



Pennsylvania Power & Light Company

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July 15, 1983

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

SUSQUEHANNA STEAM ELECTRIC STATION
INTERIM REPORT OF A DEFICIENCY INVOLVING
INADEQUACIES IN DESIGN VERIFICATION
OF MAXIMUM CIRCUIT LENGTHS OF LOW
VOLTAGE POWER & CONTROL CABLES
ER 100508 FILE 821-10
PLA-1748

Reference: PLA-1439 Dated December 15, 1982,
N. W. Curtis to R. C. Haynes

Dear Dr. Murley:

This letter serves to provide the Commission with a second interim report on a deficiency involving Bechtel's failure to accomplish the design and verification of safety related power and control cables in accordance with Bechtel Project Engineering Procedure Manual EDPI 2.16.1, Rev. 0.

This deficiency was originally reported by telephone to Mr. Donald F. Johnson of NRC Region I as "potentially reportable" by Mr. Jason Saranga of PP&L under the requirements of 10 CFR 50.55(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 and planned. This information is furnished for SSES Unit II pursuant to the provisions of 10 CFR 50.55(e).

A final report on the subject deficiency will be submitted to the Commission by October 31, 1983.

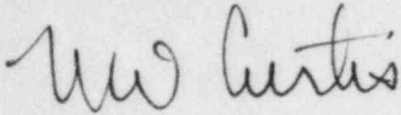
Since the details of this report provide information relevant to the reporting requirements of 10 CFR 21, this correspondence is considered to also discharge any formal responsibility PP&L may have in compliance thereto.

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

Very truly yours,



N. W. Curtis

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cc: Mr. Richard C. DeYoung (15)
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SUBJECT

Electrical Power and Control Cables - Deficiency in design verification of maximum permissible lengths of wire in low voltage power and control circuits.

DESCRIPTION OF PROBLEM

In 1980, PP&L identified a deficiency involving excessive voltage drop in low voltage power and control circuits. To prevent recurrence of this deficiency, PP&L required Bechtel to revise their Engineering Procedures Manual to include a cable sizing procedure for all newly designed cables. Implementation of this revised procedure required the completion and filing of cable length verification forms. The present deficiency has occurred as a result of Bechtel's failure to complete and file the required cable length verification forms for various components of safety related systems.

ANALYSIS OF SAFETY IMPLICATIONS

Failure to confirm the as-installed condition may result in excessive cable lengths. The voltage drops which occur in cable runs of excessive length may result in the failure of some equipment to perform its design function. Therefore, PP&L considers this deficiency to be "potentially reportable" under the requirements of 10 CFR 50.55(e).

CAUSE OF DEFICIENCY

The cause of this deficiency was the failure of Bechtel Power Corporation's Design Engineers to properly implement the requirements of their Engineering Procedures Manual, Procedure EDPI 2.16.1, Rev. 0.

CORRECTIVE ACTION

Bechtel Construction Engineering has provided a complete list of cables added or revised from May 1, 1981 to October 25, 1982. The list of 2478 Unit 2 cables was used to ensure a complete cable review and included both safety related and affiliated power and control cables. Each cable was reviewed against the requirements of Bechtel Cable Length Verification Procedure EDPI 2.16.1, Rev. 1. All cables added or revised after November 22, 1982, were reviewed during ongoing design using EDPI 2.16.1, Rev. 1 requirements.

Bechtel Engineering completed the review and required documentation by April 1, 1983, as stated in the previous report. However, in order to satisfy concerns raised by PP&L Engineering, PLNQA/NPE conducted an audit of Bechtel San Francisco Home Office on June 13-17, 1983, to verify corrective action implementation. This audit identified that the existing documentation for the design and verification of power and control cables for the period cited is inadequate. Additional corrective action by

Bechtel is required. This additional corrective action is expected to be completed by October, 1983, in response to the PP&L Quality Assurance audit.

PP&L has requested that Bechtel Engineering provide a monthly update of their corrective action implementation progress. This update will continue until PP&L has an adequate degree of confidence that the subject procedures are being properly implemented.

Review of the results of the additional corrective action required will permit a final conclusion on the reportability of the condition. To date, no case has been determined where a Class 1E or Affiliated Class 1E circuit would not adequately perform its safety function.

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