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CURTIS,N.W. Pennsylvania Power & Light Co.
RECIP.NAME RECIPIENT AFFILIATION

SUBJECT: Interim deficiency rept re deficiency in isolation sys for non-Class IE loads.Caused by inadequate isolation devices connecting non-Class IE sys to Class IE sys.Vendor advised of design deficiency.

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November 14, 1979

Mr. Boyce H. Grier
Director, Region I
U. S. Nuclear Regulatory Commission
631 Park Avenue
King of Prussia, Pennsylvania 19406

SUSQUEHANNA STEAM ELECTRIC STATION
REPORT OF A DEFICIENCY IN THE SYSTEM
FOR ISOLATING NON-CLASS 1E LOADS
CONNECTED TO THE 250 VDC 1E SYSTEMS
ERs 100450/100508 FILE 840-4
PLA-420

Dear Mr. Grier:

This provides information regarding the subject deficiency which has been deemed reportable under 10CFR 50.55(e).

The deficiency results from the fact that non-Class 1E loads are connected to the 250 VDC Class 1E systems through inadequate isolation devices which do not prevent faults in non-Class 1E systems from causing unacceptable influences on any other section of the Class 1E circuit. Further, the isolation devices, as specified in Bechtel design drawings, have been incorporated into the plant 250 VDC Class 1E electrical system.

The SSES FSAR section (3.13) which addresses Regulatory Guide 1.75 states: "Isolation systems are defined as two separate, redundant breakers placed in series actuated by fault current to prevent malfunctions in any section of a circuit from causing unacceptable influences in any other section of the circuit or in other circuits."

The isolation devices, as presently installed at SSES, could result in the degradation of the 250 VDC Class 1E circuit such that safety related loads could not be sufficiently supplied as a result of:

1. Certain restricted faults on non-Class 1E circuits.
2. Faults in circuits connected to the 250 VDC Class 1E supply through single breaker isolation. (The single breaker isolation method is of itself recognized to be contrary to the referenced FSAR commitment.)

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As a result of faults in non-Class 1E systems, the concurrent loss of Division I and Division II 250 VDC Class 1E circuits could occur with the resultant loss of the HPCI and RCIC systems. Loss of these systems would preclude safe shutdown of the reactor under certain conditions.

This condition was initially detected by PP&L engineers while prescribind relay settings for devices in the 250 VDC system. In accordance with PP&L's procedures for reporting such items, the condition was then identified to PP&L NQA, evaluated and documented on PP&L Deficiency Report DR 0134 which has been transmitted to Bechtel Project Engineering. Bechtel Engineering has been requested to disposition the design deficiency problem, recommend an appropriate course of corrective action and advise PP&L whether any other DC Class 1E system may be similarly affected.

Bechtel's ultimate resolution of PP&L Deficiency Report DR 0134 and the subject deficiency is projected for 6/30/80.

PP&L will inform the Commission should there be any further significant developments.

Very truly yours,

N. W. Curtis
Vice President-Engineering & Construction

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