10CFR50.73

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

December 23, 2002

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D. C. 20555-0001

Serial No.: 02-722
SPS: JSA R0
Docket No.: 50-281
License No.: DPR-37

Dear Sirs:

Pursuant to 10CFR50.73, Virginia Electric and Power Company hereby submits the following Licensee Event Report applicable to Surry Power Station Unit 2.

Report No. 50-281/2002-002-00

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,

Bryan W Foster for

Richard H. Blount, Site Vice President
Surry Power Station

Enclosure

Commitments contained in this letter:

1. A Category 2 Root Cause Evaluation (RCE) was initiated to determine the cause of this event. The approved recommendations from the RCE necessary to prevent recurrence will be implemented.

IE22

cc: United States Nuclear Regulatory Commission
Region II
Sam Nunn Atlanta Federal Center
61 Forsyth Street, SW, Suite 23 T85
Atlanta, Georgia 30303-8931

Mr. R. A. Musser
NRC Senior Resident Inspector
Surry Power Station

NRC FORM 366 (7-2001) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB NO. 3150-0104 **EXPIRES 7-31-2004**

Estimated burden per response to comply with this mandatory information collection request: 50 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Records Management Branch (T-6 E6), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to bjs1@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202 (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

LICENSEE EVENT REPORT (LER)

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

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
SURRY POWER STATION , Unit 2	05000 - 281	1 OF 4

TITLE (4)

Low Head Safety Injection System Inoperable Due To Partially Closed Valve

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 05000-
10	30	2002	2002	-- 002 --	00			2002	FACILITY NAME	DOCUMENT NUMBER 05000-

OPERATING MODE (9)	N	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply) (11)							
POWER LEVEL (10)	100 %		20.2201(b)		20.2203(a)(3)(ii)		50.73(a)(2)(ii)(B)		50.73(a)(2)(ix)(A)
			20.2201(d)		20.2203(a)(4)		50.73(a)(2)(iii)		50.73(a)(2)(x)
			20.2203(a)(1)		50.36(c)(1)(i)(A)		50.73(a)(2)(iv)(A)		73.71(a)(4)
			20.2203(a)(2)(i)		50.36(c)(1)(ii)(A)		50.73(a)(2)(v)(A)		73.71(a)(5)
			20.2203(a)(2)(ii)		50.36(c)(2)		50.73(a)(2)(v)(B)		OTHER
			20.2203(a)(2)(iii)		50.46(a)(3)(ii)		50.73(a)(2)(v)(C)		Specify in Abstract below or in NRC Form 366A
			20.2203(a)(2)(iv)		50.73(a)(2)(i)(A)		50.73(a)(2)(v)(D)		
			20.2203(a)(2)(v)	X	50.73(a)(2)(i)(B)		50.73(a)(2)(vii)		
			20.2203(a)(2)(vi)		50.73(a)(2)(i)(C)		50.73(a)(2)(viii)(A)		
			20.2203(a)(3)(i)		50.73(a)(2)(ii)(A)		50.73(a)(2)(viii)(B)		

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER (Include Area Code)
Richard H. Blount, Site Vice President	(757) 365-2000

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX

SUPPLEMENTAL REPORT EXPECTED (14)				EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
	YES (If yes, complete EXPECTED SUBMISSION DATE).	X	NO				

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

On October 30, 2002, with Unit 2 operating at 100% reactor power, an operator taking logs determined the valve for the Low Head Safety Injection (LHSI) Pump 2-SI-P-1A Seal Cooler Outlet was out of position. Further investigation found the valve was approximately 90% closed when it should have been fully open and LHSI Pump 2-SI-P-1A was declared inoperable. During the time 2-SI-P-1A was inoperable, the #3 Emergency Diesel Generator power supply for the redundant 2-SI-P-1B LHSI Pump was also inoperable due to preplanned maintenance and as a result, 2-SI-P-1B could not be considered operable in accordance with Technical Specification 3.0.2. These conditions could have prevented the fulfillment of the safety function of structures or systems that are needed to mitigate the consequences of an accident and are therefore reportable pursuant to 10CFR50.73(a)(2)(v)(D). Due to Technical Specifications requiring one LHSI Pump operable during reactor operation, a 6-hour limiting condition of operation (LCO) was entered at 1708 hours. This condition is reportable pursuant to 10CFR50.73(a)(2)(i)(B) for a condition prohibited by Technical Specifications. The valve for LHSI Pump 2-SI-P-1A Seal Cooler Outlet was opened and the LCO was exited at 1723 hours. This event resulted in no safety consequences or significant implications therefore; the health and safety of the public were not affected.

FACILITY NAME (1)	DOCKET	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
SURRY POWER STATION	05000 - 281	2002	-- 002 --	00	2 OF 4

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

1.0 DESCRIPTION OF THE EVENT

The purpose of the Surry Power Station Low Head Safety Injection (LHSI) [EIIS-BP] is to provide post accident cooling to ensure continued long-term cooling of the core. This is accomplished by two 100% LHSI Pumps [EIIS-BP-P] taking suction from either the Refueling Water Storage Tank [EIIS-BP-TK] or the containment sump and injecting either directly to the Reactor Coolant System (RCS) [EIIS-AB] loops or to the suction of the High Head Safety Injection Pumps [EIIS-BQ-P].

On October 30, 2002, with Unit 2 operating at 100% reactor power, an operator taking normal daily logs noticed that valve [EIIS-BP-ISV] 2-SI-463, LHSI Pump 1A Seal Cooler Outlet, was not tie-wrapped open as required by procedure. The valve lineup procedure requires this quick throw valve to be tie-wrapped in the open position as a result of past instances that valves in the LHSI pump seal coolers were found out of position. In addition, valve 2-SI-463 was observed approximately 90% closed when it should have been fully open. Since this valve's position minimized the capability to provide seal cooling to LHSI Pump 2-SI-P-1A, the pump was declared inoperable at 1708 hours. During the time 2-SI-P-1A was inoperable, the #3 Emergency Diesel Generator [EIIS-EK] power supply for the redundant 2-SI-P-1B LHSI Pump was also inoperable due to preplanned maintenance and as a result, 2-SI-P-1B could not be considered operable in accordance with Technical Specification 3.0.2. With both pumps declared inoperable, neither LHSI train was operable and a limiting condition of operation (LCO) to bring the unit to hot shutdown within 6 hours was started in accordance with Technical Specification 3.0.2. At 1723 hours, valve 2-SI-463 was opened and the 6-hour LCO was exited.

2.0 SIGNIFICANT SAFETY CONSEQUENCES AND IMPLICATIONS

A Probabilistic Risk Analysis was performed that considered the impact of extended unavailability of pump 2-SI-P-1A. An operator stated he remembered valve 2-SI-463 being tie-wrapped open on October 23, 2002 when taking normal daily rounds. The risk over the 7-day interval between October 23, 2002 and the LHSI recovery on October 30, 2002 integrates to a core damage probability/year of 6.7E-8. This is below the 1.0E-6 threshold between green and white findings in the Significance Determination Process resulting in a very low level of risk for Unit 2. A Probabilistic Risk Analysis was also performed based on pump 2-SI-P-1A assumed out of service and pump 2-SI-P-1B being inoperable for the period its emergency power supply was inoperable for preplanned maintenance. The risk integrates to a core damage probability/year of 7.4E-8 over the three-day span. This is below the 1.0E-6 threshold between green and white findings in the Significance Determination Process and also results in a very low level of excess risk for Unit 2. Therefore, the health and safety of the public were not affected by this event.

3.0 CAUSE

The cause was not determined. A valve lineup had been performed on April 6, 2002. The valves were checked, verified open and tie-wrapped at that time. A search of the tag outs performed on 2-SI-P-1A was done and valve 2-SI-463 had not been tagged out since 1999. During operator rounds on October 23, 2002, it was observed that the tie-wraps were installed. Individuals that were in the area of the pump cubicle since October 23, 2002, were interviewed but no conclusive results were obtained from the interviews.

4.0 IMMEDIATE CORRECTIVE ACTION(S)

A station corrective action system report was submitted for valve 2-SI-463, LHSI Pump 1A Seal Cooler Outlet, being approximately 90% closed, causing LHSI Pump 2-SI-P-1A to be declared inoperable. A 6-hour LCO was started IAW Technical Specification 3.0.2 due to the second LHSI pump being inoperable because its emergency power supply was inoperable. Valve 2-SI-463 was fully opened and the LCO was exited. A root cause evaluation was initiated. A tie-wrap was installed on 2-SI-463 to provide an additional measure of security.

5.0 ADDITIONAL CORRECTIVE ACTIONS

Performed valve lineup verifications for Unit 2 Outside Recirculation Spray (ORS) pumps and Unit 1 LHSI and ORS pumps. Also performed a walkdown of both units Safeguards areas. No discrepancies were found.

6.0 ACTIONS TO PREVENT RECURRENCE

"Latch Lock" handles will be installed on all quick throw valves in the LHSI and ORS Pump seal cooling loops. The locking devices physically latch the hand wheel in place plus have a hole for installing a locking device. This hole will be tie-wrapped to provide an additional measure of security.

7.0 SIMILAR EVENTS

The following Plant Issues were documented as part of the Station Corrective Action System:

Plant Issue S-1996-2213 documents valve 2-SI-159 on 2-SI-P-1A being out of position. The corrective action was to perform the valve lineup.

Plant Issue S-1998-0494 documents valve 2-SI-463 being out of position. The corrective action was to open the valve and verify the seal head tank valves on the other U2 LHSI and ORS pumps were lined up properly. In this case, it was determined that an outside contractor had been obtaining nameplate data from the LHSI pump motor and 2-SI-463 was in close proximity to this data. The positioning of the valve was consistent with being bumped by someone reviewing the pump name plate data.

Plant Issue S-1999-0736 documents valve 2-SI-469 being out of position. The corrective action was to tie wrap all of the valves for the LHSI and ORS pump seal cooling loops.

8.0 MANUFACTURER/MODEL NUMBER

No component failure.

9.0 ADDITIONAL INFORMATION

None