NRC Form 366 (9-83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO. 3150-0104
EXPIRES: 8/31/85

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Susquehanna Steam Electric Station - Unit 1	0 5 0 0 0 3 8 7	1 OF 0 2

TITLE (4)
Reactor Scram Due to Turbine Trip on Loss of Vacuum

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAMES	DOCKET NUMBER(S)
0 7	1 8	8 4	8 4	0 3 5	0 0	0 8	1 7	8 4		0 5 0 0 0
										0 5 0 0 0

OPERATING MODE (9): 1
POWER LEVEL (10): 0 2 5

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)

20.402(b)	20.405(c)	X 50.73(a)(2)(iv)	73.71(b)
20.405(a)(1)(i)	50.36(c)(1)	50.73(a)(2)(v)	73.71(c)
20.405(a)(1)(ii)	50.36(c)(2)	50.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)
20.405(a)(1)(iii)	50.73(a)(2)(i)	50.73(a)(2)(viii)(A)	
20.405(a)(1)(iv)	50.73(a)(2)(ii)	50.73(a)(2)(viii)(B)	
20.405(a)(1)(v)	50.73(a)(2)(iii)	50.73(a)(2)(x)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
Benjamin L. Wilks	AREA CODE 7 1 7 5 4 2 - 3 9 1 4

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	
D	K A	V	B 2 5 0	N							

SUPPLEMENTAL REPORT EXPECTED (14)

		EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
YES (If yes, complete EXPECTED SUBMISSION DATE)	X NO				

ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)

At 0514 hours on 7/18/84 with Unit 1 at 25% power, a turbine control valve fast closure initiated by low condenser vacuum pressure resulted in a trip of the reactor. Later it was discovered that the sudden loss of vacuum experienced by the condenser was the result of actions taken in establishing a valve line up that was to have transferred water from the Unit 1 Fuel Pool to the Fuel Pool Storage Tank via the Unit's Skimmer Surge Tank. The review for this particular valve line-up had used a drawing that, upon re-examination, showed two different valves apparently having the same numerical designation. Based on this discrepancy, the valve line up from the Unit 1 Fuel Pool to the Fuel Pool Storage Tank incorrectly identified valve 0-08-032 to be placed in the closed position. In actuality, valve 0-08-092, not 0-08-32, needed to be closed. Consequently, plant personnel closed valve 0-08-32, the Condensate Storage Tank (CST) Supply Valve to the Condenser Hotwell, at 0513 hours as directed through the specific line-up. This line up caused the condenser to draw suction from the top of the CST; drawing air into the hotwell, resulting in a loss of condenser vacuum. When the erroneous valve line-up was discovered and the CST Supply Valve to the Condenser was opened, the CST and Condenser Hotwell levels returned to normal. A change notice has been written to clarify the numerical designation of the two valves on the drawing that had been used for valve line-up.

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Susquehanna Steam Electric Station Unit 1	0 5 0 0 0 3 8 7	8 4	— 0 3 5	— 0 0	0 2 OF 0 2

TEXT (If more space is required, use additional NRC Form 366A's) (17)

At 0514 hours on 7/18/84, with Unit 1 in operating condition 1 at 25% power, a turbine control valve fast closure initiated by low condenser vacuum pressure resulted in a trip of the reactor. Later, it was discovered that the sudden loss of vacuum experienced by the Condenser was the result of actions taken in establishing a valve line-up that was to have transferred water from the Unit 1 Fuel Pool to the Fuel Pool Storage Tank via the Unit's Skimmer Surge Tank. The review conducted for this particular valve line-up had used a drawing that, upon reexamination, showed two different valves apparently having the same numerical designation. Based on this discrepancy, the valve line-up from the Unit 1 Fuel Pool to the Fuel Pool Storage Tank incorrectly identified valve 0-08-032 to be placed in the closed position. In actuality, valve 0-08-092 not 0-08-032, needed to be closed. Consequently, plant personnel closed valve 0-08-032, the Condensate Storage Tank (CST) Supply Valve to the Condenser Hotwell, at 0513 hours as directed through the specific line-up. Once this valve was closed, the Condenser began to take suction directly from the top of the Condensate Storage Tank (i.e., from a point at which the CST was approximately 96% full). When water was drained below 96% of the CST's capacity, air was drawn into the Condenser Hotwell, causing a loss of Condenser vacuum, a fast closure of the Turbine Control Valve, and a trip of the Unit 1 reactor.

Analysis of plant data following the trip indicated that Hotwell inventory losses were primarily due to the designated minimum reject flow for gasification without make-up available (due to the CST's isolation). A small amount of water was lost from the CST, but was collected by Turbine Building drains and transferred to Radwaste for processing. A visual inspection later determined no damage occurred to the CST. When the erroneous valve line-up was discovered and the CST Supply Valve to the Condenser Hotwell was opened, the CST and Condenser Hotwell levels returned to normal. A change notice was written to clarify the numerical designation of the two valves on the drawing that had been used for valve line-up.

During this occurrence, the Unit responded as redicted and its protective functions actuated per design, following the trip that as caused by the turbine control valve fast closure. There were no Emergency Core Cooling actuations as none were required; the reactor vessel level was maintained using the "A" Reactor Feed Pump and automatic vessel level control was restored using the Feedwater system low load valve.

This occurrence caused no adverse effects on the public's health and safety.

PP&L Pennsylvania Power & Light Company
Two North Ninth Street • Allentown, PA 18101 • 215/770-5151

August 17, 1984

U.S. Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555

SUSQUEHANNA STEAM ELECTRIC STATION
LICENSEE EVENT REPORT 84-035-00
ER 100450 FILE 841-23
PLA - 2286

Docket No. 50-387
License No. NPF-14

Attached Licensee Event Report 84-035-00. This event was determined reportable per 10 CFR 50.73(a)(2)(iV) in that an incorrect valve lineup caused a loss of condenser vacuum resulting in a turbine trip, and, a reactor scram.

H.W. Keiser
Superintendent of Plant-Susquehanna

BW/cg

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

Mr. R.H. Jacobs
Senior Resident Inspector
U.S. Nuclear Regulatory Commission
P.O. Box 52
Shickshinny, PA 18655

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