CATEGORY 1

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR:9712180395 DOC.DATE: 97/12/10 NOTARIZED: NO DOCKET #
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CHRISTIAN,D.A. Virginia Power (Virginia Electric & Power Co.)
RECIP.NAME RECIPIENT AFFILIATION
Document Control Branch (Document Control Desk)

SUBJECT: Forwards LER 002-01 per Surry Power Station TS.Rept has been reviewed by Station Nuclear Safety & Operating Committee & will be forwarded to Mgt Safety Review Committee for review. Listed commitments contained in ltr submitted.

DISTRIBUTION CODE: IE22T COPIES RECEIVED:LTR 1 ENCL 1 SIZE: 2+4
TITLE: 50.73/50.9 Licensee Event Report (LER), Incident Rpt, etc.

NOTES: 05000281

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CATEGORY 1 DOCUMENT

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VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

December 10,1997

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

Serial No.: 97-467A
SPS: BCB
Docket No.: 50-281
License No.: DPR-37

Dear Sirs:

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

Report No. 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:

1. Engineering is evaluating options for improving the reliability of the high range main steam radiation monitors. An option being considered is the implementation of an alternate design.

cc: U. S. Nuclear Regulatory Commission
Region II
Atlanta Federal Center
61 Forsyth Street, SW, Suite 23T85
Atlanta, Georgia 30303

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

NRC FORM 366 (4-95)

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB NO. 3150-0104
EXPIRES 4/30/98

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 (T-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.

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)

Main Steam High Range Radiation Monitor Inoperable Due to Equipment Failure

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
07	13	97	97	-- 002 --	01	12	10	97		05000-
									FACILITY NAME	DOCUMENT NUMBER 05000-

OPERATING MODE (9)	N
POWER LEVEL (10)	100 %

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)

	20.2201(b)		20.2203(a)(2)(v)		50.73(a)(2)(i)		50.73(a)(2)(viii)
	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)	X	OTHER
	20.2203(a)(2)(iii)		50.36(c)(1)		50.73(a)(2)(v)		Specify in Abstract below
	20.2203(a)(2)(iv)		50.36(c)(2)		50.73(a)(2)(vii)		or in NRC Form 366A

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER (Include Area Code)
D. A. Christian, Station Manager	(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
X	IL	DET	N330	N/A						

SUPPLEMENTAL REPORT EXPECTED (14)			EXPECTED SUBMISSION DATE	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 July 13, 1997, with Unit 2 at approximately 100% power, the control room annunciator, 2-RMA-A-7, for the main steam line effluent high range radiation monitors alarmed. Control room operators responded to the alarm in accordance with Annunciator Response Procedure 2-RMA-A-7, "UNIT 2 MN STM ABC RAD MON ALERT/HI," and determined that the "B" main steam line effluent high range radiation monitor, 2-MS-RM-225, was not functioning properly. The monitor was declared inoperable at 07:42 and the preplanned alternate method of monitoring was initiated in accordance with Technical Specifications (TS) Table 3.7-6. An extensive investigation was performed during the subsequent three week period. Based on the results of the investigation, Instrumentation and Controls personnel concluded that the detector for 2-MS-RM-225 did not function properly at the ambient temperature of the detector enclosure. A temporary blower was installed on August 19, 1997, to reduce the ambient temperature of the detector enclosure. 2-MS-RM-225 was tested satisfactorily and returned to service on August 31, 1997, at 17:20. This Special Report is being submitted in accordance with TS Table 3.7-6 because 2-MS-RM-225 was not returned to an operable status within seven days.

FACILITY NAME (1)	DOCKET	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Surry Power Station Unit 2	05000 - 281	97	--002 --	01	2 OF 4

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

1.0 DESCRIPTION OF THE EVENT

On July 13, 1997, with Unit 2 at approximately 100% power, the control room annunciator [EIIS-IB,ANN], 2-RMA-A-7, for the main steam line effluent high range radiation monitors alarmed. Control room operators responded to the alarm in accordance with Annunciator Response Procedure 2-RMA-A-7, "UNIT 2 MN STM ABC RAD MON ALERT/HI," and determined that the "B" main steam line effluent high range radiation monitor [EIIS-IL,MON], 2-MS-RM-225, was not functioning properly. The monitor was declared inoperable at 07:42 and the preplanned alternate method of monitoring was initiated in accordance with Technical Specifications (TS) Table 3.7-6.

A Work Request was submitted on July 13, 1997, to determine the cause of the radiation monitor failure and to effect repairs. An extensive investigation was performed during the subsequent three week period. The investigative efforts included the installation of similar detectors [EIIS-IL,DET], the replacement of various components, the installation of a new detector, and the replacement of a portion of the detector cable [EIIS-IL,CBL].

Based on the results of the investigation, Instrumentation and Controls (I&C) personnel concluded that the higher ambient temperature of the detector enclosure may be causing the radiation monitor to fail. This was confirmed on August 1, 1997, through laboratory testing performed by both I&C and vendor personnel.

A temporary blower was installed on August 19, 1997, to reduce the ambient temperature of the detector enclosure. This interim measure proved effective and 2-MS-RM-225 was tested satisfactorily and returned to service on August 31, 1997, at 17:20.

This Special Report is being submitted in accordance with TS Table 3.7-6 because 2-MS-RM-225 was not returned to an operable status within seven days.

2.0 SIGNIFICANT SAFETY CONSEQUENCES AND IMPLICATIONS

The main steam line effluent high range radiation monitors are designed to measure radioactivity, resulting from primary to secondary systems leakage, that may be released through the main steam safety or atmospheric dump valves [EIIS-SB,RV] following an accident. These radiation monitors are nonsafety-related and do not initiate any automatic equipment actuations.

When 2-MS-RM-225 was declared inoperable, the preplanned alternate method of monitoring was initiated, utilizing the condenser air ejector radiation monitor. This monitor and the steam generator blowdown sample line radiation monitor provide

2.0 SIGNIFICANT SAFETY CONSEQUENCES AND IMPLICATIONS (Continued)

alternate indications of primary to secondary systems leakage. In addition, Health Physics personnel were notified that 2-MS-RM-225 was out of service and that off-site monitoring may be necessary in the event of a radioactive release.

These compensatory measures provide an acceptable alternate method of satisfying the design functions of 2-MS-RM-225. Therefore, this event resulted in no safety consequences or significant implications and the health and safety of the public were not affected at any time.

3.0 CAUSE

This event occurred as a result of an intermittent component failure. Specifically, the detector ion chamber segment of the printed circuit assembly for 2-MS-RM-225 did not function properly at the ambient temperature of the detector enclosure, which was within the design operating temperature range specified by the vendor.

4.0 IMMEDIATE CORRECTIVE ACTION(S)

2-MS-RM-225 was declared inoperable on July 13, 1997, at 07:42, and the preplanned alternate method of monitoring was initiated in accordance with TS Table 3.7-6.

A Deviation Report and Work Request were submitted to document the deviating condition and to initiate corrective actions.

5.0 ADDITIONAL CORRECTIVE ACTIONS

An extensive investigation was performed to determine the cause of the radiation monitor failure.

A temporary blower was installed on August 19, 1997, to reduce the ambient temperature of the detector enclosure. 2-MS-RM-225 was tested satisfactorily and returned to service on August 31, 1997, at 17:20.

FACILITY NAME (1)	DOCKET	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Surry Power Station Unit 2	05000 - 281	97	--002 --	01	4 OF 4

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

6.0 ACTIONS TO PREVENT RECURRENCE

Engineering is evaluating options for improving the reliability of the high range main steam radiation monitors. An option being considered is the implementation of an alternate design.

7.0 SIMILAR EVENTS

- Special Report 50-280/94-007-00, "Process Vent High Range Accident Monitor Inoperable Greater Than Seven Days"
- Special Report 50-280/50-281/93-011-00, "Radiation Monitors Inoperable Due to Detector Ground Reference"

8.0 MANUFACTURER/MODEL NUMBER

Manufacturer: Nuclear Research Corporation
Model Number: TA 600

9.0 ADDITIONAL INFORMATION

Unit 1 was operating at 100% power and was not affected by this event.