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REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 8804060257 DOC. DATE: 88/03/31 NOTARIZED: NO DOCKET #
 FACIL: 50-387 Susquehanna Steam Electric Station, Unit 1, Pennsylvania 05000387
 AUTH. NAME AUTHOR AFFILIATION
 WEHRY, R.R. Pennsylvania Power & Light Co.
 BYRAM, R.G. Pennsylvania Power & Light Co.
 RECIP. NAME RECIPIENT AFFILIATION

SUBJECT: LER 86-014-01: on 860410, two scram discharge vol level transmitters found isolated.

W/8 ltr.

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

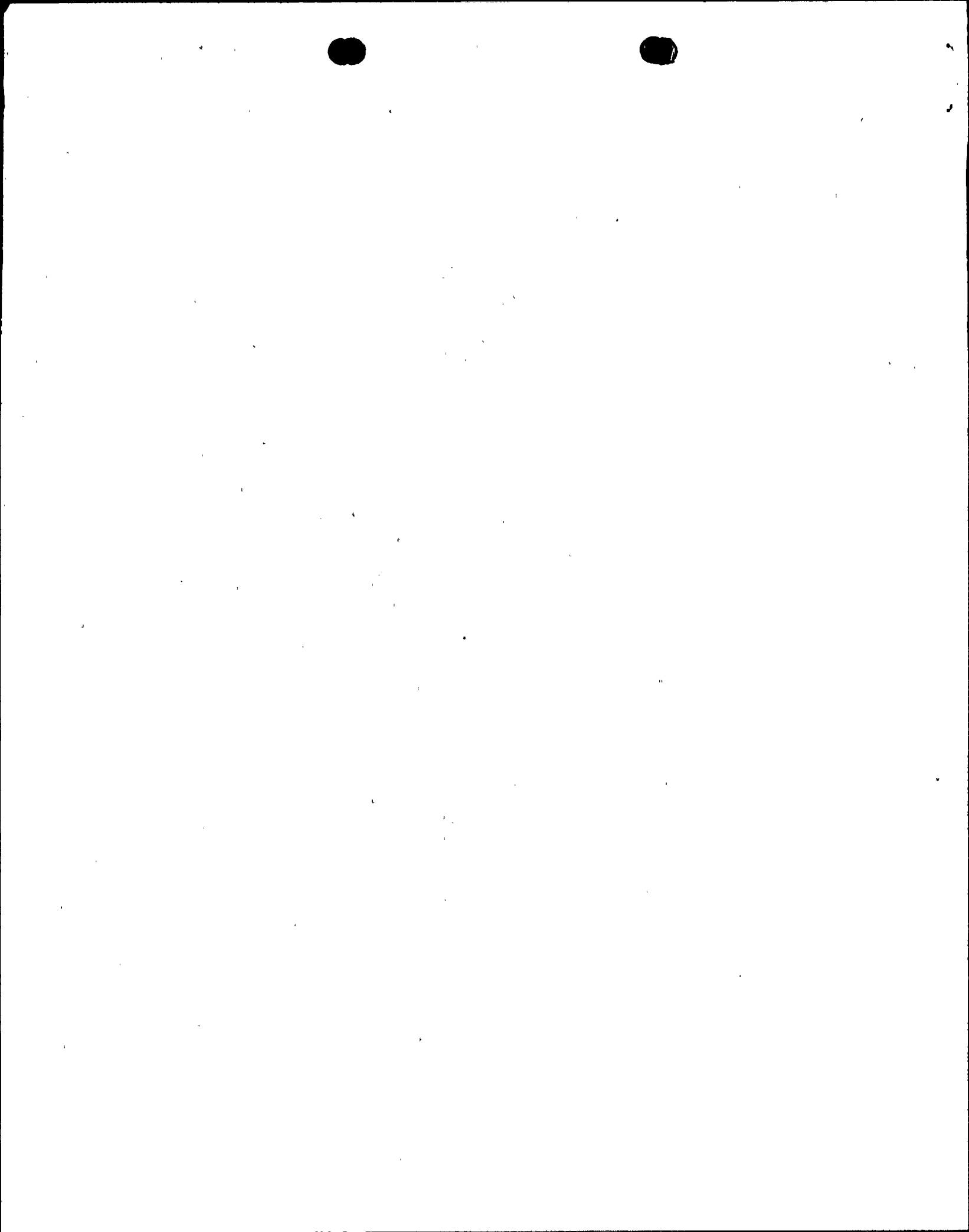
NOTES: LPDR 2 cys Transcripts.

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	AEOD/DOA	1	1		AEOD/DSP/NAS	1	1	
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	ARM/DCTS/DAB	1	1		DEDRO	1	1	
	NRR/DEST/ADS 7E	1	0		NRR/DEST/CEB 8H	1	1	
	NRR/DEST/ESB 8D	1	1		NRR/DEST/ICSB7A	1	1	
	NRR/DEST/MEB 9H	1	1		NRR/DEST/MTB 9H	1	1	
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	NRR/DEST/SGB 8D	1	1		NRR/DLPQ/HFB 10	1	1	
	NRR/DLPQ/QAB 10	1	1		NRR/DOEA/EAB 11	1	1	
	NRR/DREP/RAB10A	1	1		NRR/DREP/RPB10A	2	2	
	NRR/DRIS/SIB9A1	1	1		NRR/PMAS/ILRB12	1	1	
	REG FILE 02	1	1		RES TELFORD, J	1	1	
	RES/DE/EIB	1	1		RES/DRPS DIR	1	1	
	RGN1 FILE 01	1	1					
EXTERNAL:	EG&G GROH, M	4	4		FORD BLDG HOY, A	1	1	
	H ST LOBBY WARD	1	1		LPDR	2	2	
	NRC PDR	1	1		NSIC HARRIS, J	1	1	
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NOTES:		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)
Two Scram Discharge Volume Level Transmitters Found Isolated

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	4	1 0 8 6	8 6	0 1 4	0 1	0 3	3 1	8 8			0 5 0 0 0

OPERATING MODE (9) 4	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)											
POWER LEVEL (10) 0 0 0	20.402(b)			20.405(c)			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)			X 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)(ix)						

LICENSEE CONTACT FOR THIS LER (12)									
NAME Richard R. Wehry, Power Production Engineer							TELEPHONE NUMBER		
							AREA CODE 7 1 7		
							5 4 2 - 3 6 6 4		

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

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

On April 10, 1986 with Unit 1 in a refueling outage, two Scram Discharge Volume (SDV) level transmitters LT-C12-1N016C and LT-C12-1N016D were found isolated from the SDV. The level transmitters provide scram signals to the Reactor Protection System. The discovery was made when conflicting level indication for the SDV was observed during hydrostatic pressure testing of the reactor vessel. Investigation revealed that four isolation valves for the level transmitters were locked closed in accordance with the Control Rod Drive System valve check-off-list (COL) and that the COL was incorrect. The COL was corrected, the isolation valves opened, and proper indication was observed. The transmitters had been isolated since their installation under a plant modification during the first refueling outage which concluded June 12, 1985. A review of selected critical components on safety systems and plant modifications completed since January 1985 was conducted to insure other important components were not out of service. No items of significance were found. The causes of the event have been identified. Corrective actions to prevent recurrence have been implemented.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		8 6	- 0 1 4	- 0 1	0 2	OF	0 3

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

On April 10, 1986 with Unit 1 in a refueling outage, two Scram Discharge Volume (SDV, EIIS Code: AA) level transmitters LT-C12-1N016C and LT-C12-1N016D were found isolated from the SDV. The level transmitters provide scram signals to the Reactor Protection System (RPS, EIIS Code: JC) logic. When the discovery was made, reactor vessel hydrostatic pressure testing was in progress and a full RPS scram was in. An Instrumentation and Control (I&C) Technician in the upper relay room noticed the SDV level indicating switch for RPS channel A1 was upscale as expected while the SDV level indicating switch for RPS channel A2 was downscale. The technician informed the Control Room of the discrepancy. Operations found four isolation valves for level transmitters LT-C12-1N016C and D locked closed isolating the transmitters from the SDV. The four isolation valves for level transmitters LT-C12-1N016A and B were then checked and found to be correctly locked open. Further investigation revealed all eight valves were aligned in accordance with the system valve check-off-list (COL). The COL incorrectly listed the normal position of the C&D level transmitter isolation valves as locked closed. The COL was corrected, the four isolation valves for the C&D level transmitters were opened, and proper SDV level indication was verified. The isolation valves for the corresponding Unit 2 SDV level transmitters were checked and all were in the correct position.

There are two scram discharge volumes with common vent and drain lines. There are two instrument channels on each SDV, each channel comprised of one level transmitter and one float switch. A coincident trip signal from each channel generated from either a level transmitter or float switch will cause a full RPS scram. Although the C and D level transmitters were isolated from the SDV, a full RPS scram would have been generated by the redundant float switches if a high level in the SDV occurred.

All four SDV level transmitters were installed under a plant modification during the Unit 1 first refueling outage which concluded on June 12, 1985. All four level transmitters were calibrated after installation, however, the calibrations are performed with the isolation valves closed. During closeout of the modification on May 2, 1985, only the A and B level transmitter isolation valves were identified to be changed to the locked open position. The isolation valves for the C and D level transmitters should have been opened at this time but were overlooked.

To insure other important Unit 1 instrumentation or components were not isolated or de-energized, a review of direct current and instrument AC power supply panels and instrument racks associated with Emergency Core Cooling Systems, Containment Isolation Systems and the RPS was performed. No items of significance were found. In addition, Operations Staff reviewed all plant modifications that had been closed out since January 1985 to determine if proper operations actions were taken. This review included approximately 400 modifications for Unit 1, Unit 2 and common systems. No items of significance were found.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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

The results of a Task Force investigation identified the following causes for this incident:

- 1) In closing out the modification package which installed the new transmitters, Operations allowed themselves insufficient time to properly review the package, and to identify and implement all necessary procedure changes.
- 2) There was virtually no interaction between the Technical Staff and the Operations engineers assigned to process this modification. This lack of communication was a major factor in the failure to identify necessary checkoff list changes reflecting the new transmitters.
- 3) No second review of the final determination of procedure changes necessary to close the modification package was made. Such a review would have helped assure completeness and accuracy of the closeout.
- 4) The limited scope of post-modification testing specified for the level transmitter modification constrained the effectiveness of this barrier to promulgation of modification closeout errors.

In an effort to prevent recurrence, administrative procedure AD-QA-410, Plant Modification Program, was revised to strengthen the modification and post-modification testing processes. This included:

- a) The creation of an Installation Kickoff Meeting, involving the appropriate work group personnel to review the modification, outline work and test plans, and assess the physical boundaries of work involved;
- b) Timely identification and preparation of necessary procedure changes as part of the Plant Modification Package;
- c) Technical review by Operations via the Operations Modification Information Summary Sheet (OMISS) and the Operational Readiness Form to support determination of necessary and accurate procedure changes;
- d) Inclusion of observational In-Service Testing verifications by the Plant System Engineer as part of the Operational Readiness Form.

Detailed Instruction procedures were developed and issued by the Operations and Technical sections to ensure that accurate reviews of modification Operational Readiness Forms are conducted.



Pennsylvania Power & Light Company

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March 31, 1988

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SUSQUEHANNA STEAM ELECTRIC STATION
LICENSEE EVENT REPORT 86-014-01
FILE R41-2
PLAS - 309

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

Attached is an update to Licensee Event Report 86-014-01. This event had been determined reportable per 10CFR50.73(a)(2)(i), in that two scram discharge volume level transmitters had been found to be valved out of service on April 10, 1986. This update details the corrective actions which have been implemented in order to prevent recurrence.


R.G. Byram
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RRW/mjm

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