

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Surry Power Station, Units 1 & 2	DOCKET NUMBER (2) 0 5 0 0 0 2 8 0	PAGE (3) 1 OF 3
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TITLE (4) **Main Control Room Ventilation Isolation Due To High Voltage Output on Chlorine Gas Detector**

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)
11	05	87	87	029	00	12	04	87			05000

OPERATING MODE (9) **N**

POWER LEVEL (10) **100**

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)

<input type="checkbox"/> 20.402(b)	<input checked="" type="checkbox"/> 20.405(e)	<input type="checkbox"/> 50.73(a)(2)(iv)	<input type="checkbox"/> 73.71(b)
<input type="checkbox"/> 20.405(a)(1)(i)	<input type="checkbox"/> 50.38(e)(1)	<input type="checkbox"/> 50.73(a)(2)(v)	<input type="checkbox"/> 73.71(c)
<input type="checkbox"/> 20.405(a)(1)(ii)	<input type="checkbox"/> 50.38(e)(2)	<input type="checkbox"/> 50.73(a)(2)(vii)	<input type="checkbox"/> OTHER (Specify in Abstract below and in Text NRC Form 366A)
<input type="checkbox"/> 20.405(a)(1)(iii)	<input type="checkbox"/> 50.73(a)(2)(i)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)	
<input type="checkbox"/> 20.405(a)(1)(iv)	<input type="checkbox"/> 50.73(a)(2)(ii)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)	
<input type="checkbox"/> 20.405(a)(1)(v)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(ix)	

LICENSEE CONTACT FOR THIS LER (12)

NAME D. L. Benson, Station Manager	TELEPHONE NUMBER 8 0 4 3 5 7 - 3 1 8 4
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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	DAY	YEAR

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

On November 8, 1987 at 1608 hours, the Main Control Room (MCR) ventilation was isolated due to a high voltage output on Chlorine Gas Detector, CLA-VS-100A {EIIS-DET}. As a result of the voltage spike, the Control Room Exhaust Fan, 1-VS-F-15 {EIIS-FAN} tripped and supply damper, 1-MOD-VS-103A {EIIS-DMP} and exhaust damper, 1-MOD-VS-103D {EIIS-DMP} closed. The Chemistry Department verified that there was no detectable chlorine gas present in the control room. The Chlorine Detector was reset and the Main Control Room ventilation {EIIS-VI} was realigned. At the time of these occurrences, both Unit 1 and Unit 2 were operating at 100% power. The Main Control Room ventilation isolated due to high sensor voltage on the Chlorine Gas Detector. An investigation performed by the detector vendor determined that the detector sensor operation is air flow dependent due to mounting of the sensor in the ventilation duct. The air flow has a cooling effect on the sensor which increases the voltage output, thus inducing a spurious signal. The Chlorine Gas Treatment System at the Sewage Treatment Plant will be replaced by an ultraviolet system. At that time, a Technical Specification revision will be submitted to remove the Chlorine Gas Detectors.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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

1.0 Description of the Event

On November 8, 1987 at 1608 hours, the Main Control Room (MCR) ventilation was isolated due to a high voltage output on Chlorine Gas Detector, CLA-VS-100A {EIIS-DET}. As a result of the voltage spike, the Control Room Exhaust Fan, 1-VS-F-15 {EIIS-FAN} tripped and supply damper, 1-MOD-VS-103A {EIIS-DMP} and exhaust damper, 1-MOD-VS-103D {EIIS-DMP} closed. The Chemistry Department verified that there was no detectable chlorine gas present in the control room. The Chlorine Detector was reset and the Main Control Room ventilation {EIIS-VI} was realigned. At the time of these occurrences, both Unit 1 and Unit 2 were operating at 100% power.

2.0 Safety Consequences and Implications

The Chlorine Gas Detection System {EIIS-VI} consists of two chlorine monitors installed in the Main Control Room. Each monitor has sensors located in the Main Control Room ventilation supply duct. Each detector operates one train of two series supply and exhaust dampers. When either one of the detectors senses chlorine in excess of 5 ppm, its associated supply and exhaust dampers close and the Control Room exhaust fan trips. Initiation of Safety Injection {EIIS-BQ} will also cause the closure of the supply and exhaust dampers and trip the MCR exhaust fan. Although the initiating signal was spurious, the Chlorine Gas Detection System functioned as designed. The Chemistry Department verified that there was no chlorine gas present in the control room, the health and safety of the public were not affected.

3.0 Cause

The Main Control Room ventilation isolated due to high sensor voltage on the Chlorine Gas Detector. An investigation performed by the detector vendor determined that the detector sensor operation is air flow dependent due to mounting of the sensor in the ventilation duct. The air flow has a cooling effect on the sensor which increases the voltage output, thus inducing a spurious signal.

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

4.0 Immediate Corrective Action

Chemistry verified that there was no chlorine gas present in the MCR. The ventilation system was realigned.

5.0 Additional Corrective Actions

None.

6.0 Actions Taken To Prevent Recurrence

The chlorine gas treatment system at the Sewage Treatment Plant will be replaced by an ultraviolet system. At that time, a Technical Specification revision will be submitted to remove the Chlorine Gas Detectors.

7.0 Similar Events

See Unit 1 LERs: 87-016
87-020
87-022
87-026

8.0 Manufacturer/Model Number

Capital Controls Company, INC/MPP3045.

VIRGINIA ELECTRIC AND POWER COMPANY
Surry Power Station
P. O. Box 315
Surry, Virginia 23883

December 4, 1987

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

Serial No.: 87-034
Docket No.: 50-280
Licensee No.: DPR-32

Gentlemen:

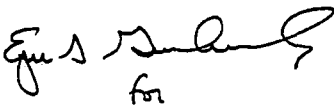
Pursuant to Surry Power Station Technical Specifications, Virginia Electric and Power Company hereby submits the following Licensee Event Report for Surry Unit 1.

REPORT NUMBER

87-029-00

This report has been reviewed by the Station Nuclear Safety and Operating Committee and will be reviewed by Safety Evaluation and Control.

Very truly yours,



for

David L. Benson
Station Manager

Enclosure

cc: Dr. J. Nelson Grace
Regional Administrator
Suite 2900
101 Marietta Street, NW
Atlanta, Georgia 30323

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