



PECO NUCLEAR

A Unit of PECO Energy

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10 CFR 2.201

March 25, 1998

Docket Nos. 50-352
50-353

License Nos. NPF-39
NPF-85

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

SUBJECT: Limerick Generating Station, Units 1 and 2
Reply to a Notice of Violation
NRC Integrated Inspection Report Nos. 50-352/97-10 and 50-353/97-10

Attached is PECO Energy Company's reply to a Notice of Violation for Limerick Generating Station (LGS), Units 1 and 2, that was contained in your letter dated February 23, 1998. The Notice identified three violations concerning: 1) plant conditions not accurately reflected in the Operations Log, 2) design requirements not adequately maintained during Hydraulic Control Unit maintenance, and 3) locked valve controls inadequately implemented. The attachment to this letter provides a restatement of each violation followed by our reply.

If you have any questions or require additional information, please contact us.

Very truly yours,

Attachment

cc: H. J. Miller, Administrator, Region I, USNRC
A. L. Burritt, USNRC Senior Resident Inspector, LGS

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Reply To a Notice of Violation

Violation A

Restatement of Violation

During an NRC inspection conducted on November 18, 1997, through January 19, 1998, violations of NRC requirements were identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," NUREG-1600, the violation is listed below:

- A. Units 1 and 2 Technical Specification (TS) 6.8.1 requires, in part, that written procedures shall be implemented covering the activities recommended in Appendix A of Regulatory Guide 1.33, Revision 2, February 1978. Regulatory Guide 1.33 recommends Administrative Procedures for Log Entries as activities that should be covered by written procedures. Operations Manual sections OM-L-8.2, Narrative Logs / Scope of Entry, written to comply with TS 6.8.1, requires in part, that items are to be entered into the log pertaining to system operability or affecting the station. Also, OM-L-12.1, Regulatory Action, step 4.4, requires a narrative log entry in the unified log for the safety system inoperability.

Contrary to the above, on December 6, 1997, required narrative log entries in the unified log for the safety system inoperability were not made. Specifically, two safety-related systems, the Unit 2 suppression pool spray mode of residual heat removal system (TS 3.6.2.2) and high pressure coolant injection system (TS 3.5.1.c.2) were inoperable for about two hours without a narrative log entry reflecting the system's inoperability in the unified log.

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

REPLY

Admission of the Violation

PECO Energy acknowledges the violation.

Reasons for the Violation

Over 100 Limiting Conditions of Operation (LCO) entries were made in the Unified Log over a 48 hour period. The Control Room Supervisors were tasked with managing/coordinating

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multiple work teams while ensuring compliance with Technical Specifications. Although compliance with the Suppression Pool Spray (T.S. 3.6.2.2) and High Pressure Coolant Injection (T.S. 3.5.1) Technical Specifications were being tracked using Troubleshooting Control Forms (TCFs) on each unit, and the Technical Specifications were referenced, attention to detail was not demonstrated by the Control Room Supervisors when 2 of the 130 LCO entries were not made in the Unified Log.

Corrective Actions Taken and Results Achieved

The appropriate LCO for the HPCI system and Unified Log entries for the Suppression Pool Spray system were reconstructed on December 14, 1997.

A briefing of the event, including lessons learned and the importance of making complete and accurate log entries, was presented to each shift.

Corrective Actions to Avoid Future Noncompliance

The Operations Manual was revised to require the Control Room Supervisor to routinely review the log entries throughout the shift to ensure completeness and accuracy. In addition, the Operations Manual was revised to require the Shift Manager to review the Unified Log at the end of every shift to ensure compliance with the Operations Manual.

Date When Full Compliance was Achieved

Full compliance was achieved on December 14, 1997, when the reconstructed log entries for the Unit 2 suppression pool spray mode of the residual heat removal system and the high pressure coolant injection system were made in the Unified Log. These two systems had been inoperable for a period of approximately two hours on December 6, 1997.

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Violation B

Restatement of Violation

During an NRC inspection conducted on November 18, 1997, through January 19, 1998, violations of NRC requirements were identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," NUREG-1600, the violation is listed below:

- B. Appendix B, Criterion III, of 10 CFR 50 states, in part, that measures shall be provided for verifying or checking the adequacy of design changes performed during maintenance and repair, and that design changes, including field changes shall be subject to design control measures commensurate with those applied to the original design.

Contrary to the above, on December 26, 1997, measures were not provided for verifying the adequacy of field changes performed during maintenance and repair to ensure that design controls were commensurate with those applied to the original design. Specifically, PECO identified a large number of maintenance discrepancies affecting 32 hydraulic control units (HCU) during a follow-up investigation to an individual control rod that fully inserted during a reactor protection system surveillance test, demonstrating that inadequate maintenance had been performed. Specifically, PECO did not establish adequate measures to assure that the applicable design requirements were adequately maintained during HCU on-line maintenance.

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

REPLY

Admission of the Violation

PECO Energy acknowledges the violation.

Reasons for the Violation

The improper terminations occurred during preventative maintenance activities on the HCU Scram Solenoid Pilot Valves (SSPVs). The electrical terminations were inadequate as insufficient torque was applied to the terminal block screws to assure continuous electrical

connection between the conductors. All of the terminal locations found to have insufficient torque were configured with two lugs under a single terminal screw. The dual lug arrangement created physical interference between the lug barrels, thereby making it difficult to determine when sufficient torque had been applied to the terminal screw to firmly capture both lug tongues. Additionally, the pre-job brief included a caution to avoid damaging the terminal block by over-tightening, and therefore the technicians were inclined to apply minimum torque.

Given the above discussion, the primary cause was determined to be personnel error as the tightness of the electrical connections was not adequately verified at the completion of the wire termination activity. In addition, the review identified inadequate procedural guidance and technician training as contributing factors. The associated procedure was determined to be inadequate since it did not provide instructions for terminal screw tightness or independent verification of the connection. Technician training did not include preferred methods for lug arrangement to minimize barrel interference.

Corrective Actions Taken and Results Achieved

All similar HCU SSPV terminations on Limerick Generating Station (LGS), Units 1 and 2, were checked and tightened as necessary. In addition, a representative sample of terminations at Peach Bottom Atomic Power Station (PBAPS) were checked. The configuration was found to be different and not susceptible to this type of problem.

The procedure governing HCU preventative maintenance was revised to include guidance for proper terminal lug orientation and verification of appropriate tightness.

Corrective Actions to Avoid Future Noncompliance

This event and the need to have greater sensitivity around electrical terminations was covered in the first quarter Nuclear Maintenance Department Reactor Services Section (RSS) continuing training cycle for 1998. This training included all RSS technicians. This topic will be reinforced again with the RSS personnel prior to the LGS refuel outage at an all-hands meeting on March 30, 1998. Additionally, this topic and a review of details from PBAPS and LGS electrical specifications will be incorporated into the next RSS continuing training cycle scheduled to begin in July 1998. This training will be completed prior to the next scheduled HCU campaign at LGS.

Date When Full Compliance was Achieved

Full compliance was achieved by December 28, 1997, when all identified HCU discrepancies had been corrected.

Reply To a Notice of Violation

Violation C

Restatement of Violation

During an NRC inspection conducted on November 18, 1997, through January 19, 1998, violations of NRC requirements were identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," NUREG-1600, the violation is listed below:

- C. Units 1 and 2 Technical Specification (TS) 6.8.1 requires, in part, that written procedures shall be implemented covering the activities recommended in Appendix A of Regulatory Guide 1.33, Revision 2, February 1978. Regulatory Guide 1.33 recommends Administrative Procedures for Equipment Control (e.g., locking and tagging) as activities that should be covered by written procedures. Administrative procedure A-C-008, Control of Locked Valves and Devices, written to comply with TS 6.8.1, requires in part, that the individual requesting permission for the manipulation of a locked device should enter the valve or device information in the Locked Valve Log and obtain permission from the Shift Management. Shift Management shall then indicate authorization for the manipulation by initialing and dating the Log entry.

Contrary to the above, on October 7, 1997, procedures were not correctly implemented, in that, an equipment operator (EO), unlocked and opened floor drain, FD-74, without proper configuration controls as stated in A-C-8, Control of Locked-Valves and Devices. The EO did not properly fill out the Lock Valve Log nor was Shift Management approval granted prior to removing the floor drain plug. The floor drain remained in an open condition for about 26 hours.

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

REPLY

Admission of the Violation

PECO Energy acknowledges the violation.

Reasons for the Violation

During October, Equipment Operators (EOs) were performing GP-7, Plant Winterization. The operators were attempting to establish steam flow through heating coils which required draining some water trapped within the coils. To perform this function, a drain path must be established from the heating coils. This resulted in a floor drain plug being opened by the operators without an appropriate A-C-8, Control of Locked Valve and Devices Log, entry being made.

The cause of this event was a combination of less than adequate: (1) procedural guidance, (2) plant labeling, and (3) communications from the Control Room Supervisor (CRS) to the operators performing the GP-7 activities. Procedure GP-7 does not caution about secondary containment boundaries nor provide guidance covering the restrictions regarding floor drain plugs. Unit 2 floor drain plug labels only identify the drain number and do not identify which floor drains are secondary containment boundaries. Although the operators were informed that the floor drain plugs were a part of secondary containment, they were not reminded by the CRS to make an A-C-8 log entry. The operators proceeded to open, and leave open, floor drain FD-74 without making an entry into the A-C-8 log.

Corrective Actions Taken and Results Achieved

As immediate corrective action, the floor drain plug was reinstalled and locked. Also, all other secondary containment floor drains on Unit 1 and 2 were verified to be closed and locked.

The Sr. Manager - Operations counseled the CRS and the operators of the implications involved when breaching secondary containment, and the requirements of A-C-8.

Corrective Actions to Avoid Future Noncompliance

Procedure GP-7 and other related System (S) procedures have been revised to include a caution stating "Do not unlock or open any floor drains unless given permission by Shift Supervision and documenting action in A-C-8."

New labels were applied to the Unit 1 and 2 reactor secondary containment floor drain plugs. The new labels state: "Caution: Secondary Containment boundary, contact MCR SSVN before removing (2123)." The identification labels on the floor drain plugs will ensure that operators, as well as workers from other organizations, are reminded to notify the Main Control Room prior to opening the floor drains.

An information bulletin was issued by the CRS on maintaining proper communications. The bulletin reviewed the essential elements to approaching work activities in a cautious and questioning manner.

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Date When Full Compliance was Achieved

Full compliance was achieved on October 7, 1997, when the floor drain plug was reinstalled and locked, and all other floor drain plugs were verified locked.