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 FACIL: 50-387 Susquehanna Steam Electric Station, Unit 1, Pennsylv 05000387
 AUTH. NAME AUTHOR AFFILIATION
 WEHRY, R.R. Pennsylvania Power & Light Co.
 STANLEY, H.G. Pennsylvania Power & Light Co.
 RECIP. NAME RECIPIENT AFFILIATION

SUBJECT: LER 92-018-00: on 921113, unplanned ESF actuation occurred
 when E EDG started automatically in emergency run mode.
 Caused by failure of relay in EDG emergency start circuit.
 Relay 4ESS1 & 2 replaced. W/921214 ltr.

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 TITLE: 50.73/50.9 Licensee Event Report (LER), Incident Rpt, etc.

NOTES: Maxwell, G

05000387 /

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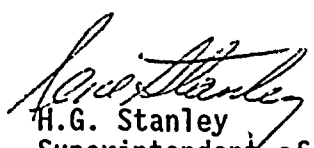
December 14, 1992

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

SUSQUEHANNA STEAM ELECTRIC STATION
LICENSEE EVENT REPORT 92-018-00
FILE R41-2
PLAS - 551

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

Attached is Licensee Event Report 92-018-00. This event was determined reportable per 10CFR50.73(a)(2)(iv) in that an unplanned Engineered Safety Feature (ESF) actuation occurred when the 'E' Emergency Diesel Generator started automatically in the emergency run mode upon failure of a relay.


H.G. Stanley
Superintendent of Plant - Susquehanna

RRW/mjm

cc: Mr. T. T. Martin
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PDR ADDCK 05000387
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JEZ

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 1	DOCKET NUMBER (2) 0 5 0 0 0 3 8 7	PAGE (3) 1 OF 0 3
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TITLE (4)
Unplanned ESF Actuation - 'E' Diesel Generator Automatic Start

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)
1	1	13	9	2	0	1	2	14	SSES - Unit 2		0 5 0 0 0 3 8 8
1	1	13	9	2	0	1	2	14			0 5 0 0 0

OPERATING MODE (9) **3**

POWER LEVEL (10) **0 | 0 | 0**

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)

<input type="checkbox"/> 20.402(b)	<input checked="" type="checkbox"/> 20.406(c)	<input checked="" type="checkbox"/> 50.73(a)(2)(iv)	<input type="checkbox"/> 73.71(b)
<input type="checkbox"/> 20.406(a)(1)(i)	<input type="checkbox"/> 50.38(c)(1)	<input type="checkbox"/> 50.73(a)(2)(v)	<input type="checkbox"/> 73.71(c)
<input type="checkbox"/> 20.406(a)(1)(ii)	<input type="checkbox"/> 50.38(c)(2)	<input type="checkbox"/> 50.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 368A)
<input type="checkbox"/> 20.406(a)(1)(iii)	<input type="checkbox"/> 50.73(a)(2)(i)	<input 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)	

LICENSEE CONTACT FOR THIS LER (12)

NAME Richard R. Wehry - Compliance Engineer	TELEPHONE NUMBER 7 1 7 5 4 2 - 3 6 6 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
X	E K	R L Y	A 1 0 9	YES					

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 November 13, 1992 at 1135 hours, with Unit 1 in Condition 3 at 0% power and Unit 2 in Condition 1 at 19% power, an unplanned Engineered Safety Feature (ESF) actuation occurred when the 'E' Emergency Diesel Generator (EDG) started automatically in the emergency run mode. The cause of the unplanned automatic start was due to failure of a relay in the EDG's emergency start circuit. The EDG response was proper and it remained capable of performing its safety design function. The failed relay was replaced and the EDG was satisfactorily tested and returned to its standby condition. The relay is being examined by an independent laboratory to attempt to determine the coil failure mechanism. Any additional corrective actions, as appropriate, will be taken following the lab examination.

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-630), 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	LER NUMBER (6)			PAGE (3)		
		YEAR 9 2	SEQUENTIAL NUMBER - 0 1 8	REVISION NUMBER - 0 0	0 2	OF	0 3

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

DESCRIPTION OF EVENT

On November 13, 1992 at 1135 hours, with Unit 1 in Condition 3 at 0% power and Unit 2 in Condition 1 at 19% power, an unplanned Engineered Safety Feature (ESF) actuation occurred when the 'E' Emergency Diesel Generator (EDG; EIIS Code: EK) started automatically in the emergency run mode. The 'E' EDG, which is a fifth and spare EDG at Susquehanna, was substituting at the time for the 'A' EDG. The EDG started, ran properly and was available to energize its emergency 4.16 KV bus (EIIS Code:EB) and perform its design safety function, if called upon to do so.

CAUSE OF EVENT

The cause of the unplanned automatic start of the 'E' EDG was due to failure of a relay in the EDG's emergency start circuit. Namely, relay 4ESS1, which is normally energized and whose function it is to de-energize upon receipt of a Unit 1 loss of coolant accident (LOCA) and/or loss of offsite power (LOOP) signal, de-energized when its coil failed to an open circuit. This resulted in a false emergency start signal to the 'E' EDG.

REPORTABILITY/ANALYSIS

This event was determined reportable per 10CFR50.73(a)(2)(iv) in that an unplanned ESF actuation occurred when the 'E' EDG, which was substituting for the 'A' EDG, automatically started. The 'E' EDG started, ran properly and remained capable of energizing its associated emergency bus, if required to do so, and perform its safety design function. The other three EDGs aligned at the time remained operable during this event and operation of Unit 1 and Unit 2 was unaffected. As such, no safety consequences or compromise to public health or safety occurred.

CORRECTIVE ACTIONS

Following verification that no valid emergency signal was present, the 'E' EDG was shut down.

Relay 4ESS1, as well as its Unit 2 counterpart, 4ESS2, were replaced. Post maintenance functional testing and an operability run were satisfactorily performed and the 'E' EDG was returned to the standby condition.

The failed relay (Agastat type EGP) had been newly installed in April 1992 and is being examined by an independent laboratory to attempt to determine the cause of the relay coil failure.

Any additional corrective actions, as appropriate, will be taken following the lab examination.

**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	LER NUMBER (6)			PAGE (3)		
		YEAR 9 2	SEQUENTIAL NUMBER — 0 1 8	REVISION NUMBER — 0 0			

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

ADDITIONAL INFORMATION

Failed Component Identification: Agastat type EGP relay

Previous Similar Event: LER 87-032-00 identified an unplanned start of the 'A' EDG caused by a relay coil failure