

# ACCELERATED DISTRIBUTION DEMONSTRATION SYSTEM

## REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 8803080088      DOC. DATE: 88/03/03      NOTARIZED: NO      DOCKET #  
 FACIL: 50-388 Susquehanna Steam Electric Station, Unit 2, Pennsylv      05000388  
 AUTH. NAME      AUTHOR AFFILIATION  
 SHERANKO, R.G.      Pennsylvania Power & Light Co.  
 BYRAM, R.G.      Pennsylvania Power & Light Co.  
 RECIP. NAME      RECIPIENT AFFILIATION

SUBJECT: LER 87-012-01: on 871028, auxiliary boiler arc-over causes primary containment isolation valve closure.

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: 1cy NMSS/FCAF/PM.      LPDR 2cys Transcripts.      05000388

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	PD1-2 LA	1		1	PD1-2 PD	1		1	/
	THADANI, M	1		1					A
INTERNAL:	ACRS MICHELSON	1		1	ACRS MOELLER	2		2	D
	AEOD/DOA	1		1	AEOD/DSP/NAS	1		1	D
	AEOD/DSP/ROAB	2		2	AEOD/DSP/TPAB	1		1	S
	ARM/DCTS/DAB	1		1	DEDRO	1		1	
	NRR/DEST/ADS7E4	1		0	NRR/DEST/CEB8H7	1		1	
	NRR/DEST/ESB 8D	1		1	NRR/DEST/ICSB7A	1		1	
	NRR/DEST/MEB9H3	1		1	NRR/DEST/MTB 9H	1		1	
	NRR/DEST/PSB8D1	1		1	NRR/DEST/RSB 8E	1		1	
	NRR/DEST/SGB 8D	1		1	NRR/DLPQ/HFB10D	1		1	
	NRR/DLPQ/QAB10A	1		1	NRR/DOEA/EAB11E	1		1	
	NRR/DREP/RAB10A	1		1	NRR/DREP/RPB10A	2		2	
	NRR/DRIS/SIB9A1	1		1	NRR/PMAS/ILRB12	1		1	
	<u>REG FILE</u> 02	1		1	RES TELFORD, J	1		1	
	RES/DE/EIB	1		1	RES/DRPS DIR	1		1	
	RGN1 FILE 01	1		1					
EXTERNAL:	EG&G GROH, M	5		5	FORD BLDG HOY, A	1		1	R
	H ST LOBBY WARD	1		1	LPDR	2		2	
	NRC PDR	1		1	NSIC HARRIS, J	1		1	I
	NSIC MAYS, G	1		1					D

NOTES:      3      3

TOTAL NUMBER OF COPIES REQUIRED: LTR 50 ENCL 49

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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 2
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TITLE (4)  
Auxiliary Boiler Arc-Over Causes Primary Containment Isolation Valve 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		
1	0	2	8	8	7	8	7	8	SSES Unit 1		
8	7	8	7	0	1	0	3	0	DOCKET NUMBER(S) 0 5 0 0 0 3 8 7		
8	7	8	7	0	1	0	3	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) 11010	20.402(b)	20.405(c)	<input checked="" type="checkbox"/>	50.73(a)(2)(iv)	73.71(b)					
	20.405(a)(1)(i)	50.38(c)(1)	<input type="checkbox"/>	50.73(a)(2)(v)	73.71(c)					
	20.405(a)(1)(ii)	50.38(c)(2)	<input type="checkbox"/>	50.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 365A)					
	20.405(a)(1)(iii)	50.73(a)(2)(i)	<input type="checkbox"/>	50.73(a)(2)(viii)(A)						
	20.405(a)(1)(iv)	50.73(a)(2)(ii)	<input type="checkbox"/>	50.73(a)(2)(viii)(B)						
	20.405(a)(1)(v)	50.73(a)(2)(iii)	<input type="checkbox"/>	50.73(a)(2)(ix)						

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
Robert G. Sheranko - Senior Results Engineer - Compliance	7 1 1 7 5 4 2 1 - 3 8 5 1 6

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPDOS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPDOS

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 0830 on October 28, 1987, a spurious Engineered Safety Feature actuation occurred on Unit 2. With Unit 1 in Refueling and Unit 2 in normal power operations at 100% power, auxiliary boiler "A" experienced an internal electrical arc-over which caused an overcurrent trip of its 13.8KV supply breaker. This caused a transient on the Startup Bus 10 which resulted in closure of Unit 2 Primary Containment Isolation Valves associated with the containment atmosphere control system and various other minor system perturbations and alarms on Unit 2 and Unit 1. Unit 2 reactor power remained constant throughout the occurrence and recovery. All affected systems were promptly returned to normal operation.

Root cause of the event was cognitive personnel error. The utility nonlicensed operator involved did not adhere to the auxiliary boiler system operating procedure. The operator did not establish proper boiler pressure and feedwater conductivity prior to supplying high voltage to the boiler as required by the system's operating procedure. All operators will receive training on the importance of adhering to the auxiliary boiler system operating procedure as well as other system operating procedures. Investigation into the adequacy of auxiliary boiler system design and operating procedures is continuing among Operations and Engineering personnel. Changes to design and/or procedures will be made as deemed appropriate.

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PDR ADOCK 05000388  
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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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

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

DESCRIPTION OF EVENT

At 0830 on October 28, 1987, a spurious Engineered Safety Feature (ESF) actuation occurred on Unit 2. With Unit 1 in Refueling and Unit 2 in normal power operations at 100% power, auxiliary boiler "A" (EIIS Code: SA) experienced an internal electrical arc-over which caused an overcurrent trip of its 13.8KV supply breaker. This caused a transient on the Startup Bus 10 (EIIS Code: EA) which resulted in closure of the Unit 2 Div I containment atmosphere control valves (EIIS Code: IK) and other minor system perturbations on Unit 2 and Unit 1. There were no loads being fed by the "A" Auxiliary Boiler at the time of arc-over.

Unit 2 reactor power remained constant throughout the occurrence and recovery. All affected systems were promptly returned to normal operation.

CAUSE OF EVENT AND CORRECTIVE ACTION

Root cause of the event was cognitive personnel error. The utility nonlicensed operator involved did not adhere to the auxiliary boiler system operating procedure. The operator did not establish proper boiler pressure and feedwater conductivity prior to supplying high voltage to the boiler as required by the system's operating procedure. All operators will receive training on the importance of adhering to the auxiliary boiler system operating procedure as well as other system operating procedures. Investigation into the adequacy of auxiliary boiler system design and operating procedures is continuing among Operations and Engineering personnel. Changes to design and/or procedures will be made as deemed appropriate.

ANALYSIS

This event was determined reportable per 10CFR50.73(a) (2) (iv) in that the unit experienced an unanticipated Engineered Safety Feature actuation when the Unit 2 containment atmosphere control valves, which are Primary Containment Isolation System Valves, closed.

There were no safety implications to the public during this occurrence, nor would there have been any if the occurrence took place during any other condition. During the occurrence, the affected valves, which are for sampling purposes only, failed to the safe (closed) position and were successfully reopened after the electrical transient without problems.

ADDITIONAL INFORMATION

Previous Similar Events: Similar electrical transients caused by auxiliary boiler arc-overs have occurred in the past as reported in LER's 82-065, 84-043, and 87-010.



Pennsylvania Power & Light Company

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March 3, 1988

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

SUSQUEHANNA STEAM ELECTRIC STATION  
LICENSEE EVENT REPORT 87-012-01  
ER 100450                      FILE-R41-2  
PLAS -

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

Attached is Licensee Event Report 87-012-01, a supplemental report to the event of October 28, 1987.

R. G. Byram  
Superintendent of Plant - Susquehanna

RGS/mjm

cc: Mr. William T. Russell  
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IE228  
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