

# ACCELERATED DISTRIBUTION DEMONSTRATION SYSTEM

## REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 8808150203      DOC. DATE: 88/08/09      NOTARIZED: NO      DOCKET #  
 FACIL: 50-387 Susquehanna Steam Electric Station, Unit 1, Pennsylvania      05000387  
 AUTH. NAME      AUTHOR AFFILIATION  
 WEHRY, R.R.      Pennsylvania Power & Light Co.  
 RECIP. NAME      RECIPIENT AFFILIATION

SUBJECT: LER 88-014-00: on 880809, lightning strike causes unplanned ESF actuations.

W/8      ltr.

DISTRIBUTION CODE: IE22D      COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 3  
 TITLE: 50.73 Licensee Event Report (LER), Incident Rpt, etc.

NOTES: LPDR 2 cys Transcripts.

05000387 /

	RECIPIENT ID CODE/NAME	COPIES	LTR	ENCL	RECIPIENT ID CODE/NAME	COPIES	LTR	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	
	ARM/DCTS/DAB	1	1		DEDRO	1	1	
	NRR/DEST/ADS 7E	1	0		NRR/DEST/CEB 8H	1	1	
	NRR/DEST/ESB 8D	1	1		NRR/DEST/ICSB 7	1	1	
	NRR/DEST/MEB 9H	1	1		NRR/DEST/MTB 9H	1	1	
	NRR/DEST/PSB 8D	1	1		NRR/DEST/RSB 8E	1	1	
	NRR/DEST/SGB 8D	1	1		NRR/DLPQ/HFB 10	1	1	
	NRR/DLPQ/QAB 10	1	1		NRR/DOEA/EAB 11	1	1	
	NRR/DREP/RAB 10	1	1		NRR/DREP/RPB 10	2	2	
	NRR/DRIS/SIB 9A	1	1		NUDOCS-ABSTRACT	1	1	
	<del>REG FILE</del> 02	1	1		RES TELFORD, J	1	1	
	RES/DSIR DEPY	1	1		RES/DSIR/EIB	1	1	
	RES/DSR DEPY	1	1		RGN1 FILE 01	1	1	
EXTERNAL:	EG&G WILLIAMS, S	4	4		FORD BLDG HOY, A	1	1	
	H ST LOBBY WARD	1	1		LPDR	2	2	
	NRC PDR	1	1		NSIC HARRIS, J	1	1	
	NSIC MAYS, G	1	1					
NOTES:		2	2					

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LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) <b>Susquehanna Steam Electric Station - Unit 1</b>	DOCKET NUMBER (2) <b>0 5 0 0 0 3 8 7</b>	PAGE (3) <b>1 OF 0 2</b>
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TITLE (4)  
**Lightning Strike Causes Unplanned ESF Actuations**

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)
07	16	88	88	014	00	08	09	88	<b>SSES - Unit 2</b>	<b>0 5 0 0 0 3 8 8</b>

OPERATING MODE (9) <b>1</b>	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)									
POWER LEVEL (10) <b>1 0 0</b>	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)	<input type="checkbox"/>	60.73(a)(2)(v)	73.71(c)					
	20.405(a)(1)(ii)	60.36(c)(2)	<input type="checkbox"/>	60.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 355A)					
	20.405(a)(1)(iii)	60.73(a)(2)(i)	<input type="checkbox"/>	60.73(a)(2)(viii)(A)						
	20.405(a)(1)(iv)	60.73(a)(2)(ii)	<input type="checkbox"/>	60.73(a)(2)(viii)(B)						
	20.405(a)(1)(v)	60.73(a)(2)(iii)	<input type="checkbox"/>	60.73(a)(2)(x)						

LICENSEE CONTACT FOR THIS LER (12)	
NAME <b>Richard R. Wehry, Power Production Engineer - Compliance</b>	TELEPHONE NUMBER AREA CODE: <b>7 1 7 5</b>   <b>4 2</b>   <b>- 3 6 1 6 4</b>

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)		EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
<input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE)	<input checked="" type="checkbox"/> NO				

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

On July 16, 1988 at 1845 hours, with both Unit 1 and Unit 2 operating at 100% power, a lightning strike on the 230 KV offsite transmission system caused Startup Transformer T-10 to de-energize. Loads normally powered from Startup Transformer T-10 through Startup Bus 10 transferred to Startup Bus 20 as designed. During this transfer, the momentary power loss to the Unit 1 and Unit 2 "A" and "C" Emergency Safeguards System buses caused a Division I isolation of the Zone I and III Heating, Ventilating and Air Conditioning systems, Reactor Water Cleanup System isolations on both units, loss of the "A" channel of the Unit 1 Reactor Protection System and an automatic start of the Standby Gas Treatment and Control Room Emergency Outside Air Supply systems. Various radiation monitors, chillers and other plant equipment also tripped or isolated due to the power interruption. The units were stabilized and the affected systems were restored as applicable.

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*11*

8808150203 880809  
PDR ADOCK 05000387  
S PDC

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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

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

DESCRIPTION OF EVENT

On July 16, 1987 at 1845 hours, with both Unit 1 and Unit 2 operating at 100% power, a lightning strike on the 230 KV offsite transmission system caused Startup Transformer T-10 to de-energize. Loads normally powered from Startup Transformer T10 through Startup Bus 10 transferred to Startup Bus 20 as designed. During this transfer, the momentary power loss to the Unit 1 and Unit 2 "A" and "C" Emergency Safeguards System buses (EIIS Code: EB) caused a Division I isolation of the Zone I and III Heating, Ventilating and Air Conditioning systems (HVAC, EIIS Code: VA), Reactor Water Cleanup System (RWCU, EIIS Code: CE) isolations on both units, loss of the Unit 1 "A" channel of the Reactor Protection System (RPS, EIIS Code: JC) and automatic starts of the Standby Gas Treatment (SGTS, EIIS Code: BH) and the Control Room Emergency Outside Air Supply System (CREOASS, EIIS Code: BH). Various radiation monitors, chillers and other plant equipment also tripped or isolated due to the power interruption.

CAUSE OF EVENT

A lightning strike on the 230 KV offsite transmission system caused Startup Transformer T-10 to de-energize. Bus 10 loads transferred to Bus 20 as designed. The momentary power loss resulted in the various perturbations described above.

REPORTABILITY/ANALYSIS

This event was determined reportable per 10CFR50.73(a)(2)(iv) in that unplanned Engineered Safety Feature (ESF) actuations occurred when Zones I and III HVAC and Unit 1 and Unit 2 RWCU systems isolated and the SGTS and CREOASS started. The ESF systems performed their intended functions and no safety consequences or compromise to public health or safety occurred.

CORRECTIVE ACTIONS

The units were stabilized and the affected systems were restored as applicable. A subsequent isolation of the Unit 1 RWCU system occurred due to a faulty readout switch on the Riley meter for temperature switch TSH-G33-1N600F. A Work Authorization was submitted to correct the faulty switch.

ADDITIONAL INFORMATION

A review of past Licensee Event Reports (LER's) identified seven previous occasions in which T-10 was lost resulting in ESF actuations. These events are documented in LER's 83-092, 84-028, 84-029, 85-035, 86-028 (LER 86-028 covers two events in the one report) and 87-020.



**Pennsylvania Power & Light Company**

Two North Ninth Street • Allentown, PA 18101 • 215/770-5151

August 9, 1988

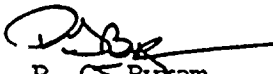
U. S. Nuclear Regulatory Commission  
Document Control Desk  
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SUSQUEHANNA STEAM ELECTRIC STATION  
LICENSEE EVENT REPORT 88-014-00  
FILE R41-2  
PLAS- 328

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

Attached is Licensee Event Report 88-014-00. This event was determined reportable per 10CFR50.73(a) (2) (iv) in that multiple unplanned Engineered Safety Feature (ESF) actuations occurred when power was lost to Startup Transformer T-10 due to a lightning strike.

  
R. G. Byham  
Superintendent of Plant - Susquehanna

RRW/mjm

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