

CATEGORY 1

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 9703260002 DOC. DATE: 97/03/18 NOTARIZED: NO DOCKET #
 FACIL: 50-388 Susquehanna Steam Electric Station, Unit 2, Pennsylvania 05000388
 AUTH. NAME AUTHOR AFFILIATION
 CODDINGTON, C.T. Pennsylvania Power & Light Co.
 KUCZYNSKI, G.J. Pennsylvania Power & Light Co.
 RECIPIENT NAME RECIPIENT AFFILIATION

SUBJECT: LER 97-001-00: on 970216, loss of both trains of emergency switchgear room cooling occurred. Caused by under-sized thermal overload protection. Replaced thermal overload protection & repaired fan discharge damper. W/970318 ltr.

DISTRIBUTION CODE: IE22T COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 5
 TITLE: 50.73/50.9 Licensee Event Report (LER), Incident Rpt, etc.

NOTES:

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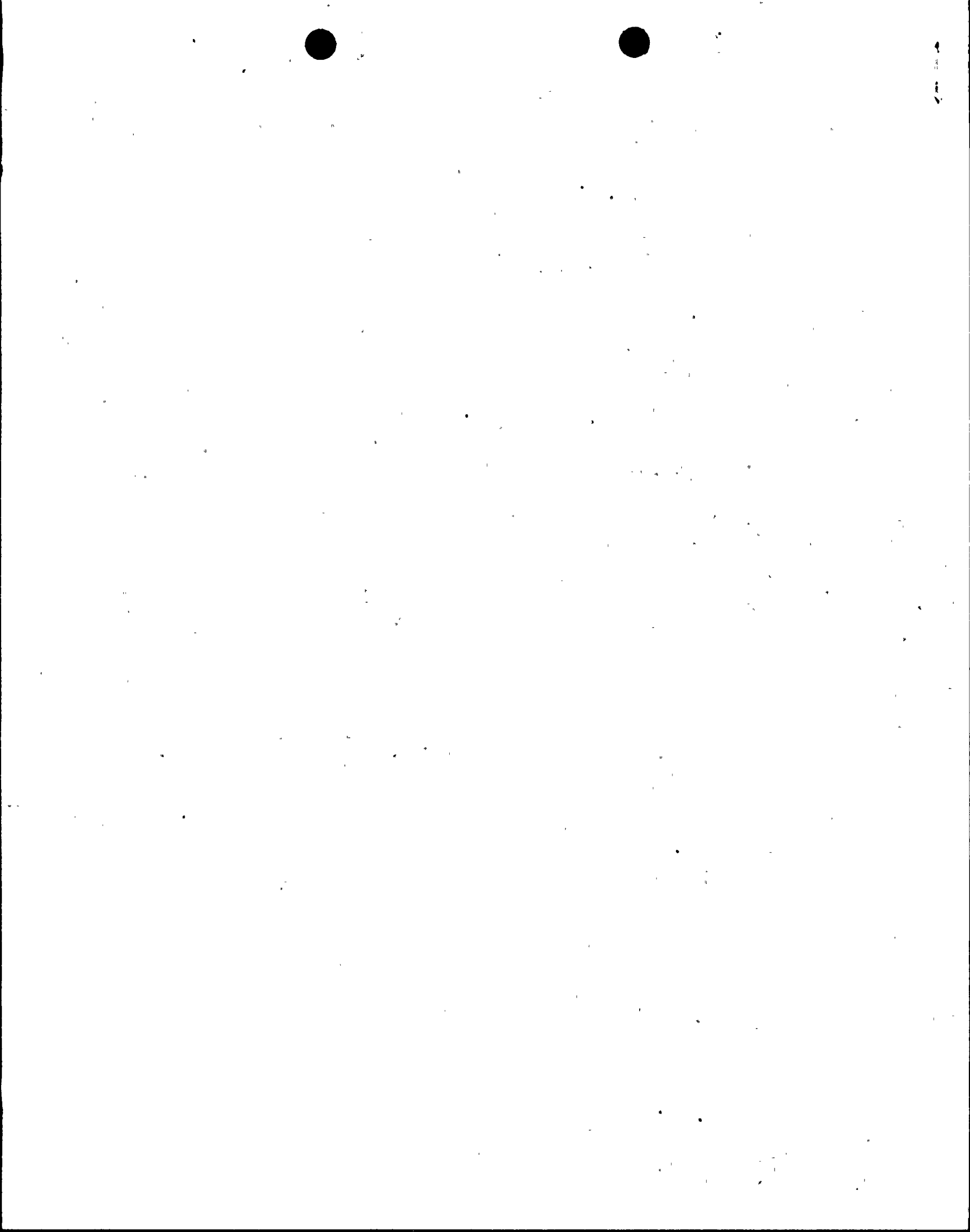
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Pennsylvania Power & Light Company

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March 18, 1997

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
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SUSQUEHANNA STEAM ELECTRIC STATION
LICENSEE EVENT REPORT 50-388/97-001-00
PLAS - 700 FILE R41-2

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

Attached is Licensee Event Report 50-388/97-001-00. This event was determined to be reportable per 10CFR50.73(a)(2)(v) in that the fans in both trains of Emergency Switchgear Room Cooling were inoperable. The loss of the fans in both trains of Emergency Switchgear Cooling is considered to be a loss of a safety system needed to mitigate the consequences of an accident.

G. J. Kuczynski
Plant Manager - Susquehanna SES

Attachment

cc: Mr. H. J. Miller
Regional Administrator
U. S. Nuclear Regulatory Commission
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Mr. Kenneth M. Jenison
Sr. Resident Inspector
U. S. Nuclear Regulatory Commission
P. O. Box 35
Berwick, PA 18603-0035

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LICENSEE EVENT REPORT (LER)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1) Susquehanna Steam Electric Station - Unit 2						DOCKET NUMBER(2) 0 5 0 0 0 3 8 8 1			PAGE (3) OF 0 4		
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TITLE (4)
Loss of Both Trains of Emergency Switchgear Room Cooling

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	2	1	6	9	7	9	7	0	0	1	0	0	0	0							

OPERATING MODE (9) 1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 1: (Check one or more of the following) (11)										
POWER LEVEL (10) 0 9 5	<input type="checkbox"/> 20.402(b)	<input type="checkbox"/> 20.405(c)	<input type="checkbox"/> 50.73(a)(2)(v)	<input type="checkbox"/> 73.71(b)							
	<input type="checkbox"/> 20.405(a)(1)(i)	<input type="checkbox"/> 50.36(c)(1)	<input checked="" 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)(v)	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)(v)(A)								
	<input type="checkbox"/> 20.405(a)(1)(iv)	<input type="checkbox"/> 50.73(a)(2)(ii)	<input type="checkbox"/> 50.73(1)(2)(v)(B)								
	<input type="checkbox"/> 20.405(a)(1)(v)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(v)								

(LICENSEE CONTACT FOR THIS LER (12))

NAME Cornelius T. Coddington - Senior Project Engineer, Licensing	TELEPHONE NUMBER AREA CODE 7 1 7 5 4 2 - 3 2 9 4
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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

SUPPLEMENTAL REPORT EXPECTED (14)

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

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

On February 16, 1997, at 0800 hours, with Unit 2 in Condition 1 (Power Operation) at 95% power, the 'A' emergency switchgear room cooling fan breaker tripped due to thermal overload protection thus rendering the 'A' train of switchgear cooling inoperable. The 'B' train of emergency switchgear room cooling was out of service due to an inoperable fan discharge damper. These fans are required to mitigate the consequences of an accident by providing cooling to the Emergency Switchgear Rooms thus keeping the Engineered Safety System (ESS) 4.16 KV busses operable. Since fans on both trains of Switchgear Room Cooling were inoperable, this event is considered to be a loss of a safety system needed to mitigate the consequences of an accident and is reportable per 10CFR50.73(a)(2)(v)(D). The thermal overload protection was reset, the breaker closed in and the 'A' train fan restarted. Subsequently, the discharge damper on the 'B' train was repaired and the thermal overload protection replaced in the 'A' train fan breaker. The cause of the tripping of the 'A' train fan was determined to be that the thermal overload protection was under-sized since initial operation of the plant and an approved design change to replace the thermal overload protection was not implemented. Corrective actions include the replacement of the thermal overload protection, review of the existing plant change control process, revising the appropriate maintenance procedure to require verification of the installed overload protection to that specified by design documents, and a review of deficiency and work documents for safety-related equipment to assure that there are no outstanding issues with equipment tripping on thermal overload protection. There were no safety consequences or compromises to public health and safety as a result of both trains of Emergency Switchgear Room Cooling being inoperable since the cooling function was restored promptly.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50 0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1) Unit 2 Susquehanna Steam Electric Station	DOCKET NUMBER (2) 0 5 0 0 0 3 8 8	LER NUMBER (8)						PAGE (3)		
		YEAR		SEQUENTIAL NUMBER		REVISION NUMBER				
		9 7	—	0 0 1	—	0 0	2	OF	4	

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

EVENT DESCRIPTION

On February 16, 1997, at 0800 hours, with Unit 2 in Condition 1 (Power Operation) at 95% power, the 'A' emergency switchgear room cooling (EISS Code: VJ) fan breaker tripped due to thermal overload protection thus rendering the 'A' train of switchgear cooling inoperable. The 'B' train of emergency switchgear room cooling was out of service due to an inoperable fan discharge damper. An administrative 30 day Limiting Condition for Operation (LCO) action statement was in effect with the loss of one fan. These fans are not specifically listed on the Technical Specifications. They are part of the support system and are required to mitigate the consequences of an accident by providing cooling to the Emergency Switchgear Rooms thus keeping the Engineered Safety System (ESS) 4.16 KV busses operable. An administrative 12 hour (LCO) action statement was entered due to the loss of both trains. The thermal overload protection was reset on the 'A' train fan breaker, the breaker closed in and the 'A' train fan successfully restarted at 0809. The 'A' train fan was not declared operable pending further investigation. The discharge damper on the 'B' train was repaired at approximately 1800 hours and the 'B' train fan was declared operable and the 12 hour LCO exited. The 30 day LCO remained in effect. The thermal overload protection on the 'A' train fan breaker was replaced on February 23, 1997 and the 30 day LCO exited.

CAUSE OF EVENT

The cause of the 'A' train fan of Emergency Switchgear Room Cooling tripping on thermal overload protection was determined to be that a design modification initiated in 1984 during initial plant operation to replace the under-sized thermal overload protection was implemented on the 'B' train fan breaker but not on the 'A' train fan breaker. In addition the design documentation was revised for both fans' breakers overload protection without the modification being implemented on the 'A' train fan breaker. Also communication approving temporary setpoint change for thermal overload protection at the time of initial plant operation was inaccurate in that it stated that the larger size thermal overload protection was installed in the 'A' train fan breaker. Also, subsequent to initial plant operation, maintenance activities did not detect the installed thermal overload protection being different than that specified by design on the data sheets.

The cause of the 'B' train fan discharge damper inoperability was determined to be a fault in the damper motor causing the power fuse to blow.



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

REPORTABILITY/ANALYSIS

This event is considered to be a loss of a safety system needed to mitigate the consequences of an accident and is reportable per 10CFR50.73(a)(2)(v)(D) since both trains of Emergency Switchgear Room Cooling were inoperable. There were no safety consequences or compromises to the public health or safety since the cooling function was restored in approximately 9 minutes and one train of cooling was declared operable in approximately 10 hours from when the 12 hour LCO was entered. The temperatures in the Emergency Switchgear Rooms remained below the limits specified in the final Safety Analysis Report. Also, engineering calculations show that without cooling, the emergency switchgear would perform their safety functions for at least 96 hours under worst case post-accident conditions.

In accordance with the guidelines provided in NUREG-1022, Supplement 1, Item 14.1, the required submission date for this report was determined to be March 18, 1997.

CORRECTIVE ACTIONS

The following corrective actions were identified and completed:

- The thermal overload protection on the 'A' train fan breaker was replaced.
- The 'B' train fan discharge damper was repaired.
- A review of the change control program in effect at this time assured that the process in place today would prevent changing of design documents without the implementation of a modification.
- A review of deficiency and work documents was performed to assure that no other safety-related equipment has a repeated history of tripping prematurely. No adverse trend was observed.

The following corrective action has been identified and will be completed:

- The appropriate maintenance procedure will be revised to require verification that the installed thermal overload protection is as specified in the design documents as a defense-in-depth check.



LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

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

ADDITIONAL INFORMATION

Past Similar Events: None
Failed Component: None