

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) NORTH ANNA POWER STATION, UNITS 1 & 2	DOCKET NUMBER (2) 0 5 0 0 0 3 3 8	PAGE (3) 1 OF 0 4
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TITLE (4)
VENT STACK "A" NORMAL RANGE RADIATION MONITOR EXCEEDED T.S. ACTION STATEMENT

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	1	0	3	8	8	8	8	8	0	0	1	0	0	0	0	1	1	4	8	8	NORTH ANNA, UNIT 2	0	5	0	0	0	3	3	9
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OPERATING MODE (9) 1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR § (Check one or more of the following) (11)									
POWER LEVEL (10)	20.402(b)	20.405(c)	50.73(a)(2)(iv)	73.71(b)						
	20.405(a)(1)(iii)	50.36(c)(1)	50.73(a)(2)(v)	73.71(c)						
	20.405(a)(1)(ii)	50.36(c)(2)	50.73(a)(2)(vi)	<input checked="" type="checkbox"/> OTHER (Specify in Abstract below and in Text, NRC Form 365A)						
	20.405(a)(1)(iii)	50.73(a)(2)(i)	50.73(a)(2)(viii)(A)	SPECIAL REPORT						
	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)		TELEPHONE NUMBER	
NAME E. Wayne Harrell, Station Manager	AREA CODE 7 0 3	NUMBER 8 9 4	EXTENSION - 5 1 5 1

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)										
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPROS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPROS	

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)

At 0545 hours on January 3, 1988, with Units 1 and 2 at 100 percent power (Mode 1), the Kaman Vent Stack "A" Normal Range Radiation Monitor, RI-VG-179-1, was declared inoperable due to high indicated radiation levels. Two additional radiation monitors in the same effluent release path were indicating normal radiation levels during this period. Action Statement 35 of Technical Specification (T.S.) 3.3.3.1 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 0545 hours on January 6, 1988 with the radiation monitor still inoperable, this event is reportable pursuant to Technical Specification 6.9.2.

Investigation into the cause for the erroneous indication of RI-VG-179-1 revealed that the scintillator tube had shorted to the detector housing and created a ground loop. This ground loop caused electronic noise to be picked up and added to the background radiation levels. On January 6, 1988 the scintillator tube was replaced. On January 7, 1988 the scintillator tube was electrically insulated from the housing and the radiation monitor indicated properly. RI-VG-179-1 was returned to operable status at 0916 hours on January 7, 1988.

This event posed no significant safety implications because there were backup radiation monitors for the release path which remained operable throughout this event. The health and safety of the general public were not affected.

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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 Event

At 0545 hours on January 3, 1988, with Units 1 and 2 at 100 percent power (Mode 1), the Kaman Vent Stack "A" Normal Range Radiation Monitor, RI-VG-179-1, (EHS System Identifier WE, Component Identifier MON, Vendor Identifier K020) was declared inoperable. The radiation monitor was declared inoperable due to high indicated radiation levels. 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 "A" Radiation Monitor be operable throughout a range of 5.0 E-7 to E+5 microcuries per cubic centimeter. This range is covered by the normal range radiation monitor (RI-VG-179-1) and the high range radiation monitor (RI-VG-179-2) with some overlap between the two. 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 0545 hours on January 6, 1988 with the radiation monitor still inoperable, this event is reportable pursuant to Technical Specification 6.9.2.

The Kaman Vent Stack "A" Normal Range 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-179-1 does not initiate any automatic functions but does provide an input signal for a local indicator and an indicator, chart recorder, and alarms in the Control Room. When the local and remote indicator and display recorder for RI-VG-179-1 indicated high radiation levels and a high radiation level alarm (common to all three radiation monitors in the release path) was received in the Control Room it was believed that RI-VG-179-1 had failed. In order to verify that RI-VG-179-1 had actually failed and the other two radiation monitors in the same effluent release path weren't both malfunctioning, the radiation monitor chamber for RI-VG-179-1 was purged and the number of counts did not change. Also, a smear was performed on the radiation monitor chamber for RI-VG-179-1 and indicated a radioactivity level much less (below the alarm setpoint) than what the detector was indicating.

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

Investigation into the cause for the erroneous indication of RI-VG-179-1 revealed that the scintillator tube had shorted to the detector housing and created a ground loop. This ground loop caused electronic noise to be picked up and added to the background radiation signal. On January 6, 1988, the scintillator tube was replaced; however, this action did not correct the problem. On January 7, 1988, following additional troubleshooting, the scintillator tube was insulated electrically from the housing and the radiation monitor indicated properly. RI-VG-179-1 was returned to operable status at 0916 hours on January 7, 1988, following successful completion of a calibration test.

2.0 Safety Consequences and Implications

This event posed no significant safety implications because the Westinghouse Vent Stack "A" Radiation Monitors (EIS 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 (EIS Vendor Identifier N330) continued to operate throughout this event as the Technical Specification required preplanned alternate monitoring method on the "A" 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 short between the scintillator tube and the detector housing which caused the detector to combine electronic noise with the background radiation signal.

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.

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

5.0 Additional Corrective Action

Initially, the radiation monitor chamber was purged and the number of counts did not change. Also, a smear was performed on the radiation monitor chamber and indicated a radioactivity level much less (below the alarm setpoint) than what the detector was indicating. As a final corrective action, the scintillator tube was replaced and subsequently, insulated electronically from the detector housing.

6.0 Actions Taken to Prevent Recurrence

The Kaman Vent Stack "B" Normal Range Radiation Monitor, a radiation monitor of similar design, was examined and determined to have adequate insulation between the scintillator tube and the detector housing. Additionally, the defective scintillator tube was sent to the vendor for analysis.

7.0 Similar Events

No similar events involving radiation monitor inoperability due to a short between a scintillator tube and detector housing have occurred at North Anna Power Station.

8.0 Additional Information

On January 12, 1988, at 1500 hours, RI-VG-179-1 was declared inoperable due to erratic readings. The applicable Technical Specification requirements will be complied with.

Vepco

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

January 14, 1988

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

Serial No. N-88-001
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 Licensee Event Report applicable to North Anna Units 1 and 2.

Report No. LER 88-001-00

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,



E. Wayne Harrell
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

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