NRC Form 366 (9-83)			LIC	ENSEE EV	ENT RE	PORT	(LER)	U.S. N	APPROVES	GULATO D OMB N 8/31/88	RY COM	104
											847	15 /2
NORTH ANN	A POUFR	STATION	UNITES	1 AND 2				DOCKET NUMBER	(2)	3.0	1 05	
TITLE (4)	A TOWER	STATION,	UNIID	I AND Z				0 5 0 0	05	2 0	1 100	10 14
KAMAN VEN	T STACK	"B" RADT	ATTON M	ONITOR C	PIL BOAL	D FAT	LURE DUE	TO CROU	ND CON	FICU	RATT	ON
EVENT DATE (5)	I DIACK		ALLON PL	REPORTO	ATE (7)	AD TRI	OTHER	FACILITIES INVO	LVED (B)	1 100	KAT 1	UN
MONTH DAY YE	AR YEAR	SEQUENTIAL	REVISION	MONTH DAY	YEAR		FACILITY NAM	MES	DOCKET	NUMBER	(5)	
		NUMBER	NUMBER			NORTH	ANNA. III	NTT 2	0 151	010	1013	1319
						montri					1	1-1-
0 2 1 0 8	8 8 8 THIS BE				8 9	0.058 8-1	Check one or more i	of the following) (1	0 5	0 1 0	101	1.1
MODE (8)	1 20	402(b)		20.405(c)	MENTS OF 1	T T	50.73(e)(2)(iv)	or the ronowing/ th	73.7	71(b)		
POWER	20	405(a)(1)(i)		50.36(c)(1)		-	50.73(a)(2)(v)		73.7	71(c)		
LEVEL 013	10 20	405(a)(1)(ii)		50.36(c)(2) 50.73(a)(2)(vii)					X OT	HER (Spe	R (Specify in Abstract	
for a second state of the second state of the second second second second second second second second second se	20	405(a)(1)(iii)		60.73(a)(2)(i)		-	50.73(a)(2)(viii)(A)	Delo 366	w and in A)	Text, NR	C Form
	20.	405(s)(1)(iv)		50.73(s)(2)(ii)			50.73(s)(2)(viii)(8)	SPECT	AT. R	FPOR'	т
	20	406(s)(1)(v)		50.73(e)(2)(iii)			50.73(s)(2)(x)		DIDOI	ALL AN	Lat One	-
			L	CENSEE CONTA	CT FOR THI	LER (12)						
NAME								AREA CODE	TELEPHON	VE NUMB	IER	
G. E. KA	NE, STA	TION MANA	GER					71013	8191	4 1-	511	15 11
		COMPLETE	ONE LINE FOR	EACH COMPONE	ENT FAILUR	DESCRIBI	ED IN THIS REPOR	RT (13)				
CAUSE SYSTEM C	OMPONENT	MANUFAC TURER	REPORTABLE TO NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFAC TURER	REPORT TO NP	RDS		
						1			_			
}		RUPPI EM	ENTAL REPORT	EXPECTED (14)		1 1		+		MONTH	DAY	YEAR
		BOTTLEM		1				EXPECT SUBMISS	ION			
YES (If yes, compl	ets EXPECTED	SUBMISSION DAT	E)	X NO				DATE	151			
ABSTRACT (Limit to 14	At at 30 a Radiati erroned monitor radiati Specifi returne alterna this Ad the m reporta Ir RI-VG-1 malfund of the monitor Th were h operabl public	t 0659 and 100 p ion Mon busly hig rs in t ion level ication ed to ope ate meth ction Sta radiation able purs nvestigat 180 reve ctioned. e board r was ret his event backup r le throug were not	hours or ercent p itor, h indica he same s during (T.S.) rable st od of tement e monito uant to ion into aled th An anal failure urned to posed r adiation	Februar ower, re RI-VG-18 ated radie e efflue g this pe 3.3.3.1 tatus wit monitori expired a or still Technica of the ca hat the lysis was a. The o operabl ho signifi monito is event.	y 10, especti 30, w ation ent re- eriod. requi- thin 72 ing ar t 0659 decl al Spec- use f Centra perfc CPU bo te stat ficant trans fo The	1988, vely, as level lease Acti res hour ared ifica or t ared ifica or t ared ard w us on safet healt	with Uni the Kan declared s. Two a path we on Staten that the s, or ini pare a Sp s on Febr inoperat tion 6.9. he error ocessing to determ as replace February y implica e release h and sai	its 1 and nan Vent inopera additiona ere indic nent 35 c radiatic itiate th becial Re cuary 13, ble, thi .2. neous ir Unit (CF nine the ced and t y 19, 198 ations be e path wh fety of	1 2 in Stan able of al radicating of Teon mon a pre- port. 1988 s evo adicat PU) boo root the radicat secause aich r the	Mode ck due diat: norn chnic itor plann Sin , w ent ion ard l can diat the gene	e 1 "B" to ion mal cal be ned ical is of had use ion ere ned ral	
NRC Form 386 (9-83)	89 PI	0314056 DR ADOC	K 0500	0338 PDC								

MRC Form 366A (9-83) * LICENSEE EVENT REPORT (LER) TEXT CONTINUATION APPROVED OMB NO. 3150 EXPIRES: 8/31/88					
FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)	PAGE (3)		
		YEAR SEQUENTIAL PREVISION NUMBER INUMBER			
NORTH ANNA POWER STATION, UNITS 1 AN	0 2 0 5 0 0 3 3 8		0 2 OF 0 4		

1.0 Description of Event

At 0659 hours on February 10, 1988, with Units 1 and 2 in Mode 1 at 30 and 100 percent power, respectively, the Kaman Vent Stack "B" Radiation Monitor, RI-VG-180, (EIIS System Identifier WE, Component Identifier MON, Vendor Identifier K020) was declared inoperable. The radiation monitor was declared inoperable due to erroneously high indicated radiation levels. The problem was immediately diagnosed as a malfunctioned radiation monitor because two additional radiation monitors in the same effluent release path were indicating normal radiation levels during this period. Technical Specification (T.S.) 3.3.3.1 requires that the Kaman Vent Stack "B" Radiation Monitor be operable throughout a range of 5.0 E-7 to E+5 microcuries per cubic centimeter. If the full measurement range cannot be covered, then Action Statement 35 becomes applicable. Action Statement 35 requires that the radiation monitor be returned to operable status within 72 hours or initiate the preplanned alternate method of monitoring and prepare a Special Report. Since this Action Statement expired at 0659 hours on February 13, 1988 with the radiation monitor still declared inoperable, this event is reportable pursuant to Technical Specification 6.9.2.

The Kaman Vent Stack "B" Radiation Monitor senses the radioactivity level of isotopes present in gaseous and particulate form in the effluent release path from a variety of sources. RI-VG-180 also provides signals for local indication as well as indication, recording, and alarms in the Control Room.

Investigation into the cause for the erroneously high radiation level being displayed for RI-VG-180 revealed that the Central Processing Unit (CPU) board had malfunctioned. An analysis performed by station personnel, with assistance from the vendor, determined that the most probable cause of the failed CPU board was the ground configuration. The reliability upgrade project (initially mentioned in LER 88-006-00) has been augmented, with an additional field change that includes modifications to the ground configuration, and should correct this problem when implemented.

Prior to exceeding the 72 hour action statement, a new CPU board was installed on RI-VG-180. RI-VG-180 was functionally tested with satisfactory results following the installation of the new CPU board. However, the radiation monitor was not returned to operable status because it was already scheduled to be taken out of service for a reliability upgrade modification. The radiation monitor was returned to operable status on February 19, 1988, after the field change to improve the reliability of the radiation monitor (mentioned in LER 88-006-00) was completed, and the radiation monitor satisfactorily passed the functional test and the monthly periodic test. NRC Form 366A

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION APPROVED OMB NO 3150-0104

EXPIRES: 8/31/88

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)	PAGE (3)		
		YEAR SEQUENTIAL REVISION NUMBER NUMBER			
NORTH ANNA POWER STATION, UNITS 1 AND 2	0 5 0 0 0 3 38	8 8 - 0 1 0 - 0 1	0 3 OF 0 4		
TEXT (If more space is required, use additional NRC Form 3664's) (17)					

2.0 Safety Consequences and Implications

This event posed no significant safety implications because the Westinghouse Vent Stack "B" Radiation Monitors (EIIS Vendor Identifier W120), which provide high radiation indication to the Control Room via a strip chart recorder, common alarm, alarm lights, and gaseous and particulate meters, remained operable throughout this event. Additionally, the Nuclear Research Corporation Radiation Monitors (EIIS Vendor Identifier N330) continued to operate throughout this event as the Technical Specification required preplanned alternate monitoring method on the "B" Vent Stack. The health and safety of the general public were not affected.

3.0 Cause of the Event

The radiation monitor erroneously indicated a high radiation level due to a malfunctioned CPU board. An analysis performed by station personnel, with assistance from the vendor, has determined that the most probable cause of the failed CPU board was the ground configuration.

4.0 Immediate Corrective Actions

As an immediate corrective action, Action Statement 35 of Technical Specification 3.3.3.1 was entered and troubleshooting was initiated.

5.0 Additional Corrective Action

A new CPU board was installed in RI-VG-180 and functionally tested with satisfactory results.

6.0 Actions Taken to Prevent Recurrence

The CPU board which caused RI-VG-180 to fail was analyzed by station personnel, with assistance from the vendor, and determined that the most probable cause of the failed CPU board was the ground configuration. An additional field change to the reliability upgrade project (mentioned in LER 88-006-00) includes modifications to the ground configuration and should correct this problem. NRC Farm 366A

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION APPROVED OMB NO. 3150-0104

EXPIRES: 8/31/88

		A DESCRIPTION OF A DESC	ADDRESS TO BORDON AND A DOLLAR PROPERTY OF ADDRESS ADD	
FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)	PAGE (3)	
		YEAR SEQUENTIAL REVISION NUMBER NUMBER		
NOPTH ANNA DOLTER STATION UNITS 1 AND 2	0 15 10 10 10 13 1 3 18	818 - 01110 - 011	014 OF 014	
TEXT (If more space is required, use additional NRC Form 306A's) (17)				

7.0 Similar Events

Previously, the North Anna Power Station Kaman Process Vent Radiation Monitor (RI-GW-178) failed on November 24, 1987, due to intermittent continuity problems on the CPU card or the card edge connectors (LER-N1/N2-87-023-01). Troubleshooting determined that the event on RI-VG-180, which occurred on February 10, 1988, was not a result of intermittent continuity problems on the card edge connectors.

8.0 Additional Information

The implementation of the previously mentioned reliability upgrade project initially mentioned in LER-88-006-00, and additional field changes which were developed as a result of recommendations by the Kaman Sciences Corporation, should increase the reliability of the radiation monitors (RM-GW-178 and RI-VG-179). During the installation of these field changes the radiation monitors will be removed from service, one at a time, for greater than 72 hours (therefore exceeding Action Statement 35 of Technical Specification 3.3.3.1 which requires a Special Report be submitted within 14 days). Since the installation of these field changes is preplanned, and should increase the reliability of the radiation monitors, this document is providing notification of these events, and separate 14 day Special Reports will not be submitted.

This Special Report is being submitted because RI-VG-180 was initially removed from service due to a malfunctioning CPU board but was not returned to service prior to the implementation of the reliability upgrade modification.



VIRGINIA ELECTRIC AND POWER COMPANY NORTH ANNA POWER STATION P. O. BOX 402 MINERAL, VIRGINIA 23117

March 3, 1989

U. S. Nuclear Regulatory Commission Attention: Document Control Desk Washington, D.C. 20555 Serial No. N-88-010A NO/DEQ: nih Docket No. 50-338 50-339

License No. NPF-4 NPF-7

Dear Sirs:

The Virginia Electric and Power Company hereby submits the following updated Licensee Event Report applicable to North Anna Units 1 and 2. This Licensee Event Report has been updated to include results of an analysis performed to determine the cause of the event.

Report No. LER 88-010-01

This report has been reviewed by the Station Nuclear Safety and Operating Committee and will be forwarded to Safety Evaluation and Control for their review.

Very Truly Yours,

Station Manager

Enclosure

cc: U. S. Nuclear Regulatory Commission 101 Marietta Street, N. W. Suite 2900 Atlanta, Georgia 30323

> Mr. J. L. Caldwell NRC Senior Resident Inspector North Anna Power Station