

ACCELERATED DISTRIBUTION DEMONSTRATION SYSTEM

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 8804200222 DOC. DATE: 88/04/15 NOTARIZED: NO DOCKET #
 FACIL: 50-388 Susquehanna Steam Electric Station, Unit 2, Pennsylvania 05000388
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 RECIPIENT NAME RECIPIENT AFFILIATION

SUBJECT: LER 88-005-00: on 880319, multiple ESF actuations caused by failed reactor protection sys logic card.

W/8 ltr.

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

NOTES: LPDR 2 cys Transcripts.

05000388

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	RES/DE/EIB	1				1	RES/DRPS DIR	1				1
	RGN1 FILE 01	1				1						
EXTERNAL:	EG&G GROH, M	4				4	FORD BLDG HOY, A	1				1
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LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Susquehanna Steam Electric Station - Unit 2	DOCKET NUMBER (2) 0 5 0 0 0 3 8 8	PAGE (3) 1 OF 0 3
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TITLE (4)
Multiple ESF Actuations caused by failed RPS EPA breaker logic card

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	1988	88	005	00	0	4	1988			0 5 0 0 0

OPERATING MODE (8) 5	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)									
POWER LEVEL (10) 0 0 0	<input type="checkbox"/> 20.402(b)	<input type="checkbox"/> 20.406(c)	<input checked="" type="checkbox"/> 50.73(a)(2)(iv)	<input type="checkbox"/> 73.71(b)						
	<input type="checkbox"/> 20.405(a)(1)(i)	<input type="checkbox"/> 50.36(c)(1)	<input type="checkbox"/> 50.73(a)(2)(v)	<input type="checkbox"/> 73.71(c)						
	<input type="checkbox"/> 20.405(a)(1)(ii)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(vi)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)						
	<input type="checkbox"/> 20.405(a)(1)(iii)	<input type="checkbox"/> 50.73(a)(2)(i)	<input type="checkbox"/> 50.73(a)(2)(vii)(A)							
	<input type="checkbox"/> 20.405(a)(1)(iv)	<input type="checkbox"/> 50.73(a)(2)(ii)	<input type="checkbox"/> 50.73(a)(2)(vii)(B)							
	<input type="checkbox"/> 20.405(a)(1)(v)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(x)							

LICENSEE CONTACT FOR THIS LER (12)

NAME Robert Sheranko Senior Results Engineer - Compliance	TELEPHONE NUMBER 7 1 7 5 4 2 - 1 3 8 5 1 6
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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	J C	B K R	G 0 8 0	Y					

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) (16)

At 228 on March 19, 1988, with the Unit at 0% power in the Refueling mode, the Unit experienced multiple Engineered Safety Feature (ESF) actuations. These actuations occurred when the primary power supply to the "A" Reactor Protection System (RPS) Panel 2Y201A was lost due to the unplanned automatic tripping of the "C" Electrical Protection Assembly (EPA) breaker.

Operations personnel carried out the instructions of off-normal procedure ON-259-002, "Containment Isolation." By 2235, the "A" RPS bus had been transferred to its alternate power supply, the RPS half-scrum had been reset, and the primary containment isolation had been reset. One RWCU pump was started at 2252. RHR shutdown cooling was restored at 2337.

Tripping of the "C" EPA breaker was caused by a failure in the voltage regulation circuitry of the breaker's electrical protection logic card. The ESF systems actuated as designed and operated properly.

The failed logic card was replaced and the new card was calibrated.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
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TEXT (If more space is required, use additional NRC Form 368A's) (17)

DESCRIPTION OF EVENT

At 2228 on March 19, 1988, with the Unit at 0% power in the Refueling mode, the Unit experienced multiple Engineered Safety Feature (ESF) actuations. These actuations occurred when the primary power supply to the "A" Reactor Protection System (RPS) (EIIS:JC) Panel 2Y201A was lost due to the unplanned automatic tripping of the "C" Electrical Protection Assembly (EPA) breaker. The following items were among those observed to occur:

- 1) RPS Channel "A" scrambled (Half scram)
- 2) Residual heat Removal system (RHR) (EIIS:BO) valves F009 and F015A (suction inboard isolation valve and discharge outboard isolation valve, respectively) closed causing the loss of shutdown cooling.
- 3) Reactor Water Cleanup system (RWCU) (EIIS:CE) inboard isolation valve F001 closed causing the loss of RWCU.
- 4) "A" Standby Gas Treatment System (SGTS) (EIIS:BH) started.
- 5) "A" Control Room Emergency Outside Air Supply System (CREOASS) (EIIS:BH) started.

Operations personnel carried out the instructions of off-normal procedure ON-259-002, "Containment Isolation." By 2235, the "A" RPS bus had been transferred to its alternate power supply, the RPS half-scrum had been reset, and the primary containment isolation had been reset. One RWCU pump was started at 2252. RHR shutdown cooling was restored at 2337.

CAUSE OF EVENT

Tripping of the "C" EPA breaker was caused by a failure in the voltage regulation circuitry of the breaker's electrical protection logic card. The ESF systems actuated as designed and operated properly.

ANALYSIS OF EVENT

This event was determined reportable per 10CFR50.73(a) (2) (iv) in that the unit experienced multiple unplanned ESF actuations upon loss of power to the "A" RPS electrical panel 2Y201A.

There were no safety implications to the public during the occurrence nor would there have been if the occurrence took place during any other plant condition since the ESF systems actuated per design and operated properly. Shutdown cooling was restored within 70 minutes. Reactor coolant temperature and level remained satisfactory throughout the event. All affected systems were readily returned to desired status.



LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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

CORRECTIVE ACTION

The failed logic card was replaced and the new card was calibrated.

ADDITIONAL INFORMATION

Failed Component: General Electric logic board; GE part number 147D8652G003.

Similar Events: A review of past Licensee Event Reports (LER's) for the station identified seven previous occasions when EPA breaker trips resulted in ESF actuations. All of these events occurred on Unit 1 (Docket No. 50-387, License No. NPF-14) and are reported in LER's 83-172/03L, 84-011, 84-037, 86-023, 86-029 and 87-024. Only one of these events were caused by a defective EPA logic Board as reported in LER 86-029. There have been no previous occurrences of primary power supply EPA breaker tripping on this unit.



Pennsylvania Power & Light Company

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April 15, 1988

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

SUSQUEHANNA STEAM ELECTRIC STATION
LICENSEE EVENT REPORT 88-005-00
FILE R41-2
PLAS - 313

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

Attached is Licensee Event Report 88-005-00. 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 2Y201A when the "C" EPA breaker tripped.

R. G. Byram
Superintendent of Plant - Susquehanna

RGS/mjm

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