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)

Automatic Scram on Main Turbine Control Valve Fast Closure

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 3	0 3	8 4	8 4	0 1 3	0 0	0 4	0 2	8 4		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)	0 7 4	20.402(a)	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
	AREA CODE
L.A. Kuczynski - Nuclear Plant Specialist III	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	*	6 8	G 0 8 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)

During the weekly turbine test preventive maintenance activity, the main turbine tripped on a spurious trip of the turbine Thrust Bearing Wear Detector (TBWD) pressure switches. The turbine trip caused a turbine control valve fast closure and an automatic reactor scram as designed. Operator actions were correct throughout this event. Investigation concluded that the TBWD pressure switch trip was a spurious occurrence. Based on engineering evaluation, a blocking relay was replaced in the TBWD circuitry. Throughout the transient, the unit responded as predicted and the unit protective functions actuated per design.

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* System codes unavailable.

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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 3	— 0 0	0 2 OF 0 2

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

On March 3, 1984, while increasing power during a startup, the unit experienced an automatic reactor scram from 74% power. The scram was caused by main turbine control valve fast closure, initiated by a trip of the Thrust Bearing Wear Detector (TBWD) pressure switches. The TBWD trip was probably caused by a spurious malfunction of a blocking relay in the TBWD circuitry.

Licensed Operations personnel began the weekly turbine test preventive maintenance activity in accordance with the appropriate controlled procedure. The turbine overspeed and master trip solenoid valve tests were completed without incident. The test of the main turbine hydraulic thrust bearing wear detector also proceeded normally until the main control room alarm THRUST BRG WEAR TRIP SYS TROUBLE (not part of the test sequence) was received. The alarm was immediately followed by master turbine trip indication and the reactor scram. The immediate actions of the 'Reactor Scram' procedure were performed. Additional automatic actions following the scram were main turbine stop valve closure, reactor recirculation pumps tripped, and main condenser bypass valve actuation. Reactor feed pump turbine 'B', 'C' and condensate pumps 'C' and 'D' were manually tripped by the operator.

Thourghout the transient, the unit responded as predicted and the unit protective functions actuated per design. No Emergency Core Cooling Systems actuated; none were required to actuate per design. No isolations occurred, and none were required to occur per design. Following the scram, reactor vessel level was initially maintained using condensate pumps 'A' and 'B' and reactor feed pump 'A'. Automatic vessel level control was restored using the feedwater system low load valve.

Components in the circuitry involved in the TBWD testing were checked and found to operate properly. As a precaution, the circuit's blocking relay was replaced. If this event were to occur at full power, there would have been no adverse consequences to public health and safety.

PP&L Pennsylvania Power & Light Company
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April 2, 1984

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

SUSQUEHANNA STEAM ELECTRIC STATION
LICENSEE EVENT REPORT 84-013-00
ER 100450 FILE 841-23
PLA-2163

Attached is Licensee Event Report 84-013-00. This event was determined reportable per 10CFR50.73(a)(2)(iv), in that a trip in the main turbine thrust bearing wear detector circuitry caused a main turbine trip and subsequent reactor scram.

H.W. Keiser
Superintendent of Plant-Susquehanna

LAK/pjg

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