

## PHILADELPHIA ELECTRIC COMPANY

LIMERICK GENERATING STATION

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January 30, 1992

GRAHAM M. LEITCH  
VICE PRESIDENT  
LIMERICK GENERATING STATION

Docket Nos. 50-352  
50-353  
License Nos. NPF-39  
NPF-85

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

SUBJECT: Limerick Generating Station, Units 1 and 2  
Reply to a Notice of Violation  
NRC Inspection Report Nos. 50-352/91-81 and 50-353/91-81

Attached is Philadelphia Electric Company's reply to a Notice of Violation for Limerick Generating Station (LGS) Units 1 and 2, which was contained in the NRC Inspection Report Nos. 50-352/91-81 and 50-353/91-81 dated December 12, 1991.

The Notice of Violation identifies two areas that indicate a weakness with personnel recognizing and initiating corrective actions for conditions adverse to quality. The first area concerned a lack of attention to detail by station personnel in the documentation and analysis of indicated anomalies in Emergency Diesel Generator test results. The second area concerned the failure to maintain emergency lighting installed for safe shutdown in accordance with NRC requirements.

The attachment to this letter provides a restatement of the violations identified during an NRC inspection conducted between July 8, 1991, through July 19, 1991, at LGS, Units 1 and 2, followed by our responses.

An extension of two weeks to the prescribed response time was requested and granted to allow clarification of the violation regarding emergency lighting.

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

Very truly yours,

030023

DMS/DCS:cah

Attachment

cc: W. T. Russell, Administrator, Region I, USNRC  
T. J. Kenny, USNRC Senior Resident Inspector, LGS

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*TEO*

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Reply to a Notice of Violation  
Violation A

Restatement of the Violation

10 CFR 50 Appendix B, Criterion XVI, states, in part, "Measures shall be established to assure that conditions adverse to quality...are promptly identified and corrected...and corrective action taken to preclude repetition."

1. Limerick Generating Station Procedure PMQ-020-010, Section 7.21.7, requires that the acceptance criteria for the emergency diesel engine fuel injector timing not exceed (+/-) 1/2 degrees between control side and opposite control side.

Contrary to the above, on February 19, 1991, the emergency diesel generator 2D-G501-DR did not meet the fuel injector timing acceptance criteria. This was recorded during the test but not identified as beyond the acceptance criteria.

2. Limerick Generating Station Procedure PMQ-020-010, Section 7.13.8, provides acceptance criteria for crankcase strain measurements of .0015 inches maximum.

Contrary to the above, on April 25, 1990, the crankcase strain value of .0025 was measured and recorded which exceeds the acceptance criteria of .0015 inches. No corrective actions were taken.

Collectively, these constitute a Severity Level IV Violation.  
(Supplement 1)

RESPONSE

Admission of Violation

Philadelphia Electric Company (PECO) acknowledges the violation.

Reason for the Violation

The cause of the violation is a lack of attention to detail on the part of the individuals who performed and reviewed the preventive maintenance procedures coupled with a less than adequate communication of expectations from management regarding attention to detail and procedure compliance. Additionally, Preventive Maintenance procedure PMQ-020-010 contained an unclear acceptance criteria value for the fuel injector timing differences.

Corrective Action and Results Achieved

A Nonconformance Report (NCR), number L91192, was initiated on July 17, 1991, which evaluated fuel injector timing readings for a similar problem identified for the Emergency Diesel Generator (EDG) D22, where EDG D22 also did not meet the acceptance criteria contained in procedure PMQ-020-010. An evaluation performed by the Maintenance Engineering Staff for EDG D24, supported by the NCR for EDG D22, concluded that the actual setting for EDG D24 was outside of the manufacturer's recommended setting; however, this recommendation is based upon fuel consumption criteria to achieve maximum efficiency and not upon safety or reliability concerns. The evaluation concluded that the current settings, although slightly out of tolerance, are acceptable for an interim period until the settings could be adjusted during the next performance of procedure PMQ-020-010 for EDG D24 scheduled for February 24, 1992. Additionally, the evaluation concluded that an acceptance criteria of one degree difference for fuel injector timing was in accordance with the vendor recommendations. Procedure PMQ-020-010 was revised on September 1, 1991, where the injector timing acceptance criteria was clarified to read the difference between control side and opposite control side timing shall not exceed one degree.

A NCR, number L91191, was initiated on July 15, 1991, and evaluated the crankshaft strain reading for EDG D14 that did not meet the acceptance criteria contained in procedure PMQ-020-010. Based upon interviews with the individuals who performed the procedure, and an analysis of the performance of EDG D14, the NCR evaluation concluded that the reading was an inadvertent error in entry. The actual crankshaft strain reading should actually be .00025 inches, which is within the acceptance criteria.

As a result of the two items identified above, the Limerick Generating Station (LGS) Nuclear Quality Assurance (NQA) Division performed a review of Maintenance Request Form (MRF) work packages and their associated documentation completed during the period of July 15, 1990, through July 15, 1991, by Quality Control (QC) inspectors. Of the one-hundred and sixty (160) MRFs reviewed, fifty-two (52) MRFs had concerns or problems. NQA concluded that the identified weaknesses represent a lack of attention to detail by all involved LGS organizations, but did not represent any equipment concerns. To strengthen the oversight of QC activities, the following actions were implemented by NQA.

- o Procedure NQA-4-S11, "Management Oversight of the Quality Control Program," was developed to define the methodology and responsibilities to be utilized in the performance of management oversight of the QC program.
- o Procedure NQA-4-S6, "MRF Planning and Review," was revised to further emphasize the need for attention to detail, and to ensure the appropriate performance of required verifications are implemented by QC inspectors during inspection activities.

Corrective Actions Taken to Avoid Future Non-Compliance

1. On July 12, 1991, a For Your Information (FYI) notice was developed and distributed to first line supervision. This FYI notice provided a clear and concise set of written management expectations regarding attention to detail required in performance of any task performed. The FYI notice clearly states that the individual is responsible to self-check the work performed and to ensure that each detail of any task performed is correct and complete. First line supervision then disseminated the expectations of management in this FYI notice to station personnel to heighten their awareness of the requirements and management's expectations.
2. The program for the control of FYI notices contains a provision to have the first line supervisors periodically re-examine the issued FYI's and to determine if any notices should be reviewed again with the work group based on unacceptable observations or personnel changes in the group.
3. Attention to Detail training has been provided to Maintenance Craft and NQA personnel through the continuing training program. This training further explained the expectations regarding attention to detail while performing work activities and completing procedures, and will be repeated during future continuing training cycles.
4. The LGS policy, as described in Administrative Guideline AG-82, "Self Assessment," is that station personnel, groups, and organizations compare their performance against standards and expectations. The guideline explains that one method to accomplish this is to develop performance indicators (PI). An example of a PI that has been created to monitor the concern identified in this violation is one that monitors the error rate in the performance of procedures and tasks. The station self assessment program recommends that the PIs be trended and evaluated by first line supervisors and upper management, and that corrective actions be initiated if a PI negative trend is observed. The station self assessment program also includes a provision to periodically re-evaluate the PIs to determine whether any PI needs to be revised.

Date When Full Compliance was Achieved

Full compliance was achieved on July 18, 1991, when the NCR evaluations were completed concluding that the fuel injector timing setting and the crankshaft strain readings were acceptable, and that no immediate corrective actions were required.

Reply to a Notice of Violation  
Violation B

Restatement of the Violation

The License condition 3.a of Limerick Generating Station, Unit 1 requires that the licensee shall maintain in effect all provisions of the approved fire protection program as described in the Final Safety Analysis Report for the facility through Revision 34 and as approved in the SER through Supplement 2, and in the Fire Protection Evaluation Report through Revision 6, subject to provisions b and c below.

The Limerick Generating Station Fire Protection Evaluation Report states, in part, that emergency lighting of 1/2 foot candle will be provided for all areas that must be manned for safe shutdown.

Contrary to the above, on July 19, 1991, the emergency lighting in areas required for safe shutdown were not maintained as required, in that the battery powered emergency lighting fixtures were inoperable and inadequate to provide 1/2 foot candle of illumination as required. This condition remained unidentified until discovered by the NRC.

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

RESPONSE

Admission of Violation

Philadelphia Electric Company (PECo) acknowledges that a violation of NRC requirements (e.g., 10CFR50, Appendix B) occurred as a result of the identified condition of the battery powered emergency lighting fixtures.

10CFR50, Appendix B, Criterion XVI requires that "Measures shall be established to assure that conditions adverse to quality... are promptly identified and corrected ... and corrective action taken to preclude repetition." The condition of certain of the battery units was not identified and corrective action was not taken in other cases.

It is our position that the unavailability of an installed component required for fire safe shutdown due to component failure or maintenance does not constitute a violation of License Condition 3.a. Failure to translate the fire protection information from the UFSAR correctly into plant documents (drawings, procedures, etc) would be considered a violation of the License Condition. For example, failure to install battery units in the plant due to a failure to identify the battery units on plant drawings would be considered a failure to maintain in effect all provisions of the approved fire protection program.

Reason for the Violation

The reason for the degraded condition of the emergency lighting fixtures was informal work practices in the identification and correction of deficiencies associated with the emergency lighting fixtures. Previous work practices involved identification of failed fixtures with an Equipment Trouble Tag, generation of a Maintenance Request Form (MRF) and subsequent inclusion of the repair in a generic MRF for all lighting fixtures prior to completion of repairs. This method did not facilitate trending of individual failures.

Corrective Action Taken and Results Achieved

Following identification of certain failed emergency lighting fixtures by the NRC, the system engineer performed a complete walkdown of emergency lighting fixtures. All failed emergency lighting fixtures identified by either the NRC or station personnel in the Emergency Diesel Generator enclosures, were repaired by July 10, 1991.

Corrective Actions Taken to Avoid Future Non-Compliance

All safe shutdown emergency lighting fixtures are now identified and periodically tested as part of Surveillance Test (ST) procedures. These ST procedures specifically identify remote head lighting fixtures to ensure complete testing of all types of fixtures. Each identified failure will result in generation of an individual work order which will only close upon completion of the work and re-testing. These individual work orders will permit tracking and trending of failures. Individual failures of tested lighting fixtures will result in failure of the ST procedure. The ST procedure will be required to be partially performed upon completion of the associated work order and can only be passed upon demonstration of satisfactory performance of all fixtures. Additionally, the testing methodology prescribed in the ST procedures has been expanded to include verification of the battery pack chargers.

Date When Full Compliance was Achieved

Full compliance was achieved upon completion of all repairs and approval of the new ST procedures by August 1, 1991.