

**Virginia Electric and Power Company
Surry Power Station
5570 Hog Island Road
Surry, Virginia 23883**

June 10, 1996

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

Serial No.: 96-308
SPS:VLA
Docket No.: 50-280
50-281
License No.: DPR-32
DRP-37

Dear Sirs:

Pursuant to Surry Power Station Technical Specifications, Virginia Electric and Power Company hereby submits the following Licensee Event Report applicable to Surry Power Station Units 1 and 2.

REPORT NUMBER

50-280/50-281/96-004-00

This report has been reviewed by the Station Nuclear Safety and Operating Committee and will be forwarded to the Management Safety Review Committee for its review.

Very truly yours,



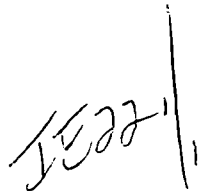
D. A. Christian
Station Manager

Enclosure

copy: Regional Administrator
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30323

M. W. Branch
NRC Senior Resident Inspector
Surry Power Station

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LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS
INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD
COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION
AND RECORDS MANAGEMENT BRANCH (MNBB 7714), U.S.
NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-
0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104),
OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)

Surry Power Station, Unit 1

DOCKET NUMBER (2)

05000 - 280

PAGE (3)

1 OF 5

TITLE (4)

Hydrogen Analyzers Inoperable Due to Procedural Deficiencies Caused By Personnel Error

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 NAME	DOCKET NUMBER
05	10	96	96	-- 004 --	00	06	10	96	Surry Unit 2	05000 - 281
									FACILITY NAME	DOCKET NUMBER
										05000 -
OPERATING MODE (9)		N	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR:(Check one or more) (11)							
POWER LEVEL (10)		100%	20.402(b)			20.405(c)			50.73(a)(2)(iv)	
			20.405(a)(1)(i)			50.36(c)(1)			50.73(a)(2)(v)	
			20.405(a)(1)(ii)			50.36(c)(2)			50.73(a)(2)(vii)	
			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)(x)	
			(Specify in Abstract below and in Text, NRC Form 366A)							

LICENSEE CONTACT FOR THIS LER (12)

NAME

D. A. Christian, Station Manager

TELEPHONE NUMBER (Including Area Code)

(804) 357-3184

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)	X	NO	EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
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ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

On May 10, 1996, Unit 1 was operating at 100% power and Unit 2 was at cold shutdown for a scheduled Refueling Outage (RFO). While performing a routine walkdown in the Auxiliary Building, an operator, on loan from another station to support the Unit 2 RFO, noticed that the Function Selector Switches on the Hydrogen Analyzer Local and Remote Panels for both units were in the ZERO position.

The containment hydrogen analyzers are required to be capable of supplying continuous indication of hydrogen concentration within 30 minutes of the initiation of safety injection. TS 3.7.G states "Two independent containment hydrogen analyzers shall be OPERABLE during Reactor Critical or Power Operation." However, the Function Selector Switch on the selected Local or Remote Panel must be in the SAMPLE position for valid monitoring of the hydrogen concentration inside containment. With both of the Function Selector Switches in the ZERO position, neither Hydrogen Analyzer would be able to perform its safety function of taking air samples from containment to analyze hydrogen concentration without the manual operator action of repositioning these switches. Therefore, this TS requirement has not been fully satisfied due to the Function Selector Switches being positioned incorrectly from October 22, 1986 for Unit 1 and November 26, 1985 for Unit 2.

Proper switch positions were verified and the Function Selector Switches on the Local and Remote panels were placed in the SAMPLE position at 1800 hours on May 22, 1996.

This event is being reported pursuant to 10 CFR 50.73(a)(2)(i)(B) for operation in a condition prohibited by TS 3.7.G.

LICENSING EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNBB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)		DOCKET NUMBER (2)		LER NUMBER (6)			PAGE (3)
				YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
SURRY POWER STATION, Unit 1		05000 - 280		96	-- 004 --	0	2 OF 5

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

1.0 DESCRIPTION OF THE EVENT

On May 10, 1996, Unit 1 was operating at 100% power and Unit 2 was at cold shutdown for a scheduled Refueling Outage (RFO). While performing a routine walkdown in the Auxiliary Building, an operator, on loan from another station to support the Unit 2 RFO, noticed that the Function Selector Switches on the Hydrogen Analyzer's, H2A-GW-104/204, {EIS:IK} Local and Remote Panels for both units were in the ZERO position which is not consistent with the switch position at his home station.

After further investigation by the operator, System Engineering was notified of this condition at 0321 hours on May 22, 1996. Engineering concluded, that in order for the Hydrogen Analyzers to take and analyze containment air samples following a Loss of Coolant Accident (LOCA), the Main Power Switch on the Main Control Room Post Accident Monitoring (PAM) Panel must be in the ANALYZE mode and the Function Selector Switches on the Local and Remote Panels must be in SAMPLE.

Prior to this event, applicable Instrument Calibration and Test Procedures left the Function Selector Switches in the ZERO position during return to service actions. During emergency response to a LOCA, the hydrogen analyzers are procedurally placed in service consistent with the requirement to supply continuous indication of hydrogen concentration within 30 minutes of the initiation of safety injection. Emergency Operating Procedures instruct the operator to place the Main Power Switch on the PAM panel in ANALYZE; however, there is no requirement in the Emergency Operating Procedures to verify the Function Selector Switches on the Local and Remote Panels are in SAMPLE.

Hydrogen Analyzers became a requirement for plant operation on October 15, 1984 by Technical Specification (TS) Amendments 100 and 99 (Unit 1 and Unit 2, respectively). The purpose of these amendments was to install a hydrogen monitoring system that would analyze containment air samples during emergency response to a LOCA. TS 3.7.G states "Two independent containment hydrogen analyzers shall be OPERABLE during Reactor Critical or Power Operation." The Function Selector Switch on the selected Local or Remote Panel must be in the SAMPLE position for valid monitoring of the hydrogen concentration inside containment. With both of the Function Selector Switches in the ZERO position, neither Hydrogen Analyzer would be able to perform its safety function of taking air samples from containment to analyze hydrogen concentration without additional manual operator action. Therefore, although the containment hydrogen analyzers were powered and fully capable of performing their function within thirty minutes, this TS requirement was not been fully satisfied due to the Function Selector Switches being positioned incorrectly from October 22, 1986 for Unit 1 and November 26, 1985 for Unit 2.

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FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
SURREY POWER STATION, Unit 1	05000 - 280	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	3 OF 5
		96	-- 004 --	0	

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

1.0 DESCRIPTION OF THE EVENT (continued)

This event is being reported pursuant to 10 CFR 50.73(a)(2)(i)(B) for operation in a condition prohibited by TS 3.7.G.

2.0 SIGNIFICANT SAFETY CONSEQUENCES AND IMPLICATIONS

Appropriate actions were taken to correct the misplacement of the Hydrogen Analyzer Local and Remote Panel Function Selector Switches. This event resulted in no safety consequences due to the hydrogen analyzers not being called upon to perform their safety function.

As noted previously, Hydrogen Analyzers became a requirement for plant operation in TS Amendments 100 and 99 (Unit 1 and Unit 2, respectively) to provide a hydrogen monitoring system that would analyze containment air samples during emergency response to a LOCA. The potential of hydrogen generation following a design basis LOCA has been analyzed and is addressed in the Updated Final Safety Analysis Report (UFSAR). As shown in UFSAR Figure 6.2-6, a hydrogen level of four percent, the minimum combustible hydrogen level, would be reached in approximately three days after a LOCA.

Following a LOCA, Operations would perform Emergency Operating Procedure, 1-E-1, Loss of Reactor or Secondary Coolant. 1-E-1 directs Chemistry to obtain samples of containment atmosphere and sample for hydrogen. Upon review of the sample results indicating hydrogen in containment, it would be determined that the hydrogen analyzers were inoperable. Operator action would be taken to restore hydrogen monitoring prior to hydrogen reaching the combustible level. Therefore, the health and safety of the public were not affected at any time during this event.

3.0 CAUSE OF THE EVENT

This event was caused by procedural deficiencies due to personnel error. After reviewing Hydrogen Analyzer Instrument Calibration Procedures, it was determined that the return to service position of the Function Selector Switch on the Local and Remote panels was the ZERO position. The procedures in place at the time of the event, as well as previous revisions identified this as the final return to service position. In addition, the Emergency Operating Procedures did not verify the Function Selector Switches on the Local and Remote Panels were in the SAMPLE position.

LICENSING EVENT REPORT (LER)

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				YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
SURREY POWER STATION, Unit 1		05000 - 280		96	-- 004 --	0	4 of 5

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

3.0 CAUSE OF THE EVENT (continued)

Review of Instrument Calibration Procedures concluded Calibration Procedure, CAL-GW-175, H2A-GW-104 Containment Hydrogen Monitor, dated January 14, 1982, was the initial governing procedure for the position of the hydrogen analyzer switches. Return to service in CAL-GW-175 placed the Function Selector Switch in the SAMPLE position. Revisions to the calibration procedures did not place the Function Selector Switches during return to service in the SAMPLE mode and therefore, did not provide procedural guidance to correctly position the switches. Performance of these procedures did not correctly position the Function Selector Switches beginning on October 22, 1986 for Unit 1 and November 26, 1985 for Unit 2.

4.0 IMMEDIATE CORRECTIVE ACTION(S)

A station deviation report was submitted.

Proper switch positions were verified with the Instrumentation and Controls Department, the applicable vendor manual, and System Engineering. The Function Selector Switches on the Local and Remote panels were placed in the SAMPLE position at 1800 hours on May 22, 1996.

The history of the affected procedures was reviewed. The review concluded that this condition has existed since the revision of CAL-GW-104, dated June 28, 1984.

5.0 ADDITIONAL CORRECTIVE ACTION(S)

Permanent changes to Hydrogen Analyzer Instrument Calibration Procedures were implemented. These changes reflect the return to service position of the Function Selector Switches as SAMPLE on the Local and Remote Panels for the hydrogen analyzers.

6.0 ACTIONS TO PREVENT RECURRENCE

The actions discussed above are sufficient to prevent recurrence.

7.0 SIMILAR EVENTS

None.

LICENSING EVENT REPORT (LER)

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SURRY POWER STATION, Unit 1	05000 - 280	96	-- 004 --	0	5 OF 5

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

8.0 ADDITIONAL INFORMATION

An Operating Experience report will be made to other utilities to inform them of the possibility of the misalignment of the Hydrogen Analyzer Function Selector Switches.

The PAM Panel is located in the Main Control Room and provides indication and controls for the Hydrogen Analyzers. The Main Power Switch on the Main Control Room PAM Panel has three positions. They are OFF, STANDBY and ANALYZE. In the OFF position, no power is applied to the Hydrogen Analyzers. The STANDBY position energizes hot box heaters in the Local Analyzer Panels. The hot box heaters are used to mediate the sample temperature between 275 and 300 degrees Fahrenheit. This temperature is required for the Hydrogen Analyzers to operate at design accuracy. When the Main Power Switch is placed in the ANALYZE position, an air sample is drawn from inside containment and can be analyzed. The Main Power Switch is maintained in the STANDBY position during normal operation. Emergency Operating procedures place the Main Power Switch in the ANALYZE position in response to a LOCA.

The Local and Remote Panels are located in the Auxiliary Building and the Control Room Annex, respectively. The Function Selector Switches on the Local and Remote panels have three settings: ZERO, SPAN, and SAMPLE. The ZERO position on the Function Selector Switch is used to test the analyzer cell and hydrogen concentration meter response to a known gas sample. This position is used during calibration of the hydrogen analyzers. The SPAN position is a calibration mode used to test the full scale deflection of the hydrogen concentration meter. The SAMPLE position tests actual containment air.