

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 8708250205 DOC. DATE: 87/08/21 NOTARIZED: NO DOCKET #
 FACIL: 50-387 Susquehanna Steam Electric Station, Unit 1, Pennsylv 05000387
 AUTH. NAME AUTHOR AFFILIATION
 WHERY, R. R. Pennsylvania Power & Light Co.
 BYRAM, R. G. Pennsylvania Power & Light Co.
 RECIP. NAME RECIPIENT AFFILIATION

SUBJECT: LER 87-024-00: on 870722, spurious electrical protection assembly breaker trip occurred causing loss of primary power supply to "A" reactor protection sys panel 1Y201A. Cause of breaker trip undertermined. W/870821 ltr.

DISTRIBUTION CODE: IE22D COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 4
 TITLE: 50.73 Licensee Event Report (LER), Incident Rpt, etc.

NOTES: 1cy NMSS/FCAF/PM. LPDR 2cys Transcripts. 05000387

	RECIPIENT ID CODE/NAME	COPIES LTTR ENCL	RECIPIENT ID CODE/NAME	COPIES LTTR ENCL
	PD1-2 LA	1 1	PD1-2 PD	1 1
	THADANI, M	1 1		
INTERNAL:	ACRS MICHELSON	1 1	ACRS MOELLER	2 2
	AEOD/DOA	1 1	AEOD/DSP/NAS	1 1
	AEOD/DSP/ROAB	2 2	AEOD/DSP/TPAB	1 1
	DEDRO	1 1	NRR/DEST/ADS	1 0
	NRR/DEST/CEB	1 1	NRR/DEST/ELB	1 1
	NRR/DEST/ICSB	1 1	NRR/DEST/MEB	1 1
	NRR/DEST/MTB	1 1	NRR/DEST/PSB	1 1
	NRR/DEST/RSB	1 1	NRR/DEST/SGB	1 1
	NRR/DLPQ/HFB	1 1	NRR/DLPQ/QAB	1 1
	NRR/DOEA/EAB	1 1	NRR/DREP/RAB	1 1
	NRR/DREP/RPB	2 2	NRR/PMAS/ILRB	1 1
	<u>REG FILE</u> 02	1 1	RES DEPY GI	1 1
	RES TELFORD, J	1 1	RES/DE/EIB	1 1
	RGN1 FILE 01	1 1		
EXTERNAL:	EG&G GROH, M	5 5	H ST LOBBY WARD	1 1
	LPDR	2 2	NRC PDR	1 1
	NSIC HARRIS, J	1 1	NSIC MAYS, G	1 1
NOTES:		3 3		

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Susquehanna Steam Electric Station - Unit 1	DOCKET NUMBER (2) 0 5 0 0 0 3 8 7	PAGE (3) 1 OF 0 3
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TITLE (4)
Reactor Protection System Electrical Protection Assembly (EPA) Breaker Spurious Trip

EVENT DATE (5)			LER NUMBER (8)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)		
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAMES		DOCKET NUMBER(S)
07	22	87	87	024	00	08	21	87			0 5 0 0 0
											0 5 0 0 0

OPERATING MODE (9) 1

POWER LEVEL (10) 1 | 0 | 0

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)	<input checked="" type="checkbox"/> 60.73(a)(2)(iv)	73.71(b)
20.405(a)(1)(i)	60.36(c)(1)	60.73(a)(2)(v)	73.71(c)
20.405(a)(1)(ii)	60.36(c)(2)	60.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)
20.405(a)(1)(iii)	60.73(a)(2)(i)	60.73(a)(2)(viii)(A)	
20.405(a)(1)(iv)	60.73(a)(2)(ii)	60.73(a)(2)(viii)(B)	
20.405(a)(1)(v)	60.73(a)(2)(iii)	60.73(a)(2)(x)	

LICENSEE CONTACT FOR THIS LER (12)

NAME Richard R. Wehry - Power Production Engineer	TELEPHONE NUMBER
	AREA CODE: 7 1 7 5 4 2 - 3 6 6 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

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE) NO

EXPECTED SUBMISSION DATE (15)

MONTH	DAY	YEAR

ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (18)

On July 22, 1987 at 0504 hours, with Unit One operating at 100% power, the primary power supply to the "A" Reactor Protection System (RPS) Panel 1Y201A was lost when the "C" Electrical Protection Assembly (EPA) breaker tripped. The following were observed to occur, as designed, when the EPA breaker tripped following loss of RPS power, isolations of Reactor Water Cleanup and Heating, Ventilation and Air Conditioning Zones I and III systems occurred, Standby Gas Treatment and Control Room Emergency Outside Air Supply Systems initiated, and other secondary isolations, trips and indications took place.

The cause of the EPA breaker trip is undetermined. All functions of the EPA logic card were tested and found within tolerances, with no evidence of spurious trip outputs. The molded case breaker was operated several times and reset properly after each trip. The trip occurred as an RPS channel half-scrum was being reset during a weekly Average Power Range Monitor Functional Test surveillance, and is surmised to have been a spurious load induced trip.

Operations personnel transferred the "A" RPS to its alternate power supply and the affected systems were restored. Full power operation of the unit continued uninterrupted.

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PDR ADCK 05000387
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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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

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

DESCRIPTION OF EVENT

On July 22, 1987 at 0504 hours with Unit One operating at 100% power, the primary power supply to the "A" Reactor Protection System (RPS) (EIIS Code: JC) Panel 1Y201A was lost when the "C" Electrical Protection Assembly (EPA) breaker tripped. The following were observed to occur:

- 1) "A" Channel scram indication.
- 2) Reactor Water Cleanup Pumps tripped when the inboard isolation valve (F001) closed. (RWCU, EIIS Code: CE).
- 3) Main Steam Line Drain Valve F016 isolated (EIIS Code: SB)
- 4) Containment Atmosphere "A" Sample Inboard valves closed (EIIS Code IK)
- 5) HVAC Zone I and Zone III isolated (EIIS Code: VA)
- 6) Containment Atmosphere "B" Sample Outboard valves closed (EIIS Code IK)
- 7) "A" Standby Gas Treatment System (SGTS) started (EIIS Code: BH)
- 8) "A" Control Room Emergency Outside Air Supply System (CREOASS) started (EIIS Code: BH).
- 9) "A" Recirculation Fan started (EIIS Code: VA)
- 10) "A" Residual Heat Removal Service Water Pump tripped (EIIS Code: BS)
- 11) "A2" Containment Radiation Monitor Pump tripped (EIIS Code: IK)
- 12) Standby Gas Treatment (SGTS) and Unit 1 Reactor Bldg. SPING flow alarms came in.
- 13) Reactor Recirc Pump cooling valves isolated (EIIS Code: CC)

Full power operation continued uninterrupted.

CAUSE OF EVENT

The cause of the EPA breaker trip is undetermined. Weekly nuclear instrumentation surveillance SI-178-209 (Weekly Functional Test of Average Power Range Monitor (APRM) Channel A-F) was in progress at the time. Approximately a half dozen "A" channel half-scrams had been received and reset in accordance with the performance of the surveillance test. RPS power was lost approximately one second after an "A" channel half-scam was reset in accordance with the surveillance procedure. It is surmised that the EPA breaker trip was a spurious load induced trip, since subsequent investigation and functional testing determined that no breaker or logic card problems existed. Half-scrams and successful resets have subsequently been performed during subsequent weekly I&C surveillances with no EPA breaker trip recurrence.

REPORTABILITY/ANALYSIS

This event was determined reportable per 10CFR50.73(a) (2) (iv) in that unplanned Engineered Safety Feature (ESF) actuations occurred due to loss of the primary power supply to the "A" RPS Panel 1Y201A when the "C" EPA breaker tripped and Zones I and III HVAC and RWCU isolated and SGTS and CREOASS started. The ESF systems actuated per design and operated properly and no safety consequences or compromise to public health or safety occurred.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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

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

CORRECTIVE ACTION

Operations personnel transferred the "A" RPS to its alternate power supply and the affected systems were restored. All functions of the EPA logic card were tested by maintenance personnel and found within tolerances, with no evidence of spurious trip outputs. The molded case breaker was operated several times and reset successfully after each trip. Half-scrams and successful resets were subsequently performed during I&C surveillance testing with no EPA breaker trip recurrence.

ADDITIONAL INFORMATION

A review of past Licensee Event Reports (LER's) identified six previous occasions when EPA breaker trips resulted in ESF actuations. These events are documented in LER's 83-172/03L, 84-011, 84-037, 86-023 and 86-029, however, in each case, a root cause was determined and corrective action was taken. This EPA breaker trip does not appear to be a recurrence of any of the previous causes.





Pennsylvania Power & Light Company

P.O. Box 451 • Berwick, PA 18603-0451 • 717/542-2151

August 21, 1987

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

SUSQUEHANNA STEAM ELECTRIC STATION
LICENSEE EVENT REPORT 87-024-00
FILE R41-2
PLAS - 277

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

Attached is Licensee Event Report 87-024-00. This event was determined reportable per 10CFR50.73 (a) (2) (iv) in that unplanned Engineered Safety Feature (ESF) actuations occurred due to loss of the primary power supply to the "A" RPS Panel 1Y201A when the "C" EPA breaker tripped.

R. G. Byram
Superintendent of Plant - Susquehanna

RRW/cmw

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