



Pennsylvania Power & Light Company

Two North Ninth Street • Allentown, PA 18101 • 215 / 770-5151

Bruce D. Kenyon
Vice President-Nuclear Operations
215/770-7502

NOV 30 1983

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

SUSQUEHANNA STEAM ELECTRIC STATION
PIPING DESIGNS
ER 100450 FILE 841-04
PLA-1972

Docket Nos. 50-387
50-388

Dear Dr. Murley:

The attached Bechtel letter BLP-27824 dated November 23, 1983, is provided in response to a request from your Mr. K. Manoly on November 22, 1983. If you have any questions, please call Mr. W. E. Barberich at (215) 770-7850.

Very truly yours,

B. D. Kenyon
Vice President-Nuclear Operations

Attachment

cc: Mr. Kamal Manoly - NRC Region I
Mr. Gary Rhoads - NRC Resident Inspector

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PDR ADCK 05000387
P PDR

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IN REPLY PLEASE REF:

BLP # 27824

MMZ
Bechtel Power Corporation

Engineers—Constructors

Fifty Beale Street

San Francisco, California

Mail Address: P.O. Box 3965, San Francisco, CA 94119



NOV 23 '83 0198166

Mr. T. M. Crimmins, Jr.
Pennsylvania Power and Light Company
P. O. Box 1870
Allentown, Pennsylvania 18105

Attention: J. P. Gutshall

Subject: Susquehanna Steam Electric Station
Units 1 and 2 - Job 8856
Drywell Spray Header - Flued Head
Thermal Shock

Dear Tom:

The question has been raised on the effects of thermal shock on the Drywell spray header flued head during an injection event of 100°F water into an empty pipe at 340°F.

We have reviewed this question and have concluded that the drywell spray flued head is completely adequate for this condition. This conclusion is based on a comparison with the feedwater flued head. The feedwater flued head is a Class 1 flued head and, as such, has a complete fatigue analysis (Vendor Print #8856-P7AC-38-(2)-1). Pertinent data for feedwater and drywell spray are tabulated below:

Pipe Thickness:	Drywell Spray 0.375", Feedwater 1.531"
Flued Head Thickness:	Drywell Spray 3.75", Feedwater 8.0"
Temperature Transient:	Drywell Spray 100° - 340°F, Feedwater 140° - 546°F

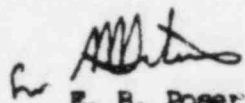
As can be seen, the feedwater flued head thickness is greater than the drywell spray flued head thickness and the feedwater transient is greater, therefore, the fatigue stresses in the drywell spray flued head will be lower than the stresses in the feedwater flued head and the drywell spray flued head is, therefore, adequate. It should also be noted that the feedwater flued head will see numerous temperature transients during the life of the plant (as accounted for in its fatigue analysis) while the drywell spray header would see at most one such transient since it is only used during a LOCA.

PP&L NOTE: BOTH FLUED HEADS ARE SAME
MATERIAL: SA-541 CLASS 1 JPH

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We wish to point out that Class 2 components do not require fatigue analysis to account for thermal transients per the ASME Code. Thermal transients are accounted for by lower allowable stresses in Class 2 components.

Very truly yours,


E. B. Poser
Project Engineer

Written Response Req'd: No
BM/LP/cgs

cc: A. Male (PP&L, Allentown)
W. Rhoades (PP&L, Allentown)