

ACCELERATED DISTRIBUTION DEMONSTRATION SYSTEM

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 9004040084 DOC. DATE: 90/03/29 NOTARIZED: NO DOCKET #
 FACIL: 50-388 Susquehanna Steam Electric Station, Unit 2, Pennsylv 05000388
 AUTH. NAME AUTHOR AFFILIATION
 CRIST, M.L. Pennsylvania Power & Light Co.
 STANLEY, H.G. Pennsylvania Power & Light Co.
 RECIP. NAME RECIPIENT AFFILIATION

SUBJECT: LER 90-003-00: on 900228, ADP declared inoperable when CIG header pressure dropped below 135 psig.

DISTRIBUTION CODE: IE22T COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 5
 TITLE: 50.73/50.9 Licensee Event Report (LER), Incident Rpt, etc. W/9 ltr.

NOTES: LPDR 1 cy Transcripts.

05000388

	RECIPIENT ID CODE/NAME	COPIES LTTR ENCL	RECIPIENT ID CODE/NAME	COPIES LTTR ENCL
	PD1-2 LA	1 1	PD1-2 PD	1 1
	THADANI, M	1 1		
INTERNAL:	ACNW	2 2	ACRS	2 2
	AEOD/DOA	1 1	AEOD/DSP/TPAB	1 1
	AEOD/ROAB/DSP	2 2	DEDRO	1 1
	NRR/DET/ECMB 9H	1 1	NRR/DET/EMEB9H3	1 1
	NRR/DET/ESGB 8D	1 1	NRR/DLPQ/LHFB11	1 1
	NRR/DLPQ/LPEB10	1 1	NRR/DOEA/OEAB11	1 1
	NRR/DREP/PRPB11	2 2	NRR/DST/SELB 8D	1 1
	NRR/DST/SICB 7E	1 1	NRR/DST/SPLB8D1	1 1
	NRR/DST/SRXB 8E	1 1	REG FILE 02	1 1
	RES/DSIR/EIB	1 1	RGN1 FILE 01	1 1
EXTERNAL:	EG&G STUART, V.A	1 1	L ST LOBBY WARD	1 1
	LPDR	1 1	NRC PDR	1 1
	NSIC MAYS, G	1 1	NSIC MURPHY, G.A	1 1
	NUDOCS FULL TXT	1 1		
NOTES:		2 2		

NOTE TO ALL "RIDS" RECIPIENTS:

PLEASE HELP US TO REDUCE WASTE! CONTACT THE DOCUMENT CONTROL DESK, ROOM P1-37 (EXT. 20079) TO ELIMINATE YOUR NAME FROM DISTRIBUTION LISTS FOR DOCUMENTS YOU DON'T NEED!

FULL TEXT CONVERSION REQUIRED
 TOTAL NUMBER OF COPIES REQUIRED: LTTR 36 ENCL 36

R
I
D
S
/
A
D
D
S
/
A
D
D
S

A0-4



Pennsylvania Power & Light Company

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

March 29, 1990

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

SUSQUEHANNA STEAM ELECTRIC STATION
LICENSEE EVENT REPORT 90-003-00
FILE R41-2
PLAS -421

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

Attached is Licensee Event Report 90-003-00. This report is being made pursuant to 10CFR50.73(a)(2)(v), in that the Automatic Depressurization System was unable to perform its complete safety function.

H.G. Stanley
Superintendent of Plant - Susquehanna

MLC/mjm

cc: Mr. W. T. Russell
Regional Administrator, Region I
U.S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, PA 19406

Mr. G. S. Barber
Sr. Resident Inspector
U.S. Nuclear Regulatory Commission
P.O. Box 35
Berwick, PA 18603-0035

9004040084 900329
PDR ADCK 05000388
S PDC

1822
11

LICENSEE EVENT REPORT (LER)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

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

TITLE (4) Automatic Depressurization System Declared Inoperable When Containment Instrument Gas Header Pressure Dropped Below 135 psig Due to a Pressure Relief Valve Lifting

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	2	89	09	003	00	03	29	90		0 5 1 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)

20.402(b)	20.406(c)	50.73(a)(2)(iv)	73.71(b)
20.406(a)(1)(i)	50.36(c)(1)	<input checked="" type="checkbox"/> 50.73(a)(2)(v)	73.71(c)
20.406(a)(1)(ii)	50.36(c)(2)	50.73(a)(2)(vi)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)
20.406(a)(1)(iii)	50.73(a)(2)(i)	50.73(a)(2)(viii)(A)	
20.406(a)(1)(iv)	50.73(a)(2)(ii)	50.73(a)(2)(vii)(B)	
20.406(a)(1)(v)	50.73(a)(2)(iii)	50.73(a)(2)(ix)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
<u>Michael L. Crist - Compliance Evaluator</u>	<u>7 1 7 5 4 2 - 3 2 8 9</u>

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)

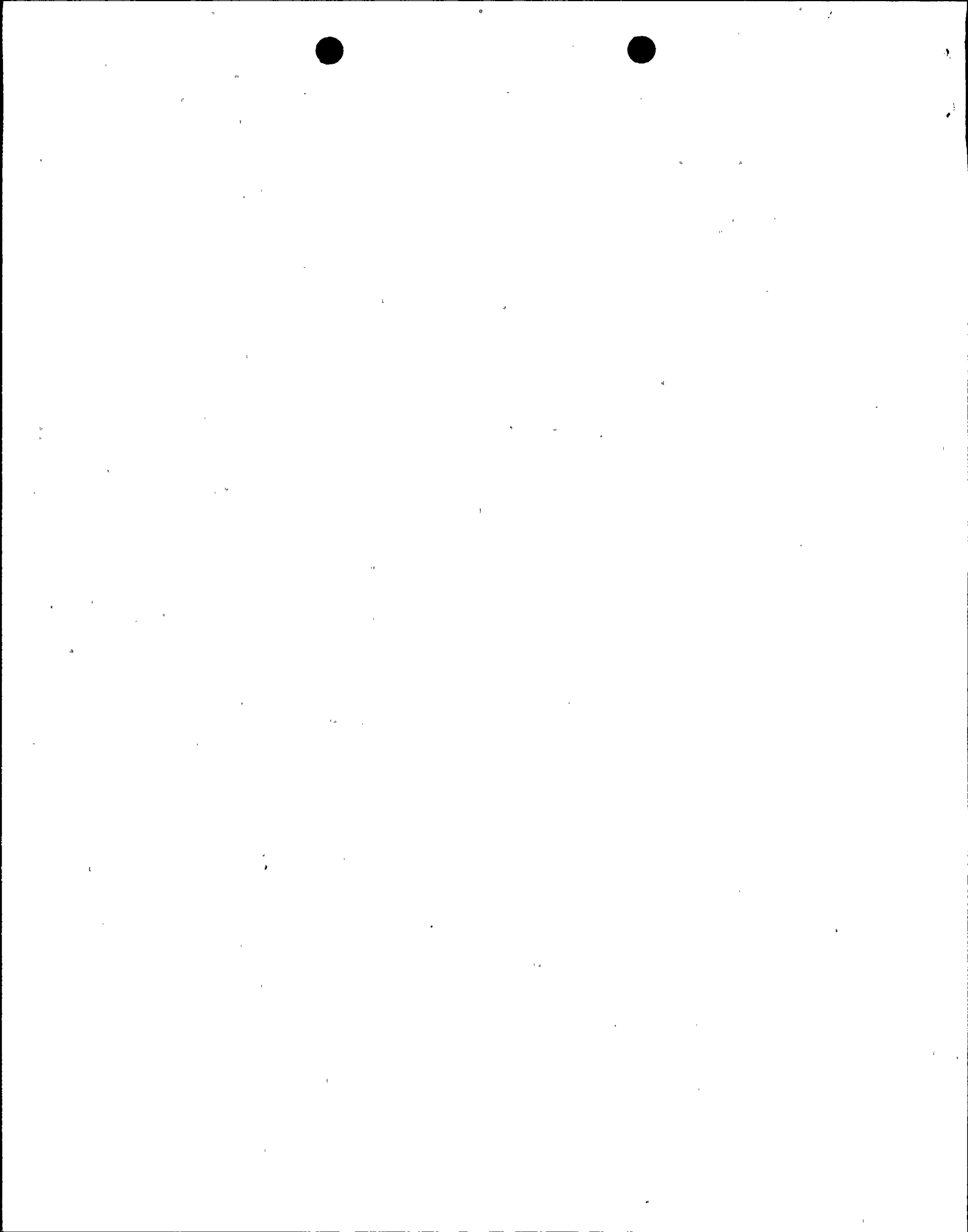
YES (If yes, complete EXPECTED SUBMISSION DATE) NO

EXPECTED SUBMISSION DATE (15) MONTH 0 6 DAY 3 0 YEAR 9 1 0

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

At 1110 hours on February 28, 1990, with Unit 2 operating in Condition 1 at 100% power, the Automatic Depressurization System (ADS) was declared INOPERABLE when Containment Instrument Gas (CIG) System's header pressure dropped below 135 psig due to the unexpected opening of a pressure relief valve. The CIG System automatically transferred to its backup nitrogen supplies. The "A" header pressure continued to decrease. The "B" header was being maintained at 160 psig by the backup supplies. Investigations by plant personnel found that pressure relief valve, PSV-22643, located on the "A" header, was stuck open. The valve was manually re-seated and header pressure returned to normal. At 1151 hours ICO 3.5.1 action d was exited when ADS was declared OPERABLE.

The cause of this event was the mis-operation of PSV-22643. Due to the current status of the CIG System, investigations can not be completed. A supplement will be provided reflecting the results of the investigations when available. This event was determined reportable per 10CFR50.73(a)(2)(v) in that the ADS was unable to perform its complete safety function. There were no safety consequences or compromise to public health or safety as a result of this event.



LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 60.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1) Unit 2 Susquehanna Steam Electric Station	DOCKET NUMBER (2) 0 5 0 0 0 3 8 8	LER NUMBER (6)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
		9 0	- 0 0 3	- 0 0	0 2	OF 0 4

TEXT (If more space is required, use additional NRC Form 306A's) (17)

EVENT DESCRIPTION

On February 28, 1990, with Unit 2 operating in Condition 1 at 100% power, the Containment Instrument Gas (EIIS Code: not listed) System's 'A' compressor was in service with the 'A' and 'B' Automatic Depressurization System (ADS, EIIS Code: not listed) header's backup nitrogen (bottles 2T212A-M and 2T213A-M, respectively) supplies at greater than 2100 psig. The 'A' header supplies instrument gas to Main Steam Safety Relief Valves (MSRV) PSV-241-F013G,J, and M, and the 'B' header supplies MSRVs PSV-241-F013K,L, and N. These six MSRVs perform the ADS function. See attached diagram on system configuration. The "B" CIG compressor was out of service for modifications.

At approximately 1110 hours, on the above date, the CIG System automatically transferred from its normal source of the CIG compressors to its backup nitrogen supply bottles due to decreasing pressure on both headers. The transfer from the compressors to the bottles is an automatic action which occurs when header pressure drops below 147 psig. Specifically, valves SV-22644 and SV-22643 on the 'A' header, and valves SV-22649 and SV-22648 on the 'B' header changed position aligning the bottles to their respective headers. Following the transfer, pressure on the 'A' header continued to drop below 135 psig, rendering MSRVs F013G,J, and M inoperable. As such, the ADS was declared INOPERABLE, and Technical Specification Limiting Condition of Operation (LCO) 3.5.1 action d.2 was entered. The pressure on 'B' header was being maintained at 160 psig by the backup nitrogen supply. Technical and Maintenance personnel (both utility, non-licensed) were notified and an immediate investigation was commenced. Initial checks of the 'A' and 'B' CIG compressor skids did not reveal any leaks. The 'A' compressor was running, 100% loaded, and maintaining receiver pressure at 110 psig. Normal receiver pressure is 160 psig. Pressure was still decreasing on the 'A' header. Operations personnel (utility, non-licensed) proceeded to isolate the 'A' compressor from the 'A' header. When this was done compressor receiver pressure returned to 160 psig. Further investigations found that pressure relief valve, PSV-22643, located on the 'A' backup nitrogen supply header, was stuck open. Maintenance personnel manually re-seated the valve and header pressure returned to normal. No other nitrogen supplied systems, i.e., Main Steam Isolation Valves, Vacuum Relief Valves, were affected since they are supplied by a separate 90 psig nitrogen header. The CIG system was manually re-aligned to its 'A' compressor. At 1151 hours, LCO 3.5.1 action d.2 was cleared, returning ADS to OPERABLE status. At 1440 hours, ENS notification was made in accordance with 10CFR50.72 (b) (2) (iii).

CAUSE OF EVENT

The cause of this event was the mis-operation of PSV-22643. The root cause of the PSV lifting is indeterminate, however the most probable cause is that the PSV or supply piping was jarred. This conclusion is based on the valve being located in a high traffic area and the PSV's setpoint (180 ± 3%) being relatively close to the system's operating pressure (155-165 psig). Secondly,

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 60.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1) Unit 2 Susquehanna Steam Electric Station	DOCKET NUMBER (2) 0 6 0 0 0 3 8 8	LER NUMBER (6)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
		9 0	— 0 9 3	— 0 0	0 3	OF 0 4

TEXT (if more space is required, use additional NRC Form 308A's) (17)
 once the PSV lifted, the valve should have re-seated. Due to the current status of the CIG System (the 'B' compressor out of service), investigations can not be completed. Once both compressors are OPERABLE the PSV will be removed from the system for inspection and testing. The results of this investigation will be provided in a supplement to this report.

REPORTABILITY/ANALYSIS

This event was determined reportable per 10CFR50.73(a) (2) (v) in that with less than five ADS MSRVS OPERABLE, the ADS System was unable to perform its complete safety function. The remaining ECCS were operable throughout the event.

The CIG System provides instrument gas at 160 psig to the six MSRVS which perform the ADS function. The ADS MSRVS have two safety functions, short-term blowdown capability and long-term pressure control capability (long-term cooling). LCO 3.5.1 states that all six ADS MSRVS shall be OPERABLE in Condition 1. Technical Specification Bases and FSAR Table 6.3-2 take credit for five ADS MSRVS. Therefore LCO 3.5.1.d.2 provides for an immediate orderly shutdown for a loss of more than one ADS MSRVS. Further analysis, in support of the Emergency Operating Procedures (EOP) demonstrates that three OPERABLE MSRVS will adequately provide rapid depressurization of the reactor pressure vessel. In addition, EOP EO-1/200-112, Rapid Depressurization Bases, provides guidance for alternate means of depressurizing the vessel if less than three MSRVS are available. Since the backup nitrogen supply did align to the 'B' header and header pressure was maintained at 160 psig, the short-term and long-term functions of the ADS MSRVS F013K,L, and N were still intact. Based on this there were no safety consequences or compromise to public health or safety as a result of this event nor would there have been had it occurred at any other operating condition.

In accordance with the guidance provided in NUREG 1022 Supplement 1 Item 14.1, the required submission date for this report was determined to be March 30, 1990.

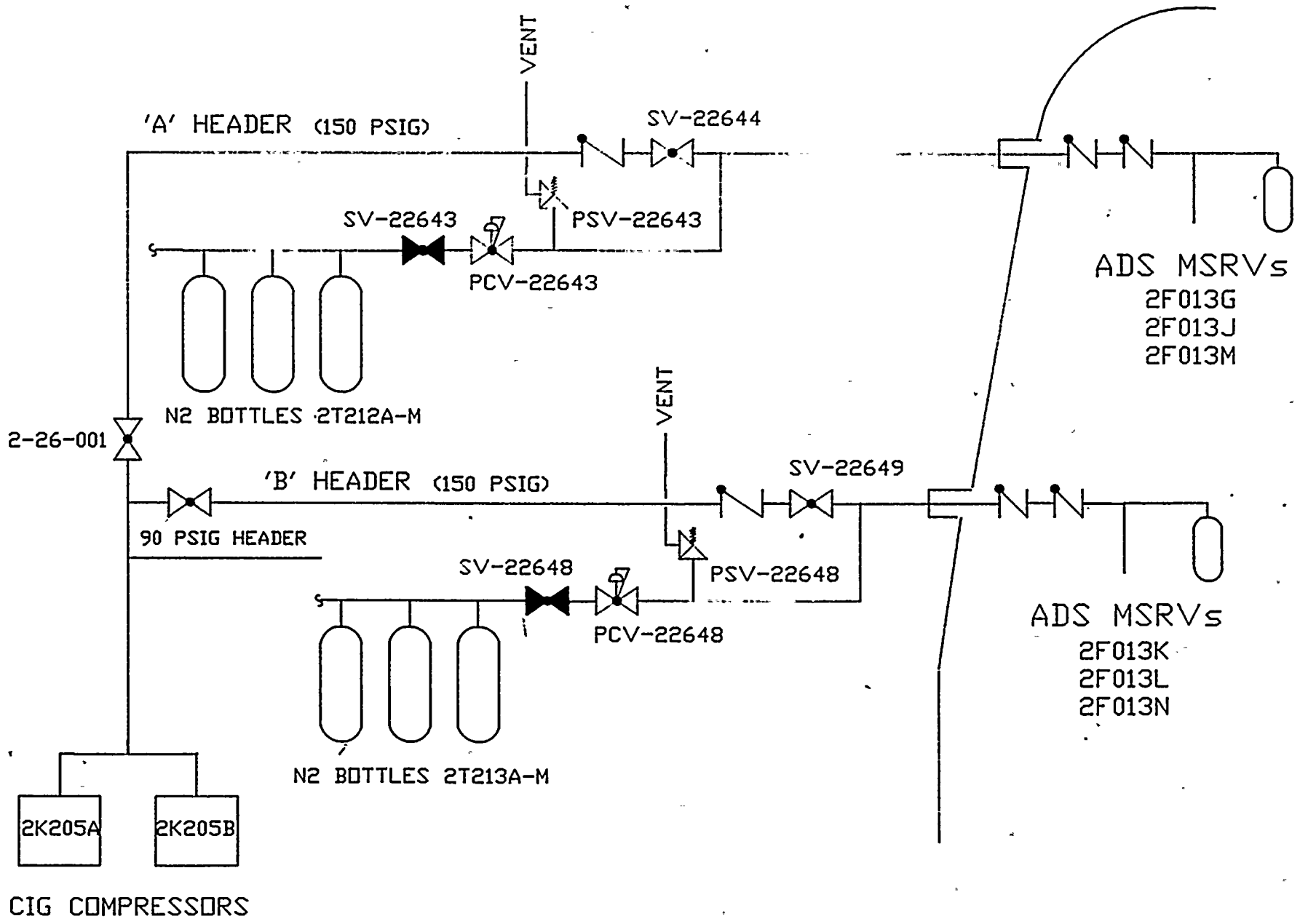
CORRECTIVE ACTIONS

Immediate corrective actions consisted closing PSV-22643 and returning the system to its normal configuration. Due to the current status of the CIG System, the "B" compressor out of service, further investigations can not be completed. Once both the 'A' and 'B' compressors are OPERABLE, PSV 22643 will be removed for inspection and testing. The results of this investigation and identification of actions to prevent recurrence will be provided in a supplement to this report.

ADDITIONAL INFORMATION

Failed Components Identification : None.
 Previously Reported Events: None.

UNIT 2 CIG/ADS EVENT 2-28-90



Facility Name Unit 2
 Susquehanna Steam Electric Station
 Docket Number 05000388
 IER Number 0-003-00
 Page 04 OF 04