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SCHWENCER,A. Licensing Branch 2

SUBJECT: Forwards TR-5352A-1, "Executive Summary,Waterhammer Analysis for Susquehanna Units 1 & 2 Control Rod Drive Insert & Withdrawal Lines," per 8204050 request.Rept provides response to listed Items 2,4 & 5.

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JUL 06 1984

Director of Nuclear Reactor Regulation
Attention: Mr. A. Schwencer, Chief
Licensing Branch No. 2
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

SUSQUEHANNA STEAM ELECTRIC STATION
HYDRODYNAMIC LOADS ON CRD PIPING
ER 100450/100508 FILE 841-2 Docket Nos. 50-387
PLA-2247 50-388

Reference: (1) Letter from A. Schwencer to N. Curtis dated 4/5/82
(2) PLA-1067 dated 4/19/82
(3) PLA-1448 dated 12/22/82
(4) PLA-1665 dated 5/16/83
(5) PLA-2065 dated 2/8/84

Dear Mr. Schwencer:

This letter transmits our response to your letter on "Fast Scram" Hydrodynamic Loads on Control Rod Drive Systems (Reference (1)). Your letter requested the following information:

1. The design basis opening time for the inlet line scram valve.

2. An evaluation of the hydrodynamic loads in your CRD system resulting from actuation of the inlet line scram valve using the design basis opening time specified in Item 1.

3. A description of the conditions and configurations of the plant which result in the maximum hydrodynamic loads in the CRD system.

4. A statement regarding the appropriateness of the mathematical model used to calculate the hydrodynamic loads in the CRD system resulting from a scram.

5. A comparison of the hydrodynamic loads evaluated in Item 2 with the present design basis loads for the CRD system.

In order to address this issue, PP&L participated in a BWROG effort. This resulted in the development of a computer model to analyze the hydrodynamic loads on a plant specific basis and valve testing to determine the design

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basis opening time for the inlet and outlet scram valves. The BWROG effort was completed in May 1983 and was presented to the NRC at that time. PP&L endorses the BWROG analyses.

Items 1 and 3 above have been addressed generically by the BWROG, and therefore will not be covered in this report. The attached report, TR-5352A-1, "Executive Summary for Waterhammer Analysis for Susquehanna Units 1 and 2 Control Rod Drive Insert and Withdrawal Lines," provides PP&L's response to items 2, 4 and 5 above. The results of the plant specific analysis indicate that the present design of the control Rod Drive (CRD) Insert/Withdrawal line supports is capable of withstanding the "Fast Scram" Hydrodynamic loads.

This letter completes PP&L's actions associated with "Fast Scram" Hydrodynamic Loads on Control Rod Drive Systems.

Very truly yours,

NW Curtis

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

Attachment

cc: R. H. Jacobs - NRC
R. L. Perch - NRC