

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

April 8, 1997

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

Serial No.: 97-106A
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 updated Licensee Event Report applicable to Surry Power Station Units 1 and 2.

REPORT NUMBER

50-280/50-281/97-002-01

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

Commitments contained in this letter: None

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

R. A. Musser
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 MANDATORY INFORMATION COLLECTION REQUEST: 50.0 HRS. REPORTED LESSONS LEARNED ARE INCORPORATED INTO THE LICENSING PROCESS AND FED BACK TO INDUSTRY. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (1-6 F33), 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 4
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TITLE (4)
One Train of Auxiliary Ventilation System Inoperable Outside of TS

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	DOCUMENT NUMBER
01	16	97	97	- 002 -	1	04	08	97	Surry Unit 2	05000-281
									FACILITY NAME	DOCUMENT NUMBER
										05000-

OPERATING MODE (9)	N	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)									
		20.2201(b)			20.2203(a)(2)(v)			X 50.73(a)(2)(i)		50.73(a)(2)(viii)	
POWER LEVEL (10)	100 %	20.2203(a)(1)			20.2203(a)(3)(i)			50.73(a)(2)(ii)		50.73(a)(2)(x)	
		20.2203(a)(2)(i)			20.2203(a)(3)(ii)			50.73(a)(2)(iii)		73.71	
		20.2203(a)(2)(ii)			20.2203(a)(4)			50.73(a)(2)(iv)		OTHER	
		20.2203(a)(2)(iii)			50.36(c)(1)			50.73(a)(2)(v)		Specify in Abstract below or in NRC Form 368A	
		20.2203(a)(2)(iv)			50.36(c)(2)			50.73(a)(2)(vii)			

LICENSEE CONTACT FOR THIS LER (12)	
NAME D. A. Christian, Station Manager	TELEPHONE NUMBER (Include Area Code) (757) 365-2000

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)				EXPECTED SUBMISSION DATE	MONTH	DAY	YEAR
YES	X	NO					
(If yes, complete EXPECTED SUBMISSION DATE).							

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

On January 9, 1997, with Unit 1 and Unit 2 at 100% power, a 7 day Limiting Condition of Operation (LCO) was entered at 0508 hours for auxiliary ventilation system filter exhaust fan 01-VS-F-58B maintenance. On January 10, 1997, the actuator for 1-VS-MOD-58B was replaced with a rebuilt actuator and the linkage was adjusted. Following completion of the specified testing, the fan was declared operable on January 15, 1997. On January 16, 1997 reverse rotation of 1-VS-F-58B was observed. The fan was declared inoperable and 1-VS-MOD-58B was adjusted, eliminating the reverse rotation of the 58B fan. The fan was declared operable at 1257 hours on January 16, 1997. On February 7, 1997, it was determined that the misalignment of 1-VS-MOD-58B, which had existed on January 15, 1997, rendered the fan inoperable and that the 7 day LCO that was entered on January 9, 1997 for maintenance should not have been exited until full damper closure was properly verified. This occurred 7 hours 49 minutes after the expiration of the 7 day LCO, exceeding the 6 hour requirement of TS 3.22 requiring the units to be in Hot Shutdown. The auxiliary ventilation system was capable of performing its safety function during this event. Therefore, the health and safety of the public were not affected. This event is being reported in accordance with 10 CFR 150.73(a)(2)(i)(B) for operating in a condition prohibited by TS.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

FACILITY NAME (1) Surry Power Station, Unit 1	DOCKET 05000 -280	LER NUMBER (6)			PAGE (3) 2 OF 4
		YEAR 97	SEQUENTIAL NUMBER --002--	REVISION NUMBER 1	

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

1.0 DESCRIPTION OF THE EVENT

Technical Specifications (TS) 3.22.A requires that whenever either unit's Reactor Coolant System {EISS-AB} is greater than 350 degrees Fahrenheit and 450 psig, two auxiliary ventilation exhaust filter trains {EISS-VF} shall be operable. TS 3.22.B requires that with one train of the exhaust filter system inoperable for any reason, the inoperable train must be returned to an operable status within 7 days or the unit placed in Hot Shutdown within the next 6 hours.

On January 9, 1997, with Unit 1 and Unit 2 at 100% power, a 7 day Limiting Condition of Operation (LCO) was entered at 0508 hours for auxiliary ventilation system filter exhaust fan 01-VS-F-58B planned maintenance. On January 10, 1997, the actuator for 1-VS-MOD-58B was replaced with a rebuilt actuator and the linkage was adjusted. At 0509 hours on January 13, 1997, it was noted that the 58B fan was rotating in the reverse direction at 13 rpm prior to aligning dampers for the fuel building suction path. After the dampers were aligned, the fan stopped rotating in the reverse direction. Engineering was contacted and it was determined that the fan could be started as long as reverse rotation was less than 125 rpm. A Deviation Report on the reverse rotation of the fan and a Work Request to adjust the linkage were submitted. Upon completion of previously scheduled fan maintenance and successful completion of Operations Periodic Tests 0-OPT-VS-002, Auxiliary Ventilation Filter Train Test, and 0-OPT-VS-007, Auxiliary Ventilation Filter Flow Test, the 7 day LCO was exited at 0752 hours on January 15, 1997. No reverse rotation had been noted during the return to service testing which in part verified there had been no rotation 60 minutes after stopping the fan. However, the return to service testing did not have the ventilation system in an alignment that would create a back pressure sufficient to cause backward rotation of the 58B fan.

On January 16, 1997 at 0100 hours, 1-VS-F-58B was again discovered to be rotating in the reverse direction at 23 rpm with the 58A fan not operating. The 58B fan was declared inoperable at 0716 hours and a 7 day LCO was entered in accordance with TS 3.22. Further evaluation completed on February 7, 1997, concluded that if an automatic demand had occurred and the 58A fan was operating, the reverse rotation of the 58B fan could have increased to a speed where the 58B fan may not have started or continued to operate, thereby rendering the 58B fan inoperable. It was subsequently determined that this reverse rotation was due to leakage through damper 1-VS-MOD-58B. The damper actuator linkage was adjusted so that the damper would close fully. The 7 day LCO was exited at 1257 hours on January 16, 1997 following return to service testing. There was no reverse rotation noted on the 58A or 58B fans with the opposite fan operating at that time.

The maintenance performed on 1-VS-MOD-58B on January 10, 1997 resulted in the damper not fully closing allowing reverse rotation of the fan. An evaluation completed on February 7, 1997 determined that this condition rendered the 58B fan inoperable. The 7 day LCO that was entered on January 9, 1997 when the 58B fan was removed from service for maintenance should not have been exited until full damper closure was properly verified. The damper was

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properly adjusted and the 58B fan was declared operable at 1257 hours on January 16, 1997. This was 7 hours 49 minutes after the expiration of the 7 day LCO, exceeding the six hour requirement of TS 3.22 requiring the units to be in Hot Shutdown.

This event is being reported in accordance with 10 CFR 50.73(a)(2)(i)(B) for operating in a condition prohibited by TS.

2.0 SAFETY CONSEQUENCES AND IMPLICATIONS

Each of the auxiliary ventilation filtered exhaust trains, 3A and 3B, consists of an exhaust fan, prefilters, a high efficiency particulate absolute filter, and a charcoal adsorber assembly. The purpose of the filtered exhaust trains is to provide standby capability for removal of particulate and iodine contaminants. The filter trains are capable of filtering the exhaust from the charging pump cubicles of the auxiliary building, the fuel building, the decontamination building, the safeguards building, and the containment (during shutdown).

The safety analysis for Loss of Coolant Accident dose considerations assumes that any Emergency Core Cooling System (ECCS) leakage will be filtered. During the period when the 58B fan was inoperable, the capability to filter any ECCS leakage and other exhaust was maintained by the 58A fan. The auxiliary ventilation filtered exhaust trains also provide cooling to the aligned ventilated areas. It has been determined that there would have been adequate flow from the 58A fan to provide cooling to the required components. Therefore, the 58A fan was capable of performing its specified function, and the health and safety of the public were not affected.

In addition, there was no accident condition present during this event, and the auxiliary ventilation system was not required to fulfill its intended function.

3.0 CAUSE

The cause of this event was personnel error in that the Post Maintenance Testing did not identify specific system test alignments to assure proper damper closure.

A contributing cause of the event was that the effect of the misaligned damper on the operability of the 58B fan was not recognized. The misaligned damper caused the 58B fan to be inoperable due to reverse rotation.

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4.0 IMMEDIATE CORRECTIVE ACTION(S)

After discussions with Engineering on January 13, 1997, a Deviation Report regarding the reverse rotation of the fan and a Work Request to adjust the linkage were submitted.

On January 16, 1997 at 0716 hours, a 7 day LCO was entered when it was determined that the 58B fan was inoperable due to rotation in the reverse direction at 23 rpm with the 58A fan not operating. A Deviation Report was submitted. This reverse rotation was subsequently determined to be due to improper adjustment of damper 1-VS-MOD-58B. The damper was properly adjusted and the 7 day LCO was exited at 1257 hours on January 16, 1997 following return to service testing.

5.0 ADDITIONAL CORRECTIVE ACTION(S)

On January 17, 1997 at 1347 hours, the fuel building was placed on filtered exhaust using the 58A fan. The auxiliary building operator physically verified that the 58B fan was not rotating in the reverse direction when back pressure was introduced by operating the 58A fan while it was aligned to the fuel building.

The operating logs were revised to reflect that if any reverse rotation of either of the 58 fans is observed the Shift Supervisor will be notified to evaluate operability.

6.0 ACTIONS TO PREVENT RECURRENCE

Return to service tests for the auxiliary ventilation system were reviewed to ensure that testing methods are appropriate. Post Maintenance Testing (PMT) was revised to identify specific test alignments in order to specifically address reverse rotation considerations on fan operability. Following damper adjustment, the PMT verifies the damper is properly sealing by checking for reverse rotation with the opposite fan running while aligned to create back pressure.

7.0 SIMILAR EVENTS

None

8.0 MANUFACTURER

Not Applicable