

**REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)**

ACCESSION NBR:9409270277      DOC.DATE: 94/09/19      NOTARIZED: NO      DOCKET #  
 FACIL:50-387 Susquehanna Steam Electric Station, Unit 1, Pennsylva      05000387  
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 STANLEY,H.G.      Pennsylvania Power & Light Co.  
 RECIPI.NAME      RECIPIENT AFFILIATION

SUBJECT: LER 94-014-00:on 940818,required action of establishing continuous fire watches within one h while fire suppression & detection equipment inoperable not accomplished.Applicable procedures will be enhanced.W/940919 ltr.

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

NOTES: 05000387

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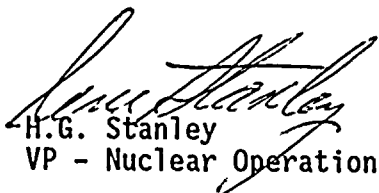
September 19, 1994

U.S. Nuclear Regulatory Commission  
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SUSQUEHANNA STEAM ELECTRIC STATION  
LICENSEE EVENT REPORT 94-014-00  
FILE R41-2  
PLAS -613

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

Attached is Licensee Event Report 94-014-00. This report is being made pursuant to 10CFR50.73(a)(2)(i)(B), in that a condition prohibited by Technical Specifications existed when continuous fire watches were not established within one hour to meet action statements due to inoperable fire suppression and detection equipment.

  
H.G. Stanley  
VP - Nuclear Operations

HL/mjm

cc: Mr. T. T. Martin  
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LICENSEE EVENT REPORT (LER)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 60.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-830), 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 1** DOCKET NUMBER (2) **0 5 0 0 0 3 8 7** PAGE (3) **1 OF 0 4**

TITLE (4) **Unplanned Closure of HPCI Steam Isolation Valve (ESF); HPCI Declared Inoperable**

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	8	2	5	9	4	9	4	0	1	3	0	0	0	9	1	9	9	4	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)

20.402(b)	<input type="checkbox"/>	20.406(c)	<input checked="" type="checkbox"/>	50.73(a)(2)(iv)	<input checked="" type="checkbox"/>	73.71(b)	<input type="checkbox"/>
20.406(a)(1)(i)	<input type="checkbox"/>	50.36(c)(1)	<input type="checkbox"/>	50.73(a)(2)(v)	<input checked="" type="checkbox"/>	73.71(c)	<input type="checkbox"/>
20.406(a)(1)(ii)	<input type="checkbox"/>	50.36(c)(2)	<input type="checkbox"/>	50.73(a)(2)(vi)	<input type="checkbox"/>	OTHER (Specify in Abstract below and in Text, NRC Form 366A)	<input type="checkbox"/>
20.406(a)(1)(iii)	<input type="checkbox"/>	50.73(a)(2)(i)	<input checked="" type="checkbox"/>	50.73(a)(2)(viii)(A)	<input type="checkbox"/>		
20.406(a)(1)(iv)	<input type="checkbox"/>	50.73(a)(2)(ii)	<input type="checkbox"/>	50.73(a)(2)(viii)(B)	<input type="checkbox"/>		
20.406(a)(1)(v)	<input type="checkbox"/>	50.73(a)(2)(iii)	<input type="checkbox"/>	50.73(a)(2)(ix)	<input type="checkbox"/>		

LICENSEE CONTACT FOR THIS LER (12)

NAME **Richard R. Wehry, Compliance Engineer** TELEPHONE NUMBER **7 1 7 5 4 2 1 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) (16)

On August 18, 1994, with Units 1 and 2 at 100% power, an apparent electrical surge from a lightning strike in the area of this site disabled the 'A' panel of the Fire Protection Simplex System. Operations personnel (utility, licensed) tried unsuccessfully to transfer panels. This was unsuccessful since the transfer switch was placed in the over-travel position. The Technical Specification action statements were entered. Instrument and Controls personnel (utility, non-licensed) discovered the problem with the transfer switch and returned the Simplex System to operation. Before the system was restored, most of the compensatory fire watches were in place. The cause of the inability to properly transfer panels was switch design and labeling. This event was determined to be reportable per 10CFR50.73(a)(2)(i)(B), as a condition prohibited by Technical Specifications in that the required action of establishing a continuous fire watch within one hour was not accomplished for all affected areas. There were no safety consequences as a result of this event. The applicable procedures will be enhanced to include instruction of re-setting and re-start of the system. The transfer switch was re-labeled to clearly mark positions. The transfer switch will be evaluated for improvement via change in switch design or addition of mechanical stops at the required positions.

LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 500 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 1 Susquehanna Steam Electric Station	DOCKET NUMBER (2)  0   5   0   0   0   3   8   7   9   4	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			

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

DESCRIPTION OF EVENT

On August 18, 1994, at 0558 hours, with Units 1 & 2 in Condition 1 (Run) at 100% power, an apparent electrical surge from a lightning strike in the area of the site disabled the 'A' Fire Protection Simplex (EIS Code: IC) panel. With the 'A' panel disabled, fire detection and portions of fire suppression were inoperable. After acknowledging the alarms, the operator (utility, licensed) attempted to transfer to the 'B' Simplex panel. When the transfer switch was taken from 'A' to 'B', it was taken past the 'B' position (i.e. the 'B' position was over shot). Passing through the 'B' position caused the panel to alarm and start to print alarm messages which led the operator to believe the panel was functioning. Upon reviewing the alarm tape messages, the operator noted that the printed alarms differed from those specified in the procedure. The operator then attempted to reset the panel which did not correct the condition. The operator, with assistance from Shift Supervision (utility, licensed) again tried to reset the panel which again was unsuccessful. The Simplex System was declared inoperable at 0700 hours and Technical Specifications 3.7.6.2, 3.7.6.3, 3.7.6.4, and 3.3.7.9 action statements were entered. Instrument and Controls personnel (utility, non-licensed) were called to assist with troubleshooting. During troubleshooting it was noted that the panel selector switch was past the 'B' position. After placing the switch in the 'A' position and re-starting, the 'A' panel was restored and operational. The same steps were taken for the 'B' panel and the system was restored at 0745 hours.

Upon entering the Technical Specification action statements, Operations began calling for fire watch personnel (utility, non-licensed) to man the areas requiring continuous fire watches. Between the hours of 0700 and 0745, determination of locations requiring fire watch was in progress and thirty-one fire watches were in place. When the system was restored at 0745 hours, the fire watch determination was nearly complete and most of the fire watches were in place. Upon clearing the Technical Specification Limiting Conditions for Operation at 0805 hours, the compensatory fire watches were terminated.

CAUSE OF EVENT

The cause of the inability to return the Simplex panel to service due to the panel switching problems and procedural weakness is addressed in this report. The causes of the inability to establish all required fire watches within one hour as well as the Simplex System susceptibility to electrical surges is addressed in LER 94-012-00.

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 1 Susquehanna Steam Electric Station	DOCKET NUMBER (2)  0 5   0   0   0   3   8   7 9   4	LER NUMBER (6)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
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TEXT (If more space is required, use additional NRC Form 366A's) (17)

The cause of failure to place the 'B' panel in service was a weakness in human factors with respect to switch design and labeling. The transfer switch is an eight position switch of which only two adjacent positions are used. Having six extra positions for this switch allows for possible mispositioning which is what occurred in this event. Concerning the labeling, the 'B' position is labelled 'B Panel'. The proper position is for the pointer of the switch handle to be at the 'P' in 'Panel'. In this case it was at the 'L' in 'Panel' which appeared to be the correct position but was not. Therefore the physical size of the label contributed to this event.

A contributing factor for failure to restore the system initially was that the Operating or Alarm response procedures do not contain direction on how to re-start the Simplex program. In the past, this was performed by Instrument and Controls personnel (utility, non-licensed).

REPORTABILITY/ANALYSIS

This event was determined to be reportable per 10CFR50.73(a)(2)(i)(B), as a condition prohibited by Technical Specifications in that the required action of establishing continuous fire watches was not accomplished within one hour as required.

The Simplex System provides early warning and detection of a fire in the plant, as well as automatic initiation of certain suppression systems. At the time of this event, hourly fire watches were already in place in a large portion of the plant. The Simplex System was out of service for one hour and forty seven minutes.

Given that hourly fire watches were in place and that affected system could be manually initiated, the safety compromises of this event were minimal. There was no compromise to the health and safety of the public or plant personnel.

In accordance with guidance provided in NUREG 1022, Supplement 1, item 14.1. The required submission date for this report was determined to be September 19, 1994.

CORRECTIVE ACTION

The immediate corrective action was to mobilize personnel to man the required fire watches and to assist in trouble shooting the system. Upon resetting and re-starting, the system was functioning properly. There was no hardware damage as a result of the electrical surge. The applicable procedures will be enhanced to include instruction for resetting and re-starting the system. The labeling for the two switch positions ('A' and 'B') was improved to clearly mark the exact positions. Engineering will evaluate the switch design for possible improvements such as switch change out or addition of mechanical stops to prevent going to any position other than 'A' or 'B'.

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.

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

As mentioned previously, LER 94-012-00 specifies additional corrective actions associated with improving our ability to respond to Simplex System events.

ADDITIONAL INFORMATION

Failed Component Identification: ECBD

Previous Similar Reported Events:

Docket No. 50-387, LER 88-015-00, Loss of Fire Detection Due to Thunderstorm Activity

Docket No. 50-387, LER 89-007-00, Loss of Fire Detection Due to Component Failure

Docket No. 50-387, LER 90-001-00, Simplex Circuit Failure Causes Failure To Comply With Technical Specifications

Docket No. 50-387, LER 93-010-00, Loss of Fire Detection/Suppression - Operation Prohibited by Technical Specifications

Docket No. 50-387, LER 94-012-00, Loss of Fire Detection / Suppression - Condition Prohibited by Technical Specifications.

