

# PRIORITY

(ACCELERATED RIDS PROCESSING)

## REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 9510130350 DOC. DATE: 95/10/09 NOTARIZED: NO DOCKET #  
FACIL: 50-387 Susquehanna Steam Electric Station, Unit 1, Pennsylvania 05000387  
AUTH. NAME AUTHOR AFFILIATION  
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RECIP. NAME RECIPIENT AFFILIATION

SUBJECT: LER 95-010-00: on 950908, containment radiation monitors declared inoperable. Caused by inadequate ventilation of local control panels. Failed power supply restored within required time to preclude shutdown. W/951009 ltr.

DISTRIBUTION CODE: IE22T COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 4  
TITLE: 50.73/50.9 Licensee Event Report (LER), Incident Rpt, etc.

NOTES:

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October 9, 1995

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

**SUSQUEHANNA STEAM ELECTRIC STATION  
LICENSEE EVENT REPORT 387/95-010-00  
PLAS- 647 FILE R41-2**

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

Attached is Licensee Event Report 387/95-010-00. This report is being made pursuant to 10CFR50.73(a)(2)(i)(B), in that Susquehanna Unit 1 was in a condition prohibited by the plant's Technical Specifications and therefore entered into LCO ACTION 3.0.3. Entry into Technical Specification LCO 3.0.3 was required because of a complete loss of both the gaseous and particulate monitoring systems caused by inoperable containment radiation monitors.

  
H. G. Stanley  
VP - Nuclear Operations

REK/toc  
Attachment

cc: Mr. T. T. Martin  
Regional Administrator  
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9510130350 951009  
PDR ADCK 05000387  
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*Handwritten initials/signature*

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), U7.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Susquehanna Steam Electric Station - 1	DOCKET NUMBER(2) 0 5 0 0 0 3 8 7 1	PAGE (3) OF 0 3
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TITLE (4)  
Condition Prohibited by the Plants Technical Specifications (LCO 3.0.3)

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 9	0 8	9 5	9 5	0 1 0	0 0	1 0	0 9	9 5			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)	50.73(a)(2)(v)	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)(vi)	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)(vii)(A)							
	20.405(a)(1)(iv)	50.73(a)(2)(ii)	50.73(1)(2)(vii)(B)							
20.405(a)(1)(v)	50.73(a)(2)(iii)	50.73(a)(2)(viii)								

(LICENSEE CONTACT FOR THIS LER (12))

NAME Robert D. Kichline - Project Licensing Specialist	TELEPHONE NUMBER
	AREA CODE: 7 1 7      5 4 2 - 3 2 8 9

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
B	I L	J X	Z 0 1 3						

SUPPLEMENTAL REPORT EXPECTED (14)

<input type="checkbox"/> YES (if yes, complete EXPECTED SUBMISSION DATE)	<input checked="" type="checkbox"/> NO	EXPECTED SUBMISSION DATE (15)	MONTH    DAY    YEAR
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ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)

**Abstract**

At 0200 hours on September 8, 1995 with Unit 1 in Condition 1 (Power Operation) at 100% power, the 'B' containment radiation monitor (CRM) failed downscale and was declared inoperable; at 0915 hours on September 8, 1995, the 'A' CRM also failed downscale and was declared inoperable. The failure of the CRM's local control panel power supply resulted in both CRM channels being declared inoperable. Loss of both CRM channels renders the primary containment gaseous radioactivity monitoring system AND the particulate radioactivity monitoring system inoperable. Technical Specification LCO 3.0.3 was entered following the determination that Technical Specification LCO 3.4.3.1 action b did not encompass a complete loss of both the gaseous and particulate monitoring systems. Investigations have found evidence of overheating on several components of the power supplies. The power supplies for both channels were replaced; additionally, temporary fans were installed in Unit 1 immediately after the event to provide cooling to the power supplies. A modification to install permanent fans is being implemented in Unit 2 during the seventh refueling and inspection outage. Subsequently, permanent fans will be installed in Unit 1.

**LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION**

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)  Unit 1  Susquehanna Steam Electric Station	DOCKET NUMBER (2)  0   5   0   0   0   3   8   7	LER NUMBER (6)						PAGE (3)		
		YEAR 9   5	SEQUENTIAL NUMBER 0   1   0	REVISION NUMBER 0   0				2	OF	3

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

**Description of the Event**

At 0200 hours on September 8, 1995, with Unit 1 in Condition 1 (Power Operation) at 100% power, the 'B' containment radiation monitor (CRM) failed downscale and was declared inoperable; at 0915 hours on September 8, 1995, the 'A' CRM also failed downscale and was declared inoperable (Radiation Monitoring; EISS Code IL). The failure of the CRMs power supply resulted in both CRM channels being declare inoperable. The loss of both the 'A' and 'B' CRMs rendered both channels of the primary containment gaseous radioactivity monitoring system and both channels of the particulate radioactivity system inoperable. Technical Specification LCO 3.0.3 was entered following the determination that Technical Specification LCO 3.4.3.1 action b did not encompass a complete loss of both the gaseous and particulate monitoring systems.

**Cause of the Event**

New CRMs and associated components were installed in Unit 1 during the previous refueling and inspection outage. Entry into Technical Specification LCO 3.0.3 was required because of a complete loss of both the gaseous and particulate monitoring systems caused by inoperable CRM's due to the failure of the power supplies in the CRM's local control panels (1C292 A and B). The power supplies are the source of DC power for several components of the local control panel. Evidence of overheating was found on several components of the power supplies. Although heat damage to the CRMs power supply's printed circuit boards and individual components/subcomponents was recognized, the specific component/s that caused the actual failure have not been identified. Based on the evidence of overheating, the cause of the failed Unit 1 'A' and 'B' CRM power supplies could be attributed to inadequate ventilation of the local control panels.

**Reportability/Analysis**

This event was determined to be reportable per 10CFR50.73(a)(2)(i)(B) as a condition prohibited by Technical Specifications, in that Technical Specification LCO 3.0.3 was entered on Unit 1. Entry into Technical Specification LCO 3.0.3 was based on a determination that Technical Specification LCO 3.4.3.1 action b was not applicable when both CRM channels were declare inoperable since the Technical Specification LCO does not encompass a complete loss of both the gaseous and particulate monitoring systems. Since no other Technical Specification LCO was applicable Technical Specification LCO 3.0.3 was entered.

In accordance with guidance provided in NUREG 1022, Supplement 1, item 14 and 10CFR50.4(d), the required submission date for this report was determined to be October 9, 1995.

**LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION**

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)  Unit 1  Susquehanna Steam Electric Station	DOCKET NUMBER (2)  0   5   0   0   0   3   8   7	LER NUMBER (6)						PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER						
		9   5	—   0   1   0	—   0   0				3	OF	3

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

**Corrective Action**

Upon the failure of the 'A' CRM and entry into Technical Specification 3.0.3, preparations for commencement for a control shutdown began. However, upon identification of the cause of the inoperable CRMs (failed power supplies), the 'B' CRM power supply was restored within the required time to preclude a shutdown. Technical Specification LCO 3.0.3 was then exited. The failed power supply to the 'A' CRM was also subsequently replaced.

Although the power supplies are designed to operate without forced ventilation at their operated loading, overheating was suspected as the cause of the failures immediately after the event. Therefore, to preclude overheating of both the Unit 1 'A' and 'B' CRM power supplies, a temporary modification providing forced cooling to the CRM panels was installed. This ventilation facilitates cooling into the CRM's local control panels through previously installed louvers.

A modification to provide permanent forced ventilation to the power supplies is being implemented on both units. Permanent fans are being installed on the Unit 2 CRM's local control panels during the seventh refueling and inspection outage as part of the new CRM tie-in efforts. Permanent fans will be installed in Unit 1.

Activities to determine the specific failed component/s is ongoing.

**Additional Information**

**Failed Component Identification:**

Component: Containment Radiation Monitor power supply  
Model: ZPS-150A  
Manufacturer: Zenith Electronic Corporation

Previous Similar Events: There are no previous events on either Susquehanna units where Technical Specification LCO 3.0.3 was entered due to the inoperability of both CRM channels.