

ACCELERATED DISTRIBUTION DEMONSTRATION SYSTEM

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR:8712080236 DOC.DATE: 87/12/01 NOTARIZED: NO DOCKET #
 FACIL:50-387 Susquehanna Steam Electric Station, Unit 1, Pennsylv 05000387
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 RECIP.NAME RECIPIENT AFFILIATION

SUBJECT: LER 87-029-00:on 871101,unanticipated ESF actuation due to momentary loss of power to reactor protection sys bus.

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:1cy NMSS/FCAF/PM. LPDR 2cys Transcripts. 05000387

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	THADANI, M	1 1			A
INTERNAL:	ACRS MICHELSON	1 1	ACRS MOELLER	2 2	D
	AEOD/DOA	1 1	AEOD/DSP/NAS	1 1	D
	AEOD/DSP/ROAB	2 2	AEOD/DSP/TPAB	1 1	S
	ARM/DCTS/DAB	1 1	DEDRO	1 1	
	NRR/DEST/ADS	1 0	NRR/DEST/CEB	1 1	
	NRR/DEST/ELB	1 1	NRR/DEST/ICSB	1 1	
	NRR/DEST/MEB	1 1	NRR/DEST/MTB	1 1	
	NRR/DEST/PSB	1 1	NRR/DEST/RSB	1 1	
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	NRR/DLPQ/QAB	1 1	NRR/DOEA/EAB	1 1	
	NRR/DREP/RAB	1 1	NRR/DREP/RPB	2 2	
	NRR/DRIS/SIB	1 1	NRR/PMAS/ILRB	1 1	
	<u>REG FILE</u> 02	1 1	RES DEPY GI	1 1	
	RES TELFORD, J	1 1	RES/DE/EIB	1 1	
	RGN1 FILE 01	1 1			
EXTERNAL:	EG&G GROH, M	5 5	FORD BLDG HOY, A	1 1	R
	H ST LOBBY WARD	1 1	LPDR	2 2	I
	NRC PDR	1 1	NSIC HARRIS, J	1 1	D
	NSIC MAYS, G	1 1			S
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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 0 3 8 7	PAGE (3) 1 OF 0 3
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TITLE (4)
Unanticipated ESF Actuation Due to Momentary Loss of Power to RPS Bus

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	0 1 8 7	8 7	0 2 9	0 0	1 2	0 1	8 7		0 5 0 0 0 0

OPERATING MODE (9) 5	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)				
POWER LEVEL (10) 0	<input type="checkbox"/> 20.402(b)	<input type="checkbox"/> 20.406(c)	<input checked="" type="checkbox"/> 60.73(a)(2)(iv)	<input type="checkbox"/> 73.71(b)	
	<input type="checkbox"/> 20.406(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"/> 20.406(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"/> 20.406(a)(1)(iii)	<input type="checkbox"/> 60.73(a)(2)(i)	<input type="checkbox"/> 60.73(a)(2)(vii)(A)		
	<input type="checkbox"/> 20.406(a)(1)(iv)	<input type="checkbox"/> 60.73(a)(2)(ii)	<input type="checkbox"/> 60.73(a)(2)(vii)(B)		
	<input type="checkbox"/> 20.406(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 AREA CODE: 7 1 7 5 4 2 1 - 1 3 8 1 5 1 6

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)											
CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORTABLE TO NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORTABLE TO NPRDS		

SUPPLEMENTAL REPORT EXPECTED (14)			EXPECTED SUBMISSION DATE (15)	
<input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE)	<input checked="" type="checkbox"/> NO			

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

At 1620 on November 1, 1987, Unit 1 experienced an unplanned Engineered Safeguard Feature actuation due to a momentary loss of power to the Reactor Protection System (RPS) bus. Unit 1 was in Refueling with the "A" Residual Heat Removal pump operating in the Shutdown Cooling mode. The "B" RPS System was aligned to its alternate power supply, a 480 VAC breaker on double ended load center (LC) 1B250/1B260.

The event was initiated by a utility nonlicensed operator who was restoring the double ended load center (LC) 1B250/1B260 to a normal operating line-up. These actions caused a momentary loss of power to the loads fed from 1B260, one of the loads being the "B" RPS system. This momentary loss was long enough to cause the outboard isolation valve (F008), a Primary Containment Isolation Valve on the Shutdown Cooling suction of the RHR pumps, to close, thus tripping the RHR pump. The valve was reopened and Shutdown Cooling was restored.

System operating procedures and operating personnel training concerning realignments of 480 VAC load centers will be reviewed and revised as appropriate.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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

DESCRIPTION OF EVENT

At 1620 on November 1, 1987, Unit 1 experienced an unplanned Engineered Safeguard Feature (ESF) actuation due to a momentary loss of power to the Reactor Protection System (RPS) (EIIS:JC) bus. Unit 1 was in Refueling with the "A" Residual Heat Removal (RHR) (EIIS:BO) pump operating in the Shutdown Cooling mode. The "B" RPS System was aligned to its alternate power supply, a 480 VAC breaker on load center (LC) 1B260 (EIIS:EC).

The event was initiated by a utility nonlicensed operator who was restoring the double ended load center (LC) 1B250/1B260 to a normal operating line-up. Prior to the event, LC 1B250/1B260 was aligned such that the normally closed main feeder breaker to the 1B260 end, 1B26012, was open with normally open alternate supply to 1B260, tie breaker 1B25011, closed. This alternate alignment was in effect per safety permit #1-87-2438. In accordance with the 480VAC System operating procedure OP-105-001, the operator placed and held the control switch for the feeder breaker in the closed position then tripped the tie breaker. Once the tie breaker opened, the main breaker automatically closed restoring the normal line-up to the LC. These actions caused a half scram and momentary loss of power to the loads fed from 1B260, one of the loads being the "B" RPS system.

The "B" RPS system supplies power to various loads including the Nuclear Steam Supply Shutoff System (NSSSS) control logic circuits. Included in the NSSSS control logic circuits is a contact output from the K30 relay to the close circuit of Outboard Shutdown Cooling Isolation Valve HV-151-1F008 (1F008). During the momentary loss of power, the K30 relay deenergized long enough to close this contact. This caused the 1F008 valve to close in turn tripping the RHR pump. The valve was reopened and Shutdown Cooling was restored.

CAUSE OF EVENT

Cause of the event was the momentary loss of power to the RPS bus caused by a transfer of its power supply during restoration to its normal alignment, and failure to anticipate effects of this momentary loss of power. This resulted in the deenergization of the K30 relay in the NSSS logic causing the closure of the 1F008 valve.

ANALYSIS OF EVENT

This event was determined reportable per 10CFR50.73(a) (2) (iv) in that the unit experienced an unanticipated ESF actuation when the 1F008 valve, which is a primary containment isolation valve, closed.

There were no safety implications to the public during the occurrence nor would there have been if the occurrence took place during any other initial condition. An alternate method for decay heat removal was available using the Control Rod Drive (EIIS:CD) and Reactor Water Cleanup (EIIS:CE) systems. Reactor coolant temperature and level remained satisfactory throughout the event. Shutdown Cooling was readily restored after the electrical transient. The 1F008 valve is only used in the Shutdown Cooling mode and thus would not

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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

affect RHR operation in any other mode. Duration of the power interruption to the RPS bus had a calculated duration of less than one second. Had the duration been longer, the unit may have experienced additional isolations, none of which would have jeopardized safety to the public from this or any other initial condition.

CORRECTIVE ACTIONS

System operating procedures and operating personnel training concerning realignments of 480 VAC load centers will be reviewed and revised as appropriate.



Pennsylvania Power & Light Company

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December 1, 1987

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

SUSQUEHANNA STEAM ELECTRIC STATION
LICENSEE EVENT REPORT 87-029-00
ER100450 FILE R41-2
PLAS - 287

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

Attached is Licensee Event Report 87-029-00. This event was determined reportable per 10CFR50.73(a)(2)(iv), in that the unit experienced an unanticipated Engineered Safety Feature actuation when a Primary Containment Isolation System valve closed.

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RGS/cmw

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