REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 8708070198 DOC. DATE: 87/08/03 NOTARIZED: NO DOCKET #
FACIL: 50-388 Susquehanna Steam Electric Station, Unit 2, Pennsylva 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 87-008-00: on 870704, w/Unit 2 operating at 100% power, reactor water cleanup sys isolation occurred. Caused by low trip setpoint as-found 112.8 F instead of 110.3. Reactor water cleanup recirculation pump repaired. W/870803 ltr.

DISTRIBUTION CODE: IE22D COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 5
TITLE: 50.73 Licensee Event Report (LER), Incident Rpt, etc.

NOTES: 1cy NMSS/FCAF/PM. LPDR 2cys Transcripts. 05000388

	RECIPIENT ID CODE/NAME	COPIES LTTR	COPIES ENCL	RECIPIENT ID CODE/NAME	COPIES LTTR	COPIES ENCL
	PD1-2 LA	1	1	PD1-2 PD	1	1
	THADANI, M	1	1			
INTERNAL:	ACRS MICHELSON	1	1	ACRS MOELLER	2	2
	AEOD/DOA	1	1	AEOD/DSP/NAS	1	1
	AEOD/DSP/ROAB	2	2	AEOD/DSP/TPAB	1	1
	DEDRO	1	1	NRR/DEST/ADE	1	0
	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
	NRR/DEST/SGB	1	1	NRR/DLPQ/HFB	1	1
	NRR/DLPQ/QAB	1	1	NRR/DOEA/EAB	1	1
	NRR/DREP/RAB	1	1	NRR/DREP/RPB	2	2
	NRR/PMAS/ILRB	1	1	NRR/PMAS/PTSB	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
	NSIC HARRIS, J	1	1	NSIC MAYS, G	1	1
NOTES:		3	3			

TOTAL NUMBER OF COPIES REQUIRED: LTTR 49 ENCL 47

NRC Form 366
(9-83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO. 3150-0104
EXPIRES: 8/31/88

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Susquehanna Steam Electric Station - Unit 2	0 5 0 0 0 3 8 8	1 OF 0 4

TITLE (4)
Reactor Water Cleanup System Isolation On High Room Temperature

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 7	0 4	8 7	8 7	— 0 0 8 —	0 0	0 8	0 3	8 7		0 5 0 0 0
										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)	1 0 0	20.402(b)	20.405(c)	X 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 366A)
		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)(viii)(B)	
		20.405(a)(1)(v)	50.73(a)(2)(iii)	50.73(a)(2)(x)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
T. S. Ryder - Power Production Engineer	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
X YES (If yes, complete EXPECTED SUBMISSION DATE)	NO		0 3	3 1	8 8

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

On July 4, 1987 a Unit 2 Reactor Water Cleanup system isolation occurred from a room high temperature signal. The apparent root cause of this event is that the trip setpoint of the temperature instrument that initiated the isolation is set too low for normal conditions at the location of the instrument. This event has been determined to be reportable per 10 CFR 50.73 (a) (2) (iv), in that an unplanned Engineered Safety Feature (ESF) actuation took place. There were no safety consequences resulting from this event. The temperature instrument which actuated in this event is labelled "RWCU F/D Room" whereas this device is actually located in the RWCU Penetration Room. Labelling has been installed adjacent to the instrument readout in the Control Room to reflect the correct device location. This corrective action also has been accomplished for temperature instruments on the other Unit 2 channel and both related Unit 1 channels. As a temporary measure, the Unit 2 temperature instruments have been set at a final trip setpoint value at the high end of the allowable range. An evaluation of the temperature leak detection requirements for the RWCU system on both Units will be accomplished to ascertain correct temperature instrument setpoints and locations. Final corrective actions will be determined at the conclusion of the evaluation.

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FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Susquehanna Steam Electric Station Unit 2	0 5 0 0 0 3 8 8	8 7	— 0 0 8	— 0 0	0 2 OF 0 4

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

DESCRIPTION OF EVENT

At 1505 hours on July 4, 1987 with Unit 2 operating in Condition 1 at 100% power, a Reactor Water Cleanup (RWCU, EIIS Code: CE) system isolation occurred. At the time of the event, Operations personnel (licensed, utility) were checking the RWCU Filter Demineralizer Room temperature reading at a Control Room panel. The RWCU system isolated per design with the exception of the RWCU "A" Pump tripping 10 seconds after the RWCU "B" Pump instead of at the same time. Technical Specification Limiting Condition For Operation (LCO) 3.4.4 was entered due to loss of continuous conductivity monitoring. At 1511 hours the isolation signal cleared and the inboard RWCU isolation valve was opened. At 1520 hours the "A" RWCU Pump was started and the LCO for continuous conductivity monitoring was cleared. A calibration check was then performed on the temperature instrument which triggered the isolation. At 1539 hours the "B" RWCU Pump was started. At 1541 hours a visual inspection of the RWCU Recirc Pumps was conducted. It was noted that the "B" RWCU Recirc Pump seal was leaking approximately 1/2 gpm. At 1620 hours the RWCU Hold Pump Room was entered after it had been observed that the "A" Filter Demineralizer Inlet Isolation Valve was showing dual indication. A fine mist spray was found coming from the "A" RWCU Hold Pump seal and water was found on the floor of the room. The "A" Hold Pump was immediately shutdown. Two pressure indicators were also found to be not working properly outside the Hold Pump Room. At 1815 hours the "B" RWCU Filter Demineralizer was placed in service completing restoration of the RWCU system.

CAUSE OF EVENT

The apparent root cause of this event is that the trip setpoint of the temperature instrument that initiated the isolation is set too low for normal conditions at the location of the instrument. When the instrument was calibrated shortly after the isolation, the as-found trip setpoint was found to be 112.8°F and the room temperature where the instrument is located was found to be approximately 112°F. The calibration procedure calls for a setpoint of 110.3°F with the as-found value being allowed to be within 12°F of the setpoint and the final value after calibration being allowed to be within 6°F of the setpoint. It is believed that the temperature instrument was on the verge of tripping due to actual room conditions when the operator took the room temperature reading.

The failed seal on the "A" RWCU Hold Pump was not a contributing cause of the temperature isolation. Any elevated temperatures due to this problem were limited to the RWCU Hold Pump Room which is located on the 779 foot elevation of the Reactor Building (RB). Temperature instrument TSH-G33-2N600E which actuated is located in the RWCU Penetration Room on the 749 foot elevation of the RB. The "B" RWCU Recirculation (Recirc) Pump seal had been experiencing mechanical seal problems which may have added to the Penetration Room temperatures slightly. The RWCU Recirc Pump Room is adjacent and open to the Penetration Room. Normal Penetration Room temperatures, however, have approximated the trip setpoint and repair to the RWCU Recirc Pump seal has had a negligible effect on lowering room temperatures.

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 temperature signal from RWCU Filter Demineralizer 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 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 ACTION

Corrective action for this event consists of actions related to the temperature switch and actions associated with malfunctioning or inoperable equipment which were noted during the course of the event. Each category is addressed below.

Corrective action relating to the temperature switch has two significant aspects. A labelling problem exists in that the temperature instrument which actuated in this event reads "RWCU F/D Room" whereas this device is actually located in the RWCU Penetration Room. Labelling has temporarily been installed adjacent to the instrument readout in the Control Room to reflect the correct device location. This corrective action also has been accomplished for temperature instrument TSH-G33-2N600F which exhibits the same problem on the other loop. Secondly, a potential location problem exists for TSH-G33-2N600E&F. If the RWCU F/D Room is the correct design location for these instruments, then they are presently in the wrong location with trip setpoints that correspond to lower ambient temperatures than those to which they may be subjected. As a temporary measure, TSH-G33-2N600E&F have been calibrated and left at a final trip setpoint value of approximately 116°F. An evaluation of the temperature leak detection requirements for the RWCU system on both Units will be accomplished

to ascertain where the temperature instruments in question are required to be located. This evaluation will also consider adequacy of setpoint values for the devices based on their required physical location. Final corrective actions will be determined at the conclusion of the evaluation.

Corrective actions associated with malfunctioning or inoperable equipment involve repair or replacement work and is controlled through the plant's Work Authorization (WA) program. Repairs were made to the "B" RWCU Recirc Pump which consisted of installing a new mechanical seal, modifying the mechanical seal sleeve and replacing the pump bearings. WA's have been issued to repair the "A" RWCU Hold Pump seal and to replace the two pressure indicators outside the Hold Pump Room. WA's have also been issued to investigate the 10 second delay in the RWCU Recirc Pump "A" trip and the dual indication problem associated with the "A" Filter Demineralizer Inlet Isolation Valve.

ADDITIONAL INFORMATION

There have been no similar occurrences noted in a review of past Licensee Event Reports (LER's) on the RWCU system.

However, a non-reportable event occurred on June 6, 1987 during performance of a quarterly calibration surveillance involving TSH-G33-2N600E&F when it was documented in the station's internal reporting program that ambient temperatures were close to the trip setpoints for these instruments. There were no failed components identified in this event.

Pennsylvania Power & Light Company
P.O. Box 451 • Berwick, PA 18603-0451 • 717/542-2151

August 3, 1987

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

SUSQUEHANNA STEAM ELECTRIC STATION
LICENSEE EVENT REPORT 87-008-00
FILE R41-2
PLAS - 272

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

Attached is Licensee Event Report 87-008-00. 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.

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Superintendent of Plant - Susquehanna

TSR/cmw

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