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REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 9204270418 DOC. DATE: 92/04/16 NOTARIZED: NO DOCKET #
 FACIL: 50-281 Surry Power Station, Unit 2, Virginia Electric & Powe 05000281
 AUTH. NAME AUTHOR AFFILIATION
 KANSLER, M.R. Virginia Power (Virginia Electric & Power Co.)
 RECIP. NAME RECIPIENT AFFILIATION

SUBJECT: LER 92-003-00: on 920325, main CR/emergency switchgear room
 chiller was declared inoperable due to high svc water
 differential pressure & inoperable emergency power source.
 Svc water differential pressure restored. W/920416 ltr.

DISTRIBUTION CODE: IE22T COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 5
 TITLE: 50.73/50.9 Licensee Event Report (LER), Incident Rpt, etc.

NOTES: 1cy NMSS/IMSB/PM. 05000281

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	AEOD/DOA	1	1	AEOD/DSP/TPAB	1	1
	AEOD/ROAB/DSP	2	2	NRR/DET/EMEB 7E	1	1
	NRR/DLPQ/LHFB10	1	1	NRR/DLPQ/LPEB10	1	1
	NRR/DOEA/OEAB	1	1	NRR/DREP/PRPB11	2	2
	NRR/DST/SELB 8D	1	1	NRR/DST/SICB8H3	1	1
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EXTERNAL:	EG&G BRYCE, J.H	3	3	L ST LOBBY WARD	1	1
	NRC PDR	1	1	NSIC MURPHY, G.A	1	1
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Virginia Electric and Power Company
Surry Power Station
P. O. Box 315
Surry, Virginia 23883

April 16, 1992

U. S. Nuclear Regulatory Commission
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Washington, D. C. 20555

Serial No.: 92-275
SPS:RJS
Docket No.: 50-281
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Gentlemen:

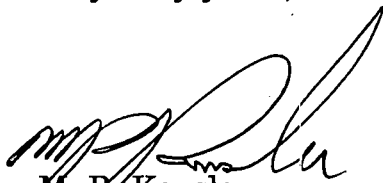
Pursuant to Surry Power Station Technical Specifications, Virginia Electric and Power Company hereby submits the following Licensee Event Report for Unit 2.

REPORT NUMBER

50-281/92-003-00

This report has been reviewed by the Station Nuclear Safety and Operating Committee and will be reviewed by the Corporate Management Safety Review Committee.

Very truly yours,

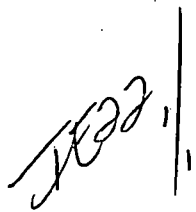


M. R. Kansler
Station Manager

Enclosure

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

9204270418 920416
PDR ADOCK 05000281
S PDR



LICENSEE EVENT REPORT (LER)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1) Surry Power Station, Unit 2	DOCKET NUMBER (2) 0 5 0 0 0 2 8 1	PAGE (3) 1 OF 0 4
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TITLE (4) Two Main Control Room/Emergency Switchgear Room Chillers Inoperable Due to High Service Water Differential Pressure and Inoperable Emergency Power Source

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)
0 3	2 5	9 2	9 2	0 0 3	0 0	0 4	1 6	9 2		0 5 0 0 0
										0 5 0 0 0

OPERATING MODE (9) N	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)									
POWER LEVEL (10) 1 0 0	<input type="checkbox"/> 20.402(b)	<input type="checkbox"/> 20.405(c)	<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(c)(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(c)(2)	<input type="checkbox"/> 50.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)						
	<input type="checkbox"/> 20.405(a)(1)(iii)	<input checked="" 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)(x)								

LICENSEE CONTACT FOR THIS LER (12)		TELEPHONE NUMBER	
NAME M. R. Kansler, Station Manager		AREA CODE 8 0 4	 3 5 7 1 - 3 1 8 4

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)											
CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORTABLE TO NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORTABLE TO NPRDS		

SUPPLEMENTAL REPORT EXPECTED (14)		EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
<input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE)	<input checked="" type="checkbox"/> NO				

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

On March 25, 1992, at 1012 hours, Unit 1 was at Cold Shutdown and Unit 2 was operating at 100% power. Main Control Room/Emergency Switchgear Room (MCR/ESGR) Chiller 1-VS-E-4C was declared inoperable due to a high service water differential pressure. When "C" Chiller was declared inoperable, Technical Specification 3.0.2 no longer allowed "B" Chiller to be considered operable because its emergency power source, Emergency Diesel Generator No. 3, was out of service for planned refueling outage maintenance. Because two inoperable MCR/ESGR chillers is a condition not allowed by Technical Specification 3.23.C.1.a, an action statement was entered in accordance with Technical Specification 3.0.2 requiring Unit 2 to be placed in Hot Shutdown within six hours. The high service water differential pressure was caused by heat exchanger sedimentation which was reduced by temporarily increasing service water flow, thus flushing the heat exchanger. Service water differential pressure for Chiller 1-VS-E-4C was restored to within specification on March 25, 1992 at 1049 hours, terminating the six hour action statement. No significant safety consequences resulted from this event. An upgrade of the MCR/ESGR Air Conditioning System is in progress and will include the installation of two additional 50% capacity chillers. This event is being reported pursuant to 10 CFR 50.73(a)(2)(i)(B).

**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 March 25, 1992, with Unit 1 at Cold Shutdown and Unit 2 at 100% power, a routine performance check of Main Control Room/Emergency Switchgear Room (MCR/ESGR) Chiller (EIIS-VI-CHU) 1-VS-E-4C was in progress. This performance check, which is performed three times a week, monitors chiller service water heat exchanger differential pressure. At 1012 hours, it was determined that the "C" Chiller service water differential pressure was out of specification and the "C" Chiller was declared inoperable. At the time the "C" Chiller was declared inoperable, Emergency Diesel Generator (EDG) (EIIS-EB-DG) No. 3 was out of service for planned refueling outage maintenance, rendering the emergency power supply for "B" Chiller inoperable. Since Technical Specification (TS) 3.0.2 allowed the "B" Chiller to be considered operable only if its redundant trains were fully operable (including normal and emergency power sources), declaring the "C" Chiller inoperable also resulted in the "B" Chiller being considered inoperable.

TS 3.23.C.1.a requires that MCR/ESGR Chillers "A", "B", and "C" be operable when either unit is above Cold Shutdown. TS 3.23.C.1.a permits one chiller to be inoperable for a maximum of seven days but does not address two or three chillers being inoperable. With the "C" Chiller inoperable and the "B" Chiller's emergency power source out of service, a condition not addressed by TS 3.23.C.1.a existed. Consequently, at 1012 hours, an action statement requiring Unit 2 be placed in Hot Shutdown within six hours was entered in accordance with TS 3.0.2.

This report is being made pursuant to 10CFR50.73(a)(2)(i)(B) as the station was operated in a condition not allowed by the TS.

2.0 SIGNIFICANT SAFETY CONSEQUENCES AND IMPLICATIONS

Chillers "A", "B", and "C" are part of the MCR/ESGR Air Conditioning System. This is a shared system designed to maintain the Unit 1 and Unit 2 MCR and ESGR areas at or below design temperatures during normal operation and design basis accident conditions. Two chillers are required to operate in order to remove design post-accident heat loads, assuming worst case ambient air temperature and service water temperature.

With the "C" Chiller inoperable and the "B" Chiller's emergency power source out of service, two chillers ("A" and "B") would still have been available under accident conditions provided off site power was available. Without off site power, only the "A" Chiller would have been available. Based on design calculations, this created the possibility that

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design ambient temperatures could have been exceeded in the MCR and ESGRs in an accident situation; however, this condition existed for only a brief period of time. Temperature rise in the MCR and ESGRs would have been limited in an accident situation since service water temperature was below that assumed in design calculations. The rate of temperature rise would also have been limited since one chiller remained operable throughout the event. In addition, past experience with a complete loss of MCR and ESGR air conditioning has shown that temperatures have not increased as rapidly as indicated by the design calculations. It is therefore concluded that no safety consequences resulted from the event.

3.0 CAUSE OF THE EVENT

The event was caused by sedimentation in the "C" Chiller service water heat exchanger which reduced required service water flow below specification coincident with EDG #3 being out of service for maintenance.

4.0 IMMEDIATE CORRECTIVE ACTION(S)

Service water flow to the "C" Chiller heat exchanger was temporarily increased to flush accumulated sediment from the heat exchanger. Service water differential pressure was restored to within specification at 1049 hours on March 25, 1992 and the six hour action statement for bringing Unit 2 to Hot Shutdown was exited.

5.0 ADDITIONAL CORRECTIVE ACTION(S)

Following the return to service of EDG No. 3, the emergency power supply for the "B" Chiller, the "C" Chiller was removed from service and its service water heat exchanger was cleaned.

6.0 ACTIONS TO PREVENT RECURRENCE

An upgrade of the MCR/ESGR Air Conditioning System is in progress. The upgrade will include the installation of two additional 50% capacity chillers. These additional chillers will increase operational flexibility and improve the capability to withstand single failures.

7.0 SIMILAR EVENTS

Licensee Event Report 280/91-015: Two Main Control Room/Emergency Switchgear Room Chillers Inoperable Due to Thermostat Failure and Inoperable Emergency Power Source.

**LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION**

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8.0 ADDITIONAL INFORMATION

None.