

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 8303210266 DOC. DATE: 83/03/11 NOTARIZED: NO DOCKET #  
 FACIL: 50-387 Susquehanna Steam Electric Station, Unit 1, Pennsylv 05000387  
 50-388 Susquehanna Steam Electric Station, Unit 2, Pennsylv 05000388  
 AUTH. NAME AUTHOR AFFILIATION  
 CURTIS, N.W. Pennsylvania Power & Light Co.  
 RECIP. NAME RECIPIENT AFFILIATION  
 SCHWENCER, A. Licensing Branch 2

SUBJECT: Forwards Rev 3 to "Evaluation of Feedwater Check Valves Due to Postulated Pipe Rupture for Susquehanna Steam Electric Station Units 1 & 2," per Unit 1 license Condition. Analysis can also be applied to Unit 2.

DISTRIBUTION CODE: B001S COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 2+27  
 TITLE: Licensing Submittal: PSAR/FSAR Amdts & Related Correspondence

NOTES: 1cy NMSS/FCAF/PM. 05000387  
 1cy NMSS/FCAF/PM. 05000388

	RECIPIENT ID CODE/NAME	COPIES LTR ENCL	RECIPIENT ID CODE/NAME	COPIES LTR ENCL
	NRR/DL/ADL	1 0	NRR LB2 BC	1 0
	NRR LB2 LA	1 0	PERCH, R. 01	1 1
INTERNAL:	ELD/HDS4	1 0	IE FILE	1 1
	IE/DEP EPDS 35	1 1	IE/DEP/EPLB 36	3 3
	NRR/DE/AEAB	1 0	NRR/DE/CEB 11	1 1
	NRR/DE/EQB 13	2 2	NRR/DE/GB 28	2 2
	NRR/DE/HGEB 30	1 1	NRR/DE/MEB 18	1 1
	NRR/DE/MTEB 17	1 1	NRR/DE/QAB 21	1 1
	NRR/DE/SAB 24	1 1	NRR/DE/SEB 25	1 1
	NRR/DHFS/HFEB40	1 1	NRR/DHFS/LQB 32	1 1
	NRR/DL/SSPB	1 0	NRR/DSI/AEB 26	1 1
	NRR/DSI/ASB	1 1	NRR/DSI/CPB 10	1 1
	NRR/DSI/CSB 09	1 1	NRR/DSI/ICSB 16	1 1
	NRR/DSI/METB 12	1 1	NRR/DSI/PSB 19	1 1
	NRR/DSI/RAB 22	1 1	NRR/DSI/RSB 23	1 1
	REG FILE 04	1 1	RGN1	3 3
	RM/DDAMI/MIB	1 0		
EXTERNAL:	ACRS 41	6 6	BNL (AMDTS ONLY)	1 1
	DMB/DSS (AMDTS)	1 1	FEMA-REP DIV 39	1 1
	LPDR 03	2 2	NRC PDR 02	1 1
	NSIC 05	1 1	NTIS	1 1
NOTES:		1 1		





# Pennsylvania Power & Light Company

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

Norman W. Curtis  
Vice President-Engineering & Construction-Nuclear  
215/770-7501

MAR 11 1983

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  
FEEDWATER CHECK VALVE ANALYSIS  
ER 100450 FILE 841-2  
PLA-1563

Docket Nos. 50-387  
50-388

Dear Mr. Schwencer:

Attached is a copy of the report entitled "Evaluation of Feedwater Check Valves Due to Postulated Pipe Rupture" prepared by Sargent & Lundy Engineers for PP&L in response to the condition set forth in paragraph 2.c.(30).(a) of Susquehanna SES Unit #1 Facility Operating License NPF-14.

The attached report presents a detailed analysis of the feedwater check valves following a feedwater line break outside the containment. A feedwater line break time of 100 milliseconds is used in the analysis and, based on an analogy made to information contained in NUREG/CR-1319, is determined to be a conservative break time for the pipe in question. Analyzed for the transient were the containment isolation valves HV-141F032A,B and 141F010A,B, as well as the Class 1 swing check valves HV-14107A,B located between the isolation valves. Included in the report is a summary of the hydraulic analysis performed to determine the closing characteristics (velocity, time, sequence) of the valves plus the results of this analysis. For the closing characteristics predicted, stress analyses and impact energy to work capacity comparisons are performed on components critical to valve operability to determine whether valve integrity is maintained throughout and after the transient.

The attached report shows that the stresses experienced by each valve due to the impact loads following a 100 millisecond pipe rupture are well within the allowable values for their respective materials. By determining analytically that for a pipe rupture time, which is conservative in comparison to published values, the valve internals are not overstressed, it can be concluded that the impact loads are not too great to prevent the valves from performing their intended containment isolation function in accordance with General Design Criterion 55 of 10CFR50, Appendix A. The analysis also shows

Boo!

8303210266 830311  
PDR ADOCK 05000387  
PDR

MAR 11 1983

Page 2

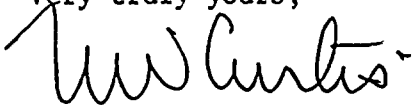
SSES PLA-1563  
ER 100450 File 841-2  
Mr. A. Schwencer

that the swing check valve (HV-14107A,B), while not a containment isolation valve, will maintain its integrity and, therefore, not interfere with the proper operation of the containment isolation valves.

This analysis can also be applied to Susquehanna SES Unit #2 feedwater check valves.

If you have any questions, please call.

Very truly yours,



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

Attachment

cc: R. L. Perch - NRC

