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 2	0 5 0 0 0 3 8 8	1 OF 0 2

TITLE (4)

Turbine Trip/Reactor Scram on Moisture Separator 'B' Drain Tank High Level.

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 9	3 0	8 4	8 4	— 0 2 1	— 0 1	0 1	2 9	8 5		0 5 0 0 0
										0 5 0 0 0

OPERATING MODE (9)	1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)			
POWER LEVEL (10)	1 0 0	20.402(b)	20.405(c)	X 50.73(a)(2)(iv)	73.71(b)
		20.405(a)(1)(i)	50.36(a)(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
L.A. Kuczynski - Nuclear Plant Specialist, Level III	AREA CODE 7 1 7 — 5 4 2 - 3 7 5 9

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	
B	T A	I L C	F 1 3 0	N							
A	T A	*	*	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)

On September 30, 1984, the reactor scrammed due to a turbine trip on moisture separator 'B' drain tank high level during the performance of a Startup Test (ST) to determine the maximum feedwater pump runout capabilities. Feedwater fluctuations resulted in a 45% reactor recirculation pump runback which showed that the moisture separator 'B' drain tank level control system did not accurately respond to the trainsient.

The following system modifications have been completed:

- 1:1 gain pneumatic boosters were installed in the tubing between the emergency dump valve's positioner and actuator diaphragm.
- A check valve was installed in the drain line from each drain tank.
- Proportional controllers with reset capabilities were installed in the moisture separator drain tank level control system.

Level control system operation has been acceptable. No further modifications are planned.

* Not Applicable.

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

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

On September 30, 1984, during the performance of a Startup Test (ST) to determine the maximum feedwater pump runout capabilities, the Unit experienced an unanticipated reactor scram from 100% power due to moisture separator 'B' drain tank high water level. Reactor Feed Pump (RFP) 'B' had been placed in manual control and a bump on the Manual Speed Controller Fast Decrease Button resulted in a rapid drop in the RFP 'B' speed. The operator immediately pushed the fast speed increase button. Feedwater flow was restored, but not before reactor level reached the point where a 45% reactor recirculation pump speed runback occurred. This caused a pressure transient throughout the main steam system. The moisture separator 'B' drain tank level swelled beyond the high level turbine trip setpoint. Except for the moisture separator drain tank level control system, the unit's response and performance throughout the transient was per design. There were no Emergency Core Cooling System actuations; none were required.

Due to the fact that the moisture separator drain tank level control system did not adequately respond to this transient, coupled with the drain valve problems which led to the scrams reported in LER 84-17, a task team has been established to evaluate the drain tank level control system.
Various system modifications have been implemented as detailed below:

- 1:1 gain pneumatic boosters were installed in the tubing between the valve positioner and the valve actuator diaphragm for the emergency dump valve on each moisture separator drain tank. This decreased the response time of the valves during transient conditions.
- A twelve inch check valve was installed in the drain line from each drain tank. This reduces the quantity of water available to flush in the moisture separators during transient conditions.
- Proportional controllers with reset capabilities were installed in place of the proportional only controllers in the moisture separators level control system. This stabilized the steady state response of the moisture separator control system and improved the level control valve response during transient conditions.

Moisture separator drain tank level control system operation has been satisfactory. No further modifications are planned.

PP&L Pennsylvania Power & Light Company
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January 29, 1985

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

SUSQUEHANNA STEAM ELECTRIC STATION
LICENSEE EVENT REPORT 84-021-01
ER 100450 FILE 841-23
PLAS-032

Docket No. 50-388
License No. NPF-22

Attached is Licensee Event Report 84-021-01. The event was determined reportable per 10CFR50.73(a)(2)(iv), in that the Unit experienced an unanticipated Reactor Protection System actuation when the reactor scrammed following a turbine trip on moisture separator 'B' drain tank high level. This update details the actions taken since this occurrence.

H.W. Keiser
Superintendent of Plant-Susquehanna

LAK/pjg

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