPA) 2-63-09 was utilized to provide a logic tie-in between the new Division A CRM system and the original B channel skid based monitor. After operability of the combined systems was established, a jumper was removed from TPA 2-63-09 with the intent of establishing a configuration where a trip signal from either channel (A or C) in the newly installed Division A would activate Control Room Emergency Ventilation (CREV). Work on the installation of the new Division B CRM was then initiated.

Reason for the Violation

The revisions of the System Operating (SO) procedures and Alarm Response Cards (ARC) required for newly installed equipment were approved and ready for issuance, but they were not distributed at the time the system was declared operable. In the original schedule, the plan was to have the system in an operable status during a week day. As a result of emerging issues that occurred during installation, however, the system was not declared operable until the weekend. Document Services personnel had not been contacted in advance to provide support, and no one was available to distribute the new procedures when the system was declared operable. It was the responsibility of the System Manager who was also the Lead Station Representative (LSR) for this modification to ensure that these procedures be distributed. Due to the change in schedule and the LSR's unfamiliarity with modification procedure requirements for timely distribution of these procedures, the issuance of the SO's and ARC's was delayed. On the following Monday (May 2, 1994) the LSR contacted Document Services early in the morning to distribute the appropriate procedures, but before this could be accomplished a spurious CREV initiation occurred. The restoration of the normal ventilation system to service was delayed for approximately four hours, until the new SO's and ARC's were issued.

Troubleshooting activities were initiated as a result of the spurious CREV activations and spiking on the Division B CRM system. On May 5, 1994, an unauthorized configuration change was made on the system in an attempt to mitigate the effects of the noise spikes and inadvertent actuations. The Control Room Radiation Monitoring System was changed from a statistical mode of operation to a time averaging mode of operation. This software change was initiated since the Engineering Work Letter, Design Input Document and Instrument Data Sheets did not state a specific mode of operation for the radiation monitors. A single statement concerning the mode of operation was found in the modification's safety evaluation, but it appeared descriptive in context. The administrative controls prescribing device

configuration were less than adequate.

Following the failure of the C channel of the Division A CRM system to initiate CREV after an inadvertent spike, a review of TPA 2-63-09 was performed. This review determined the TPA to be inadequate in that it inadvertently removed the C channel from the CREV initiation circuitry. After combined system operability was established on April 30, 1994, the jumper that connected Division A to Division B was removed, while the rest of the TPA remained intact. It was this configuration of the TPA which defeated the C channel logic input. The connection drawings used for the TPA had numerous modification change - engineering change requests (ECR) posted against them that denoted significant alterations to the wiring. The postings were against a modification drawing which was issued July 20, 1993. ECR 93-01937, which extensively changed the trip logic and consequently the connection drawings, was approved October 18, 1993, six months prior to installation. The inappropriate TPA was caused by personnel utilizing prints that did not reflect the latest system configuration as indicated by ECR 93-01937. Control of drawings was less than adequate in that no one drawing or mark-up successfully indicated the current design configuration.

The review performed on the TPA was also less than adequate. The independent reviewer only spot checked the presence of change documents against the TPA markups and did not utilize controlled copies of associated prints to ensure the validity of the TPA. There were also other technical errors in the TPA that were not uncovered during the TPA review process that indicated an inadequate review. TPA 2-63-09 only required "double verification of installation by visual inspection" for operational verification. Testing of the final configuration under the TPA was not performed.

Corrective Steps That Have Been Taken and the Results Achieved

The appropriate System Operating procedures and Alarm Response Cards were distributed on May 2, 1994.

Revision 4 of the 10 CFR 50.59 for Modification 5281 was approved on May 6, 1994. This revision provided for system configuration utilizing the "time averaging" mode of operation or the statistical mode of operation.

TPA 2-63-09 was removed and replaced with TPA 2-63-10 on May 6, 1994, which re-established the C channel of the Division A CRM system.

Appropriate personnel were counseled concerning the proper use of procedures and the modification process.

Numerous Performance Enhancement Program (PEP) issues were initiated to investigate and determine the causes for associated problems concerning the design and installation of Modification 5281.

The Corrective Steps That Will Be Taken to Avoid Further Violations

The corrective actions of PEP issues generated concerning the design and implementation of Modification 5281 will be implemented to avoid further violations.

Station Support I&C Engineering will complete and issue Administrative Procedure A-C-135, "Configuration Control of Digital Based Plant Process Equipment". This procedure will address design control and responsibility issues. This procedure will be issued by October 1, 1994.

Training will be conducted for Engineering Support personnel, including system Managers outside of Site Engineering, and Maintenance I&C staff personnel on software control, adequate review of TPAs, and procedural issuance requirements for modifications. This training will be completed by December 31, 1994.

Performance and Reliability Engineering will review and/or revise Administrative Procedure A-42, "Temporary Plant Alterations" to ensure adequate post installation testing requirements are identified and presented. This review will be conducted by September 13, 1994.

Date When Full Compliance Was Achieved

Full compliance was achieved May 6, 1994, when revised system operating and alarm response procedures had been implemented, the time averaging mode was evaluated and found acceptable, and TPA 2-63-09 was removed and replaced with a TPA that correctly indicated the design configuration.