

CATEGORY 1

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 9702050035 DOC. DATE: 97/01/30 NOTARIZED: NO DOCKET #
 FACIL: 50-387 Susquehanna Steam Electric Station, Unit 1, Pennsylvania 05000387
 AUTH. NAME AUTHOR AFFILIATION
 ELLIS, S.J. Pennsylvania Power & Light Co.
 KUCZYNSKI, G.J. Pennsylvania Power & Light Co.
 RECIP. NAME RECIPIENT AFFILIATION

SUBJECT: LER 97-001-00: on 970102, control terminal was not continuously communicating with individual stack monitor field units (SPING's). Caused by software problem. VMS communication function was restored. W/970130 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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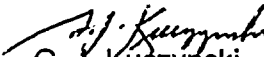
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SUSQUEHANNA STEAM ELECTRIC STATION
LICENSEE EVENT REPORT 50-387/97-001-00
PLAS - 695 FILE R41-2

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

Attached is Licensee Event Report 50-387/97-001-00. This event was determined reportable per 10CFR50.73(a)(2)(i)(B) in that the required sampling and flow verification were not performed within the time limit as required by Technical Specifications when Ventilation Stack Monitors were as inoperable on January 2, 1997. This constitutes a condition prohibited by the plant's Technical Specifications.


G. J. Kuczyrski
Plant Manager - Susquehanna SES

Attachment

cc: Mr. H. J. Miller
Regional Administrator
U. S. Nuclear Regulatory Commission
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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 1	DOCKET NUMBER(2) 0 5 0 0 0 3 8 7 1	PAGE (3) OF 0 3
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TITLE (4)
SPING Terminals Not Communicating With Field Units

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	1	0	2	9	7	9	7	—	SSES - Unit 2		0 5 0 0 0 3 8 8
0	1	0	2	9	7	9	7	—			0 5 0 0 0 3 8 8

OPERATING MODE (9) 1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR Y: (Check one or more of the following) (11)											
POWER LEVEL (10) 1 0 0	20.402(b)			20.405(e)			50.73(a)(2)(v)			73.71(e)		
	20.405(a)(1)(i)			50.36(c)(1)			50.73(a)(2)(x)			73.71(e)		
	20.405(a)(1)(ii)			50.36(c)(2)			50.73(a)(2)(y)					
	20.405(a)(1)(iii)			<input checked="" type="checkbox"/> 50.73(a)(2)(i)			50.73(a)(2)(vi)(A)			OTHER (Specify in Abstract below and in Text, NRC Form 368A)		
	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)(x)						

(LICENSEE CONTACT FOR THIS LER (12))

NAME Stephen J. Ellis - Project Engineer, Licensing	TELEPHONE NUMBER
	AREA CODE: 7 1 7 TELEPHONE NUMBER: 5 4 2 - 3 5 3 7

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRDs	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRDs

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)

At 0825 hours on January 2, 1997, with both Unit 1 and Unit 2 in Condition 1 (Power Operation) at 100% power, a gas sample and flow verification as required by Technical Specifications was not performed within the time limit of the ACTION Statement, thus constituting a condition prohibited by Technical Specifications. The sample is required while the Ventilation Monitoring System (VMS) is out of service. At approximately 0630 on January, 1, 1997, the Control Room Control Terminal stopped continuous communication with the field units. LCO's 3.3.7.5 (Action 81) and 3.3.7.11 (Actions 111, 112, 113, 114, and 116) were entered on January 2, 1997 at 0825, when all SPINGS were declared inoperable. The required ACTIONS of LCO 3.3.7.11 require a gas sample to be taken within 8 hours (Actions 111 and 114) or within 4 hours (Action 116), and flow rate through the vent path be estimated at least once per 4 hours (Action 113). The equipment was not identified as inoperative until the time limits specified in the ACTION Statements were exceeded. The LCO's were cleared at 1525 on January 2, 1997 when the VMS terminals were reset and the problem cleared. The cause of the event has been determined to be a software problem involving interfacing with the plant process computer; and inadequate procedural guidance for the operator to recognize a problem with the communication terminal of the VMS. There were no safety consequences or compromises to the public health or safety. Corrective actions include: Restoration of the VMS; procedural guidance to the operator to ensure the VMS control terminal is communicating with the field units; evaluation for possible changes to improve system performance; removal of the auto time correct feature via the plant process computer; and implementation of an alarm on the plant process computer to provide a warning any time a VMS point is not getting valid data.

**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 7	—	0 0 1	—	0 0		2	OF	3

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

EVENT DESCRIPTION

At 0825 hours on January 2, 1997, with both Units in Condition 1 (Power Operation) at 100% power, it was identified that the Control Room Ventilation Monitoring System (VMS) (EIS Code: IL) control terminal was not continuously communicating with the individual stack monitor field units (SPING's). This makes the VMS inoperable, requiring entry into LCO's 3.3.7.5 and 3.3.7.11. It was determined that the VMS was inoperable from approximately 0630 on January 1, 1997. The applicable LCO ACTION Statements require a sample to be taken within times as short as four hours. Since the condition was not identified until the time limit specified in the ACTION Statement had been exceeded, this constituted a condition prohibited by Technical Specifications.

CAUSE OF EVENT

The cause of the event was determined to be a software problem and limited hardware capabilities of the control terminal. In addition, the following have been determined to be factors that may have contributed to the event: 1) inadequate procedural guidance provided to the operator to allow for timely identification of the condition described; 2) testing of plant computer interface with the control terminal added an unanticipated load to the terminal's microprocessor causing the terminal to "overload" and 3) no alarm function exists to identify a non-continuous communication condition between the control terminal and the field units. The findings are summarized below.

At the time of the failure the "field" light was not blinking. This is an indication that the control terminal is not in contact with the field units. The operators on shift did not have cognizance of the meaning of this light. Because of the previously unidentified hardware and software limitations of the VMS control terminal, and the added loading on this equipment from the plant computer, the control terminal got caught in an internal loop and was unable to continuously communicate with the field units. During the process of root cause evaluation of this event, it was identified that there is no alarm or warning function that would make the operator aware of this type of problem.

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 the gas sampling and flow verification required were not completed in the time specified in the LCO 3.3.7.11 (Actions 111, 112, 113, 114 and 116). There were no safety consequences or compromises to the public health and safety. The VMS field units stayed in service and did continuous monitoring of the five ventilation stack effluents. The data from the field units did

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TEXT CONTINUATION

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

continuously feed the Safety Parameter Display System (SPDS) throughout this event. Review of the data indicated that at no time (between 0630 on January 1, 1997 and 0830 on January 2, 1997) did the actual release rate exceed the alarm setpoints or Technical Specification value.

CORRECTIVE ACTIONS

The following corrective actions were identified and completed:

- The VMS communication function was restored.
- Testing of the plant computer interface with the control terminal was discontinued.
- A procedural change was processed to require the operator, four times a day, to observe that the "field" light on the control terminal is blinking.
- Engineering has reviewed the operation of the VMS control terminal and found the existing equipment can adequately perform its intended design function.

The following corrective actions have been identified and are to be completed:

- Engineering to review and evaluate the need for a modification to upgrade the VMS control terminal.
- Engineering to investigate further the extent of the software problem and hardware limitations with the control terminal.
- Plant Computer Group to remove the VMS auto time correction feature from the plant computer.
- Plant Computer Group to implement a change to the plant computer to give a warning alarm any time a VMS point is not getting valid data for more than twenty minutes.

ADDITIONAL INFORMATION

Past Similar Events: LER 50-387/96-008-00
LER 50-387/94-005-00
LER 50-387/85-013-00
LER 50-387/84-039-00

Equipment Failure: None