

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 8710070242 DOC. DATE: 87/10/02 NOTARIZED: NO DOCKET #
 FACIL: 50-388 Susquehanna Steam Electric Station, Unit 2, Pennsylv 05000388
 AUTH. NAME AUTHOR AFFILIATION
 RYDER, T. S. Pennsylvania Power & Light Co.
 BYRAM, R. G. Pennsylvania Power & Light Co.
 RECIP. NAME RECIPIENT AFFILIATION

SUBJECT: LER 87-009-00: on 870902, Div II RWCU isolation occurred.
 Caused by temp element location & design temp setpoint
 selection for RWCU differential temp trip. Evaluation of temp
 leak detection requirements will be made. W/871002 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. 05000388

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	NRR/DREP/RPB	2 2	NRR/DRIS/SIB	1 1
	NRR/PMAS/ILRB	1 1	REG FILE 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	H ST LOBBY WARD	1 1
	LPDR	2 2	NRC PDR	1 1
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NOTES:		3 3		

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LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Susquehanna Steam Electric Station - Unit 2	DOCKET NUMBER (2) 0 5 0 0 0 3 8 8	PAGE (3) 1 OF 0 3
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TITLE (4)
Reactor Water Cleanup Isolation From High Room Differential Temperature Signal

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)
09	02	87	87	009	00	10	02	87			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)										
POWER LEVEL (10) 11010	20.402(b)			20.405(c)			<input checked="" type="checkbox"/> 50.73(a)(2)(iv)			73.71(b)	
	20.405(a)(1)(i)			50.36(c)(1)			50.73(a)(2)(v)			73.71(c)	
	20.405(a)(1)(ii)			50.36(c)(2)			50.73(a)(2)(vii)			OTHER (Specify in Abstract below and in Text, NRC Form 365A)	
	20.405(a)(1)(iii)			50.73(a)(2)(i)			50.73(a)(2)(viii)(A)				
	20.405(a)(1)(iv)			50.73(a)(2)(ii)			50.73(a)(2)(vii)(B)				
	20.405(a)(1)(v)			50.73(a)(2)(iii)			50.73(a)(2)(ix)				

LICENSEE CONTACT FOR THIS LER (12)											
NAME T.S. Ryder - Power Production Engineer								TELEPHONE NUMBER AREA CODE: 7 1 7 5 4 2 - 3 2 3 5			

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)				EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
<input checked="" type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE)	<input type="checkbox"/> NO				04	01	88

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

On September 2, 1987 with Unit 2 in Condition 1 at 100% power, a Division II Reactor Water Cleanup (RWCU) isolation occurred. The isolation was initiated from a RWCU Filter/Demineralizer (F/D) Room high differential temperature signal. The RWCU system isolated per design and it was verified that no actual steam leaks had triggered the isolation. The HVAC Zone II supply heaters were turned on to decrease room delta temperature and the high delta temperature alarm cleared shortly thereafter. RWCU was then returned to service. RWCU Division II room temperatures were periodically monitored over the next two nights and no significant fluctuations were noted. An evaluation/review of the temperature leak detection requirements for the RWCU system will be made regarding temperature instrument setpoints and locations. Final corrective actions will be determined at the conclusion of the evaluation. The cause of the event was attributed to two factors, temperature element location and the design temperature setpoint selection for the RWCU F/D Room differential temperature trip. This event has been determined to be reportable per 10CFR 50.73 (a) (2) (iv), in that an unplanned Engineered Safety Feature (ESF) actuation took place when the RWCU system isolated automatically on a high differential temperature signal from RWCU F/D Room temperature instrumentation. There were no safety consequences resulting from this event.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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

DESCRIPTION OF EVENT

On September 2, 1987 with Unit 2 in Condition 1 at 100% power, a Division II Reactor Water Cleanup (RWCU, EIIS code: CE) isolation occurred. The isolation was initiated from a RWCU Filter/Demineralizer (F/D) Room high differential temperature signal. Due to a labelling problem previously discussed in Licensee Event Report (LER) 87-005 and 87-008, the temperature isolation logic labelled for the RWCU F/D Room actually senses temperature conditions in the RWCU Penetration Room. The RWCU system isolated per design and it was verified that no actual steam leaks had triggered the isolation. After making some ventilation adjustments to clear the temperature trip signal, RWCU was restored to normal operation.

CAUSE OF EVENT

The cause of the event was attributed to two factors, i.e., temperature element location and the design temperature setpoint selection for the RWCU F/D Room differential temperature trip. The Heating, Ventilation and Air Conditioning (HVAC, EIIS Code: VA) supply duct to the RWCU Penetration Room bring outside supply air into the room at a flowrate of 200 cfm. The Division II temperature element is located in a position in front of the supply duct where much of this cool air flows across it. Conversely, the Division I element is positioned further away from the air supply mainstream. Consequently, the Division II temperature element reads nominal supply temperatures 18 -20 F lower than its Division I temperature element counterpart. This results in a delta temperature room reading for the Division II channel very close to the trip setpoint under normal room conditions. As supply air temperatures decreased due to outside air ambient temperature changes, the room differential temperature was raised to the point at which the trip occurred. A contributing causal factor may be the design setpoint for the RWCU F/D Room differential temperature trip. The design trip setpoint may be set too conservatively for the application in that room differential temperatures approach the trip setting and have exceeded it twice previously (see previous similar events) under normal conditions.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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

REPORTABILITY

This event has been determined to be reportable per 10CFR 50.73 (a) (2) (iv), in that an unplanned Engineered Safety Feature (ESF) actuation took place when the RWCU system isolated automatically on a high differential temperature signal from RWCU F/D Room temperature instrumentation. There were no safety consequences resulting from this event. This assessment is based on the fact that the RWCU system performed its intended function of containment isolation upon receipt of the high differential temperature signal. The intended function would have been performed regardless of power level and therefore there would not have been any safety consequences resulting from the plant being at a different power than what it was when the event occurred.

CORRECTIVE ACTIONS

It was immediately verified that there were no steam leaks in the RWCU Penetration Room. The HVAC Zone II supply heaters were turned on to decrease room delta temperature and the high delta temperature alarm cleared shortly thereafter. RWCU was then returned to service. RWCU Division II room temperatures were periodically monitored over the next two nights and no significant fluctuations were noted. An evaluation/review of the temperature leak detection requirements for the RWCU system will be made regarding temperature instrument setpoints and locations. Final corrective actions will be determined at the conclusion of the evaluation.

ADDITIONAL INFORMATION

Previous Similar Events:

On April 12, 1987 and July 4, 1987, similar events occurred on the RWCU leak detection temperature logic. These events were reported in LER 87-005 and 87-008.

Failed Components:

There were no failed components associated with this event.



Pennsylvania Power & Light Company

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October 2, 1987

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

SUSQUEHANNA STEAM ELECTRIC STATION
LICENSEE EVENT REPORT 87-009-00
FILE R41-2
PLAS - 279

Docket No. 50-388
License No. NPF-22

Attached is Licensee Event Report 87-009-00. This event was determined reportable per 10CFR 50.73 (a) (2) (iv), in that an unplanned Engineered Safety Feature (ESF) actuation occurred when the Reactor Water Cleanup System isolated.

R. G. Byram
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TSR/cmw

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