POW 28-06-01

NRC Form 366 (9-83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO. 3150-0104
EXPIRES: 8/31/88

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Surry Power Station, Unit 1	0 5 0 0 0 2 8 0	1 OF 0 3

TITLE (4)

Potential For Overload Of EDGs During LOCA With Loop Due To Design Deficiency

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 9	1 3	8 8	8 8	0 3 2	0 0	1 0	1 3	8 8		0 5 0 0 0
										0 5 0 0 0

OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)			
N		20.402(b)	20.405(c)	50.73(a)(2)(iv)	73.71(b)
POWER LEVEL (10)		20.405(a)(1)(i)	50.36(c)(1)	50.73(a)(2)(v)	73.71(c)
1 0 0		20.405(a)(1)(ii)	50.36(c)(2)	50.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)
		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)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
	AREA CODE
D. L. Benson, Station Manager	8 0 4 3 5 7 - 3 1 8 4

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

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

On September 13, 1988, at 2320 hours, with Unit 1 at 100% and Unit 2 at cold shutdown (CSD), all 3 Emergency Diesel Generators (EDGs) {EIIS-DG} were declared inoperable due to a design deficiency. The deficiency involved the absence of load sequencing onto the emergency busses following a hi hi Consequence Limiting Safeguards (CLS) actuation and a subsequent Loss Of Offsite Power (LOOP). A unit 1 rampdown was commenced per Technical Specification (T. S.) 3.0.1 and a Notification of an Unusual Event was declared at 2341 hours. However, the unit was not placed in hot shutdown (HSD) until September 14, at 0610 hours, 50 minutes greater than the six hours allowed.

The cause of design deficiency was due to the incorrect design assumption that the worst case scenario, for emergency power requirements, was a hi hi CLS actuation with a simultaneous loss of offsite power. The cause of exceeding the 6 hour time to HSD was due to personnel error. Tests will be performed to determine the capability of the EDGs to accept large loads, simulating a hi hi CLS with a LOOP. A design change will be generated to modify the load sequencing to account for a LOCA and subsequent LOOP. The personnel responsible for exceeding the six hour to HSD limit, were reprimanded.

NRC Form 366 (9-83)

NRC Form 366A
(9-83)

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 September 13, 1988, at 2320 hours, with Unit 1 at 100% and Unit 2 at cold shutdown (CSD), all 3 Emergency Diesel Generators (EDGs) {EIIS-DG} were declared inoperable due to a design deficiency. The deficiency involved the absence of load sequencing onto the emergency busses {EIIS-EK} following a hi hi Consequence Limiting Safeguards (CLS) {EIIS-JE} actuation and a subsequent Loss Of Offsite Power (LOOP).

Presently, all safeguards pumps do not start immediately upon the actuation of a hi hi Consequence Limiting Safeguards (CLS) signal. Specifically, the Inside Recirculation Spray (IRS) pumps {EIIS-BE, P} and Outside Recirculation Spray (ORS) pumps do not start until two minutes and five minutes, respectively, after the hi hi CLS signal. A LOOP occurring simultaneously with a hi hi CLS actuation would not overload the EDGs with this pump starting scheme. However, if a LOOP were to occur five minutes or more after a hi hi CLS actuation, when all safeguards loads were operating, a potential exists for overloading the EDGs. A unit 1 rampdown was commenced per Technical Specification (T. S.) 3.0.1 and a Notification of an Unusual Event was declared at 2341 hours. However, the unit was not placed in hot shutdown (HSD) until September 14, at 0610 hours, 50 minutes greater than the six hours allowed.

2.0 Safety Consequences and Implications

The present emergency power system is designed to satisfy the requirements of the original plant design basis. Although the above postulated event was not considered, a complete loss of AC power is addressed in the UFSAR, in that a highly reliable DC power supply is provided to maintain vital plant instrumentation functional. Also, procedures exist that guide operators in the restoration of AC power. Therefore, the health and safety of the public were not affected.

★U.S.GPO:1986-0-624-538/455

NRC Form 366A
(9-83)

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TEXT *(If more space is required, use additional NRC Form 366A's)* (17)

3.0 Cause

The cause of design deficiency was due to the incorrect design assumption that the worst case scenario, for emergency power requirements, was a hi hi CLS actuation with a simultaneous loss of offsite power.

The cause of exceeding the 6 hour time to HSD was due to personnel error.

4.0 Immediate Corrective Action(s)

Unit 1 was ramped to hot shutdown and subsequently placed in cold shutdown on September 15, at 0552 hours, within the required 30 hours.

5.0 Additional Corrective Action(s)

Tests will be performed to determine the capability of the EDGs to accept large loads, simulating a hi hi CLS with a LOOP.

6.0 Action(s) Taken to Prevent Recurrence

A design change will be generated to modify the load sequencing to account for a LOCA and subsequent LOOP. The personnel responsible for exceeding the six hour to HSD limit, were reprimanded.

7.0 Similar Events

None.

8.0 Manufacturer/Model Number

N/A

VIRGINIA ELECTRIC AND POWER COMPANY
Surry Power Station
P. O. Box 315
Surry, Virginia 23883

October 13, 1988

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

Serial No.: 88-055
Docket No.: 50-280
Licensee No.: DPR-32

Gentlemen:

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

REPORT NUMBER

88-032-00

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,

Harry L Miller
David L. Benson
Station Manager

Enclosure

cc: Dr. J. Nelson Grace
Regional Administrator
Suite 2900
101 Marietta Street, NW
Atlanta, Georgia 30323

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