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REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 9109090261 DOC. DATE: 91/09/03 NOTARIZED: NO DOCKET #
 FACIL: 50-387 Susquehanna Steam Electric Station, Unit 1, Pennsylv 05000387
 AUTH. NAME AUTHOR AFFILIATION
 CRIST, M.L. Pennsylvania Power & Light Co.
 STANLEY, H.G. Pennsylvania Power & Light Co.
 RECIP. NAME RECIPIENT AFFILIATION

SUBJECT: LER 91-010-00: on 910805, ESF actuation occurred when reactor mode switch inadvertently placed in run rather than startup/hot standby. Caused by personnel error. Reactor mode switch returned to shutdown. W/910903 ltr.

DISTRIBUTION CODE: IE22T COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 4
 TITLE: 50.73/50.9 Licensee Event Report (LER), Incident Rpt, etc.

NOTES: LPDR 1, cy Transcripts.

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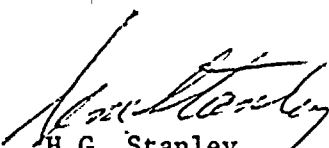
September 3, 1991

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

SUSQUEHANNA STEAM ELECTRIC STATION
LICENSEE EVENT REPORT 91-010-00
FILE R41-2
PLAS - 498

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

Attached is Licensee Event Report 91-010-00. This event was determined reportable per 10CFR50.73(a)(2)(iv) in that unplanned Engineered Safety Feature actuations occurred when the reactor mode switch was inadvertently placed in Run rather than Startup/Hot Standby.


H.G. Stanley
Superintendent of Plant - Susquehanna

MLC/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: 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 | 1** OF **0 | 3** PAGE (3)

TITLE (4) **ESF Actuations Resulted When Reactor Mode Switch was Inadvertently Placed in Run Rather Than Startup/Hot Standby**

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	0	5	9	1	9	1	0	1	0	0	0
											0	5
											0	5

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

OPERATING MODE (9) 4	<input type="checkbox"/> 20.402(b)	<input type="checkbox"/> 20.405(c)	<input checked="" type="checkbox"/> 50.73(a)(2)(iv)	<input type="checkbox"/> 73.71(b)
POWER LEVEL (10) 0, 0, 0	<input type="checkbox"/> 20.405(a)(1)(i)	<input type="checkbox"/> 50.36(c)(1)	<input 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)(vii)	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)(viii)(A)	
	<input type="checkbox"/> 20.405(a)(1)(iv)	<input type="checkbox"/> 50.73(a)(2)(ii)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)	
	<input type="checkbox"/> 20.405(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	TELEPHONE NUMBER
Michael L. Crist - Compliance Evaluator	7 1 7 5 4 2 - 3 2 8 9

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)

At 1520 hours on August 5, 1991 Unit 1 was in Condition 4, Cold Shutdown, and was preparing to enter Condition 2, Startup. When the Plant Control Operator attempted to place the reactor mode switch in Startup, the switch was inadvertently placed in Run. This resulted in the generation of a Main Steam Isolation Valve (MSIV) isolation signal due to low steam line pressure coincident with the mode switch in Run. This in turn caused a Reactor Protection System (RPS) actuation. No control rod or valve motion resulted. All rods were fully inserted prior to the event and all valves expected to close on the MSIV isolation signal were in the closed position. The root cause of this event is cognitive personnel error. Contributing to the error was the indication provided by the reactor mode switch key. The key indicated that the mode switch was in Startup/Hot Shutdown when it was actually in Run due to a bend in the key. This event was determined to be reportable per 10CFR50.73(a)(2)(iv), in that generation of a MSIV isolation signal and actuation of RPS constituted unplanned ESF actuations. There were no safety consequences or compromise to the public health or safety as a result of this event. The reactor mode switch key has been reworked and is indicating properly. The key will be replaced upon receipt of new mode switch keys from the vendor. In addition, this event will be reviewed by all Licensed personnel.

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

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

EVENT DESCRIPTION

At 1520 hours on August 5, 1991 Unit 1 was in Condition 4, Cold Shutdown, and was preparing to enter Condition 2, Startup. When the Plant Control Operator (PCO, utility/licensed) attempted to place the reactor mode switch in Startup/Hot Standby, the switch was inadvertently placed in Run. This resulted in the generation of a Main Steam Isolation Valve (MSIV, EIIS Code: JM) isolation signal due to low steam line pressure (i.e. less than 861 psig) coincident with reactor mode switch in Run. This in turn caused a Reactor Protection System (RPS, EIIS Code: JC) actuation. No control rod motion resulted since all rods were fully inserted prior to the event. There was no valve motion associated with the MSIV isolation signal since all MSIVs and MSIV drain valves were in the closed position. There were no other isolations or initiations. The mode switch was returned to the Shutdown position, and the RPS logic and MSIV isolation logic were reset. The Unit 1 startup sequence was resumed. At 1610 hours, the required ENS notification was made in accordance with 10CFR50.72.(b)(2)(ii).

CAUSE OF EVENT

The root cause of this event is cognitive personnel error. The event occurred when the PCO inadvertently placed the reactor mode switch in Run rather than Startup/Hot Standby. As a result, a MSIV isolation signal was generated due to low steam line pressure coincident with the reactor mode switch in Run. This in turn caused a RPS actuation. Contributing to the error was the indication provided by the reactor mode switch key. The key indicated that the mode switch was in Startup/Hot Standby when it was actually in Run due to a bend in the key.

REPORTABILITY/ANALYSIS

This event was determined to be reportable per 10CFR50.73(a)(2)(iv), in that generation of a MSIV isolation signal and actuation of the RPS constituted unplanned ESF actuations. No control rod motion resulted since all rods were fully inserted prior to the event. Also, there was no valve motion associated with the MSIV isolation signal since all MSIVs and MSIV drain valves were in the closed position. There were no safety consequences or compromise to the public health or safety as a result of this event.

In accordance with the guidance provided in NUREG 1022, Supplement 1, Item 14.1, the required submission date for this report was determined to be September 4, 1991.

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	SEQUENTIAL NUMBER	REVISION NUMBER			
		9 1	- 0 1 0	- 0 0	0 3	OF	0 3

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

CORRECTIVE ACTIONS

Immediate corrective actions consisted of returning the reactor mode switch to Shutdown. The PCO then reset the RPS logic and MSIV isolation logic. Once the logics were reset, the startup sequence was resumed. The bent reactor mode switch key has been reworked and is indicating properly. The key will be replaced upon receipt of new reactor mode switch keys from the vendor. The Unit 2 mode switch has been confirmed to be indicating proper position. Actions to prevent recurrence include reviewing the event with all Licensed personnel.

ADDITIONAL INFORMATION

Failed Component Identification: Not applicable.

Similar Reportable Events: There have been no previous similar reportable events in which an ESF actuation(s) resulted from the reactor mode switch being placed in the incorrect mode switch position.