



# Pennsylvania Power & Light Company

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December 5, 1983

Dr. Thomas E. Murley  
Regional Administrator, Region I  
U.S. Nuclear Regulatory Commission  
631 Park Avenue  
King of Prussia, PA 19406

SUSQUEHANNA STEAM ELECTRIC STATION  
FINAL REPORT OF A DEFICIENCY INVOLVING  
GENERAL ELECTRIC 250V CONTROL CENTERS  
ERs 100450/100508 FILE 821-10  
PLA-1968

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Reference: PLA-1799 dated 8/18/83

Dear Dr. Murley:

This letter serves to provide the Commission with a final report on a deficiency involving the final design of GE 7700 Series 250 volt DC control centers.

This deficiency was originally reported by telephone to Mr. E. C. McCabe of NRC Region I as reportable by Mr. Jason Saranga of PP&L under the requirements of 10CFR50.55(e) for SSES Unit II.

The attachment to this letter contains a description of the deficiency, its cause, an analysis of safety implications and the corrective action taken. This information is furnished for SSES Unit II pursuant to the provisions of 10CFR50.55(e).

This deficiency was reported under 10CFR Part 21 for Unit I in PLA-1755 dated July 25, 1983.

We trust the Commission will find this report to be satisfactory.

Very truly yours,

N. W. Curtis  
Vice President-Engineering & Construction Nuclear

WLB:sab wlb/lt/k/338/b  
Attachment

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SSES  
ER 100508

PLA-1968  
File 821-10

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Attachment to PLA-1968

SUBJECT

GE 7700 series 250 Volt DC control centers.

DESCRIPTION OF PROBLEM

The General Electric 7700 series control centers are designed with electrical draw out contacts between the removable starter unit and the starter cubicle. The male members of the draw out contacts are mounted on the starter unit. The female contacts are located on the back wall of the cubicle. These female clips are not spring loaded and can be permanently distorted using finger pressure. Because of this, the GE installation instructions for these units state that to prevent bending of the female contacts the starter unit must not be tilted forward or backward during insertion. The 7700 series control centers at Susquehanna Unit II are such that on certain starters, clearance does not exist between the breaker on the starter unit and the lip of the horizontal shelf assembly. When inserting or removing these units, the breaker hits the lip on the self and must be tipped to clear the lip. As a result of the tipping, the female members of the draw out contacts can be bent such that the contacts will not make up when the starter is fully inserted.

This problem was discovered when a Unit I RCIC valve failed to stroke during surveillance tests. There are five 7700 series control centers on Unit II, three of these are Class 1E.

CAUSE OF DEFICIENCY

An inspection by GE factory representatives has confirmed that the lack of clearance is typical for the 7700 series control center.

This deficiency resulted from the lack of clearance in the design of the control center and the failure of GE's instructions for the installation and removal of the starter units to address this lack of clearance.

ANALYSIS OF SAFETY IMPACT

The 7700 series control centers provide 250v DC Class 1E power to the HPCI and RCIC pumps and valves. The HPCI System is safety related and is required for shutdown for small breaks. The RCIC System is not safety related but should be available to augment HPCI.

The cited deficiency makes the operability of these systems indeterminate after a starter is inserted. PP&L has concluded that this condition is reportable under the provisions of 10CFR50.55(e).

CORRECTIVE ACTION

GE has provided the installation and removal instructions for the starter units to include recommendations on dealing with obstructions. They have also provided recommendations on reforming bent draw out contacts.

Plant operating procedures have been revised to include: 1) methods of clearing obstructions as provided by GE; 2) the examination and reforming of draw out contacts prior to installation of the starter unit; 3) inspection of the contact alignment during installation of the starter unit; 4) mandatory functional testing of equipment after a starter unit is installed.