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 AUTH. NAME: CURTIS, N.W. AUTHOR AFFILIATION: Pennsylvania Power & Light Co.
 RECIP. NAME: GRIER, B.H. RECIPIENT AFFILIATION: Region 1, Philadelphia, Office of the Director

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SUBJECT: Interim deficiency rept re substantial safety hazard posed by derating of Westinghouse circuit breakers, initially reported on 801212. Number & location of breakers under investigation. Completed corrections expected by 810430.

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TWO NORTH NINTH STREET, ALLENTOWN, PA. 18101 PHONE: (215) 821-5151

NORMAN W. CURTIS
Vice President-Engineering & Construction-Nuclear
821-5381

December 19, 1980

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 SUBSTANTIAL SAFETY HAZARD
RELATIVE TO DERATING OF WESTINGHOUSE CIRCUIT BREAKERS
ERS 100450/100508 FILE 840-4/900-10
PLA-591

Dear Mr. Grier:

This letter serves to confirm information provided by telephone to NRC Region I Inspector Mr. J. Mattia by Mr. A. R. Sabol of PP&L on December 17, 1980. Mr. Mattia was advised that the derating of certain Westinghouse circuit breakers used in safety related systems at Susquehanna Steam Electric Station results in short circuit interrupting capability which does not meet design requirements. A description of the deficiency is attached.

PP&L became aware of this problem through our receipt of the attached letters from Eaton Corp. to the NRC and Bechtel on December 11, 1980 and Mr. A. R. Sabol advised Mr. Mattia on December 12, 1980 that the condition was under evaluation as a potential reportable condition under 10CFR50.55(e).

It is anticipated that the final report which is submitted pursuant to the provisions of 10CFR50.55(e) will contain whatever pertinent information or details may exist but which are not available at this time.

The number and location of all defective circuit breakers has not yet been fully determined but is under investigation.

We expect to complete our corrective action by April 30, 1981. We trust the Commission will find the information forwarded by this letter to be satisfactory.

Very truly yours,

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

ARS:jmk

Mr. Boyce H. Grier

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December 19, 1980

cc: Mr. Victor Stello (15)
Director-Office of Inspection & Enforcement
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Mr. G. McDonald, Director
Office of Management Information & Program Control
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Mr. Robert M. Gallo
U. S. Nuclear Regulatory Commission
P.O. Box 52
Shickshinny, Pennsylvania 18655

BACKGROUND

1. The defect involves circuit breakers manufactured by Westinghouse Corp. during the period April, 1979 to the present. The breakers are type JB, KB, HKB and were supplied by Eaton Corp. (Cutler Hammer) in Motor Control Centers on P.O.'s E-18 and E-118.

NATURE OF DEFECT & SAFETY IMPLICATIONS

2. The circuit breakers are deficient in their short-circuit interrupting capability. The types JB and KB were purchased with a rating of 22,000 amps RMS and the type HKB was purchased with a rating of 25,000 amps RMS. The manufacturer now states that all three types of breakers (of recent manufacture) have a short-circuit interrupting capability of 18,000 amps RMS. This de-rating applies only to these three types of breakers what are manufactured between 4/79 and the present. This is apparently due to a change in certain materials used in the manufacturing of said breakers during the specified time period.

PP&L expects to review purchase orders and perform a visual check of the JB, KB or HKB circuit breakers installed after April, 1979. All breakers with date codes after April, 1979, will be removed and replaced with breakers having adequate short-circuit interrupting capability. PP&L will replace the breakers already turned over to PP&L and Bechtel will replace the breakers which have not yet been accepted by PP&L.

All circuit breakers can be checked and defective breakers removed in a minimum amount of time. However, in order to minimize the impact on start-up activities, it would not be practical to take a circuit out of service until a replacement breaker is available. We have no data stating how long it will take to receive new breakers to replace those found to be defective.

If a bolted phase-to-ground short-circuit should occur in a circuit containing one of these defective circuit breakers, the most likely result would be an explosion, followed by a fire. If this scenario happens in a Class IE MCC; there is a good possibility of causing damage to several Class IE circuits, possibly resulting in the loss of a channel.

DATE AWARE

3. BP&L became aware of this problem on 12/11/80 thru a copy of a letter from the Vendor to Bechtel, describing the defect.

NUMBER & LOCATION

4. The total number and locations of all such defective circuit breakers is not known at this time. As of 12/17/80, Bechtel has located three Class IE breakers, type KB, which were manufactured after April, 1979.