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)

Transformer T-10 Deenergization, Reactor Scram

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 6	1 3	8 4	8 4	0 2 8	0 0	0 7	1 3	8 4	SSES - Unit 2	0 5 0 0 0 3 8 8
										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(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
R.W. Stanley - Compliance Engineer	AREA CODE 7 1 7 5 4 2 - 3 1 1 6 6

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	
C	F I K	*	*	N							

SUPPLEMENTAL REPORT EXPECTED (14)		EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
YES (If yes, complete EXPECTED SUBMISSION DATE)	NO				

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

As a result of a lightining strike on a 230KV Transmission Line, the Unit 1 Start-up Transformer T-10 isolated, one of two sources of offsite power. The loss of the T-10 Transformer caused a trip to the Unit 1 and Unit 2 "A" Reactor Protection System (RPS). Reactor Building Zone I, II and III HVAC systems tripped and Standby Gas Treatment system initiated due to the loss of RPS. The effect on feedwater and reactor recirculation controls caused a reactor vessel level increase which resulted in a reactor scram. Plant systems responded as designed and resulted in the safe shutdown of the nuclear power plant.

This event is reportable per 10CFR50.73(a)(2)(iv) since an unplanned Engineered Safety Features (ESF) actuation occurred and the RPS tripped.

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* Not Applicable

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(9-83)

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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Susquehanna Steam Electric Station Unit 1	0 5 0 0 0 3 8 7	8 4	— 0 1 2 8	— 0 0	0 2 OF 0 2

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

The Montour-Mountain transmission line which supplies one of the two offsite power sources to the site was hit by lightning at 1720 on June 13, 1984. This caused the Unit 1 Startup Transformer (T-10) supply breaker to open. The resulting voltage transient tripped the Units 1 and 2 "A" RPS EPA breakers. The loss of "A" RPS caused many division I alarms to annunciate including ½ scram, various area radiation monitors and neutron monitoring trips. Actual initiations caused by the loss of RPS were division I primary containment isolation and trips of Zone I, (Reactor Building, Unit 1) HVAC Zone II, (Reactor Building, Unie 2) HVAC, Zone III (Common Area Refueling Floor) HVAC, initiation of Standby Gas Treatment system (SGTS). After the lightning strike, the supply breaker to startup bus 10 opened on under voltage. This caused the supply breakers to the ESS busses supplied by T-10 to open. ESS busses 1A, 1C and 2C transferred to their alternate sources, ESS transformers 201 and 211. The transfer of bus 2A occurred late causing the "A" Diesel Generator to start. The transfer finally did occur and the diesel never loaded to the bus. The tie breaker between bus 0A106 and 0A107 also closed on low voltage of startup bus 10.

The momentary loss of power to the 1A and 1C ESS Busses during transfer caused a loss of signal to the feedwater level control circuits, the reactor recirculation runback circuitry for both pumps and a loss of control signal to the "A" Reactor Recirc. Pump. This caused all the reactor feed pumps speed to fail constant. "A" Reactor Recirc. Scoop Tube to lock, and the "B" Reactor Recirc. to runback. The "A" Reactor Recirc. Runback was prevented by the scoop tube lock.

Due to the feedwater pumps locking up, feedwater flow was constant and reactor power (steam flow) decreased due to recirc. runback. This caused the reactor vessel level to rise. At a vessel level of +54 inches the main turbine tripped due to control valve fast closure, resulting in a scram. Reactor power level on Unit 1 was 100%. Reactor power level on Unit 2 was <1%.

The plant operated per design except (the previously noted slow transfer) of the 4KV 2A Bus, as indicated by the diesel generator starting. The diesel generator will get a start signal if both the primary and alternate source breakers are open for 0.5 seconds. The normal transfer will take approximately 0.35 sec. The individual breaker components and the entire transfer was tested with satisfactory results noted in every case.

This event did not effect the safe operation of the nuclear power plant since the ESF operated per design. A design review has been initiated to assess the affected portions of feedwater and reactor recirculation control circuitry.

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

July 13, 1984

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

SUSQUEHANNA STEAM ELECTRIC STATION
LICENSEE EVENT REPORT 84-028-00
ER 100450 FILE 841-23
PLA-2254

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

Attached is Licensee Event Report 84-028. This event was determined reportable per 10CFR50.73(a)(2)(iv), in that an unplanned Engineered Safety Features (ESF) actuation occurred.

H.W. Keiser
Superintendent of Plant-Susquehanna

RWS/pjg

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IE22
1/1