

ACCELERATED DISTRIBUTION DEMONSTRATION SYSTEM

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 8807080165 DOC. DATE: 88/06/30 NOTARIZED: NO DOCKET #
 FACIL: 50-387 Susquehanna Steam Electric Station, Unit 1, Pennsylvania 05000387
 AUTH. NAME AUTHOR AFFILIATION
 SHERANKO, R.G. Pennsylvania Power & Light Co.
 BYRAM, R.G. Pennsylvania Power & Light Co.
 RECIP. NAME RECIPIENT AFFILIATION

SUBJECT: LER 88-011-00: on 880602, unanticipated ESF actuation caused by spurious shutdown cooling signal.

W/8 ltr.

DISTRIBUTION CODE: IE22D COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 4
 TITLE: 50.73 Licensee Event Report (LER), Incident Rpt, etc.

NOTES: LPDR 2 cys Transcripts.

05000387

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	AEOD/DOA	1		1	AEOD/DSP/NAS	1		1	
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	NRR/DLPQ/QAB 10	1		1	NRR/DOEA/EAB 11	1		1	
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	RES/DE/EIB	1		1	RES/DRPS DEPY	1		1	
	RGN1 FILE 01	1		1					
EXTERNAL:	EG&G WILLIAMS, S	4		4	FORD BLDG HOY, A	1		1	
	H ST LOBBY WARD	1		1	LPDR	2		2	
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LICENSEE EVENT REPORT (LER)

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)
Unanticipated ESF actuation caused by spurious shutdown cooling signal

EVENT DATE (6)			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)
06	02	88	88	011	00						0 5 0 0 0
											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 type="checkbox"/> 20.405(c)	<input checked="" type="checkbox"/> 60.73(a)(2)(iv)	<input type="checkbox"/> 73.71(b)
<input type="checkbox"/> 20.405(a)(1)(i)	<input type="checkbox"/> 60.36(c)(1)	<input type="checkbox"/> 60.73(a)(2)(v)	<input type="checkbox"/> 73.71(c)
<input type="checkbox"/> 20.405(a)(1)(ii)	<input type="checkbox"/> 60.36(c)(2)	<input type="checkbox"/> 60.73(a)(2)(vi)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)
<input type="checkbox"/> 20.405(a)(1)(iii)	<input type="checkbox"/> 60.73(a)(2)(i)	<input type="checkbox"/> 60.73(a)(2)(vii)(A)	
<input type="checkbox"/> 20.405(a)(1)(iv)	<input type="checkbox"/> 60.73(a)(2)(ii)	<input type="checkbox"/> 60.73(a)(2)(viii)(B)	
<input type="checkbox"/> 20.405(a)(1)(v)	<input type="checkbox"/> 60.73(a)(2)(iii)	<input type="checkbox"/> 60.73(a)(2)(ix)	

LICENSEE CONTACT FOR THIS LER (12)

NAME Robert G. Sheranko, Senior Results Engineer - Compliance	TELEPHONE NUMBER 7 1 7 5 4 2 - 3 8 5 6
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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) NO

EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR

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

On June 2, 1988, Unit 1 experienced two unanticipated Engineered Safety Feature (ESF) actuations. With the unit in Hot Shutdown, two attempts to place the Residual Heat Removal System (RHR) into the Shutdown Cooling Mode failed due to unexpected automatic closure of the RHR Shutdown Cooling Inboard Isolation Valve F009. Review of plant conditions following each trip concluded that no valid Shutdown Cooling isolation conditions existed. The third attempt was successful.

Automatic closure of the F009 valve was caused by a spurious reactor pressure or high shutdown cooling flow signal. The subject switches were checked and found to be properly calibrated.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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

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

DESCRIPTION DESIGN DEFICIENCY

On June 2, 1988, Unit 1 experienced two unanticipated Engineered Safety Feature (ESF) actuations. With the unit in Hot Shutdown following an automatic trip on June 1, 1988, preparations were being made to place the Residual Heat Removal System (RHR) (EIIS:BO) into the Shutdown Cooling Mode. Unit 2 was in Cold Shutdown.

At 19:52 and again at 20:13, with reactor pressures at 83 psig and 68 psig, respectively, the "A" RHR pump was started in accordance with system operating procedures. Immediately following the pump start, the RHR Shutdown Cooling Inboard Isolation Valve F009 unexpectedly started to close. This closure tripped the "A" RHR pump per design. Review of plant conditions following each trip concluded that no valid Shutdown Cooling isolation conditions existed. The F009 valve was opened and preparations were made to restart the pump. At 20:44, with reactor pressure at 64 psig, the "A" RHR pump was successfully started.

CAUSE OF EVENT

Automatic closure of the F009 valve without accompanying additional plant responses or alarm annunciations could have been caused by two signals: reactor pressure greater than 98 psig or high RHR shutdown cooling suction flow. Since neither condition existed at the time of the trips, it is believed that a spurious actuation of one of the instruments providing these signals caused the F009 valve to close.

Analysis of Event

This event was determined to be reportable per 10CFR50.73(a)(2)(iv) in that the unit experienced an unanticipated ESF actuation when the F009 valve, which is a primary containment isolation valve, closed.

There were no safety implications to the public during the occurrence. The F009 valve performs two functions: one of containment isolation and one of providing a flowpath for shutdown cooling. Concerning the first function, the valve closed which is its safety position for containment isolation. Concerning the second function, alternate methods for decay heat removal was available using the Control Rod Drive (EIIS:CD) and Reactor Water Cleanup (EIIS:CE) systems. The F009 valve is only used in the Shutdown Cooling mode and thus would not affect RHR operation in any other mode.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			

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

Corrective Actions

The subject reactor pressure switch and suction flow switch were checked. Both were found to be properly calibrated.

Additional Information

Failed Component: None

Previous Similar Events: There have been no similar previous events on Susquehanna Unit 1; however, similar events have been reported on Susquehanna Unit 2 in LERs 85-006-00 and 88-003-00.



Pennsylvania Power & Light Company

Two North Ninth Street • Allentown, PA 18101 • 215/770-5151

June 30, 1988

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

SUSQUEHANNA STEAM ELECTRIC STATION
LICENSEE EVENT REPORT 88-011-00
FILE R41-2
PLAS - 323

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

Attached is Licensee Event Report 88-011-00. This event was determined reportable per 10CFR50.73(a)(2)(iv), in that the unit experienced unanticipated Engineered Safety Feature actuations while attempting to place the Residual Heat Removal System into the Shutdown Cooling Mode.

R.G. Byram
Superintendent of Plant - Susquehanna

RGS/mjm

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