

**PHILADELPHIA ELECTRIC COMPANY**

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March 10, 1989

S. J. KOWALSKI  
VICE-PRESIDENT  
NUCLEAR ENGINEERING

10CFR50.55(e)

Mr. W. T. Russell, Administrator  
U. S. Nuclear Regulatory Commission  
Attn: Document Control Clerk  
Mail Station P1-137  
Washington, D.C. 20555

Docket No. 50-353  
CPFR-107

Subject: Limerick Generating Station - Unit 2  
Significant Deficiency Report - SDR No. L2-88-10  
Improper Installation of Temporary Support Brackets

Reference: Telecon of PECO to NRC dated February 9, 1989

File: QUAL 2-10-2 (SDR No. L2-88-10)

Dear Mr. Russell:

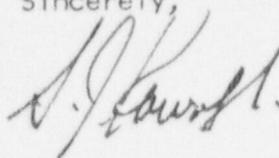
As committed to in the referenced telecon, we are submitting the attached Significant Deficiency Report SDR No. L2-88-10 concerning improper installation of temporary support brackets in safety-related 4kV switchgear. This condition has been determined to be reportable per 10CFR Part 50.55(e).

Our corrective action will be to remove all of the support brackets from each switchgear cubicle prior to startup of Limerick Generating Station Unit 2. In the future, the brackets will be installed on a temporary basis only as required to support safety barriers which provide personnel safety during maintenance and testing activities. Station operating procedures will be revised to assure that the support brackets are removed prior to placing a switchgear cubicle back into service.

In conclusion, we consider SDR No. L2-88-10 closed with the issuance of this report. If you have any further questions, please contact us.

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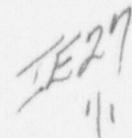
Sincerely,



Attachment

Copy to: W. T. Russell, USNRC, Region I Administrator  
R. A. Gramm, USNRC, LGS 2 Senior Resident Inspector  
R. J. Clark, USNRC, LGS 2 Project Manager

DSM/ds/03068901



NUCLEAR ENGINEERING  
ENGINEERING DIVISION  
N2-1, 2301 Market Street

Significant Deficiency Report SDR No. L2-88-10  
Improper Installation of Temporary Support Brackets  
NRC Construction Permit No. CPPR-107

DESCRIPTION OF DEFICIENCY:

While investigating a problem involving switchgear circuit breakers becoming caught on the cubicle shutter assembly when operations personnel removed breakers, engineering identified the subject condition described below.

Safety barriers for 2.4kV, 4kV and 13.8kV switchgear were designed by PECO for the purpose of providing personnel protection during maintenance and testing activities. The barriers are designed to be installed over the existing switchgear cubicle shutter assemblies. The installation of the barriers enables the shutter assembly to be blocked up in the open position and only the necessary connection points be exposed. Different barriers were designed such that a barrier could be installed as required to either block all connections, expose only the bus terminals, or to expose only the load terminals. The barriers are constructed of a plexi-glass panel which is hung on a support bracket fastened to the rear of the switchgear cubicle above the connection ports. The support brackets can be constructed from metal or polyester material.

The safety barriers and support brackets were intended to be temporary for maintenance and testing purposes only; however, engineering has discovered that brackets have been left installed in cubicles after the safety barrier was removed and the breaker returned to normal operating service.

The 4kV switchgear at Limerick Generating Station Unit 2 are safety-related and the 2.4kV and 13.8kV switchgear are non safety-related.

Correspondence from the switchgear manufacturer Brown Boveri Electric, Inc. indicates that the installation of metal barrier support brackets significantly reduces the electrical clearances which could result in a flashover. Per the manufacturer, any modification in this area of the switchgear would require a repeat of the Design Impulse Test to verify that the modification did not affect the electrical integrity of the equipment.

In addition, no documentation is available to justify the seismic acceptability of the safety barrier support bracket installation.

SAFETY IMPLICATIONS:

Either a flashover caused by the reduced electrical clearances or if the metal support bracket should become free due to a seismic event and fall into or in close proximity to live parts resulting in a fault, could render individual safety-related equipment or the specific safety-related 4kV switchgear inoperable.

CORRECTIVE ACTIONS:

All safety barrier support brackets will be removed from the switchgear cubicles prior to startup of Limerick Generating Station Unit 2. In the future, the support brackets will be installed on temporary basis only, for the purpose of personnel protection during maintenance and testing activities.

ACTIONS TAKEN TO PREVENT RECURRENCE:

Station Operating Procedures are being revised to assure that the safety barriers including the support brackets are removed prior to returning the switchgear cubicles/circuit breakers to normal operating service.

DSM/ds/03078901