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September 11, 1979

Mr. Boyce H. Grier
Director, Region I
U. S. Nuclear Regulatory Commission
621 Park Avenue
King of Prussia, Pennsylvania 18406

SUSQUEHANNA STEAM ELECTRIC STATION
NOTIFICATION OF A POTENTIAL DEFICIENCY
IN AMPHENOL CONNECTORS AND CUTLER HAMMER
E-30 SWITCHES
ERs 100450/100508 FILE 840-4
PLA-399

Dear Mr. Grier:

This serves to confirm information provided to NRC Resident Inspector R. Gallo on 9/11/79 and relates to the subject deficiency which is under evaluation for reportability in accordance with the provisions of 10 CFR 50.55(e).

The anomalies summarized below have been noted during routine Quality Control surveillance and/or inspections of PGCC/ACR Panels and documented by Bechtel QA on MCAR-1-37:

1. Amphenol female connector pins are not seating properly in the dielectric. The relative position of the pins varies after mating and unmating of the connectors. It has been observed that some pins retract merely from turning the connector. This is especially the case after pins have been removed and an attempt is made to reinsert them into the connector dielectric. Further, it has been noted that the conductor and pin pull out of the connector dielectric during pull tests using a hemostat to avoid removing the pins. An example is documented on NCR 4309 for the pull test forces necessary to extract the conductor and pins from the connector of cable 4208/C51B-019. For number 18 AWG wire, the pull test maximum is ten pounds. The test range of the 27 conductors tested was from three to ten pounds. These observations are documented on NCR 4309.

   Additional examples may be found through a review of cable inspection data sheets for non-safety related cables (cables: 1510/C12A-002; 1301/C12B-001; 9115/C12A-019; 9115/C12A-020; 9115/C12A-021; 9115/C12A-022 and 8860/E012-009). It should be noted that the method of performing the pull testing of conductor pin crimps has been changed, at General Electric's request, to include the use of hemostats. This change was made to avoid complete removal of all pins from connectors for pull testing. The hemostat pull

test method tended to amplify or further substantiate the Amphenol connector problem. As the pull test was in process, the connector female pins were extracted in many instances, before the maximum pull test force was achieved. Also, FDI WJGO, for PGCC cable inspection, makes provision for connector replacement, thereby, eliminating the necessity for identifying connector deficiencies via nonconformance reports in accordance with FIM G-3.

Finally, discussions with cognizant field engineering, Quality Control and craft personnel lead to a determination that an apparent generic problem exists with the Amphenol female connectors.

Samples of the defective connectors are being provided GE-site personnel for GE's use in evaluating the extent of this problem.

2. Cutler-Hammer push button switches installed in ACR benchboards, are sticking; of 189 switches inspected, ten switches do not retract when manual depression is relieved. These switches bear GE P/N 851E341P2GXGXXX and are purchased from Cutler-Hammer under P/N CHE30AC. These nonconformances are documented on NCR 4313.

   A second condition, as described on Sheet 20 of NCR 3403 (documented in BLG-2147 dated July 24, 1979) involves switch (HV-1112D) CHE30AB, which became dislodged due to failure of the mechanical locking device between push button to contact blocks. While this particular switch and the second switch of the same type which have failed were installed in non-safety related equipment, the concern is for similar switches used in safety related equipment.

GE has been requested to investigate the extent of the problems cited, provide a corrective action plan, if required, and to advise whether in G.E.'s technical opinion, the deficiency, were it to have gone uncorrected, could have adversely affected the safe operation of the plant.

Following the evaluations of the above conditions, the Commission will be advised as to each item's reportability by October 11, 1979.

Very truly yours,

N. W. Curtis

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