

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Surry Power Station, Units 1 and 2	DOCKET NUMBER (2) 0 5 0 0 0 2 8 0	PAGE (3) 1 OF 0 4
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TITLE (4)
Control Room Chiller Tripped Due to Inadequate Service Water Flow

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)					
1	2	03	8	8	034	0	0	12	2	9	88	0	5	0	0	0
THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)																

OPERATING MODE (8) 0, 0, 0	POWER LEVEL (10) 0, 0, 0	<input type="checkbox"/> 20.402(b)	<input type="checkbox"/> 20.405(a)(1)(i)	<input type="checkbox"/> 20.405(a)(1)(ii)	<input type="checkbox"/> 20.405(a)(1)(iii)	<input type="checkbox"/> 20.405(a)(1)(iv)	<input type="checkbox"/> 20.405(a)(1)(v)	<input type="checkbox"/> 20.405(c)	<input type="checkbox"/> 50.38(c)(1)	<input type="checkbox"/> 50.38(c)(2)	<input checked="" type="checkbox"/> 50.73(a)(2)(i)	<input type="checkbox"/> 50.73(a)(2)(ii)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(iv)	<input type="checkbox"/> 50.73(a)(2)(v)	<input type="checkbox"/> 50.73(a)(2)(vii)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)	<input type="checkbox"/> 50.73(a)(2)(x)	<input type="checkbox"/> 73.71(b)	<input type="checkbox"/> 73.71(c)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)
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LICENSEE CONTACT FOR THIS LER (12)

NAME Michael R. Kansler, Station Manager	TELEPHONE NUMBER AREA CODE: 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)

<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)

On December 3, 1988 at 2002 hours and on December 14, 1988 at 0330 hours, with both units at refueling shutdown, an operator noticed that the "C" main control room and emergency switchgear room chiller had tripped. On both dates, the "A" chiller was out of service and the "B" chiller was not operating. This event is contrary to Technical Specification 3.14.B. The cause of the events was insufficient service water flow to the "C" chiller. The chiller condenser pressure control valves had not been calibrated to the normal system pressure and flow. In both events, the "B" chiller was started and the "C" chiller was subsequently returned to service. On December 15, 1988, the pressure control valves were adjusted and verified to be operating as designed.

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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 December 3, 1988 at 2002 hours and on December 14, 1988 at 0330 hours, with Units 1 and 2 at refueling shutdown, an operator noticed the main control room and emergency switchgear room (MCR & ESGR) chiller, 1-VS-E-4C, (EIIS-CHU) had tripped. On both dates, the "A" chiller was out of service for maintenance and the "B" chiller had been recently secured due to decreased demand on the system. In both events, the "B" chiller was started following the "C" chiller trip and operated until the "C" chiller was returned to service. The "C" chiller was returned to service on December 3, 1988 at 2353 hours and again on December 14, 1988 at 0700 hours. This event is contrary to Technical Specification 3.14.B, which requires one MCR & ESGR chiller to be operating and another to be operable.

2.0 Safety Consequences and Implications

The MCR & ESGR air conditioning system consists of three chiller units and two sets of air handling units. The normal operating design temperatures of the control rooms and emergency switchgear rooms are 75°F and 80°F, respectively; however, the electrical equipment contained in these areas are designed to operate in temperatures up to at least 104°F.

This event was consistent with the system design basis in that the system design accounts for operator action to energize the operable chiller (non-operating) in the event that the operating chiller fails. During this event, the MCR & ESGR air handling units were operable or operating and operator action was taken in such time that only a small increase in MCR & ESGR temperature was sensed. Further, an evaluation of the actual heat loads developed indicates that operation of a single chiller is adequate to maintain design room temperatures during two unit cold shutdown. As such, this event did not affect the health and safety of the public and does not constitute an unreviewed safety question.

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3.0 Cause

The cause of the two events was insufficient service water flow that resulted in insufficient heat transfer from the refrigerant to the service water causing a high condenser discharge pressure trip. Service water flow to the chiller was manually throttled upstream of the normal pressure control (PCV) valves (1-SW-PCV-100C & 1-SW-PCV-101C) (EIIIS-PCV) because the PCVs had recently been replaced and were not yet calibrated to normal system pressures and flow. The system was being monitored to determine system requirements prior to final valve adjustments.

Increased SW flow to the "C" chiller was required due to the additional heat load when the "B" chiller was stopped. Since the pressure control valves were not correctly adjusted, they were unable to properly compensate for the increased demand.

4.0 Immediate Corrective Action

The "B" chiller was started and verified to be providing chilled water to the air handling units. The "C" chiller was subsequently returned to service.

5.0 Additional Corrective Action

On December 15, 1988, the stroke of the normal PCVs was adjusted with the manual inlet valve open and verified to be operating as designed.

6.0 Actions to Prevent Recurrence

When the pressure control valves are replaced on the "A" and "B" chillers, they will be adjusted to the normal system operating parameters.

7.0 Similar Events

Although this specific event has not occurred before, previous incidents of inadequate service water flow to the MCR & ESGR chillers have been reported in Unit 1 LERs 88-039, 88-007 and 87-007.

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8.0 Manufacturer/Model Number

N/A.

VIRGINIA ELECTRIC AND POWER COMPANY

Surry Power Station
P. O. Box 315
Surry, Virginia 23883

December 29, 1988

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

Serial No.: 88-069
Docket Nos.: 50-280
50-281
License Nos. DPR-32
DPR-37

Gentlemen:

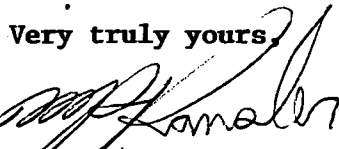
Pursuant to Surry Power Station Technical Specifications, Virginia Electric and Power Company hereby submits the following Licensee Event Report for Units 1 and 2.

REPORT NUMBER

88-034-00

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,



M. R. Kansler
Station Manager

Enclosure

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

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