

VIRGINIA ELECTRIC AND POWER COMPANY  
RICHMOND, VIRGINIA 23261

March 15, 2002

United States Nuclear Regulatory Commission  
Attention: Document Control Desk  
Washington, D.C. 20555

Serial No. 02-126  
NAPS: MPW  
Docket Nos. 50-338  
50-339  
License Nos. NPF-4  
NPF-7

Gentlemen:

**VIRGINIA ELECTRIC AND POWER COMPANY**  
**NORTH ANNA POWER STATION UNITS 1 & 2**  
**VENTILATION RADIATION MONITOR SYSTEM SPECIAL REPORT**

The Ventilation Radiation Monitoring (RM) System at North Anna is being replaced with monitors of newer technology. The RM manufacturer, ASI, has ceased production and support of the currently installed Process Vent, Vent Stack "A", and Vent Stack "B" effluent (Kaman) radiation monitors. A Special Report, Serial Number 01-295, was submitted to the NRC on August 13, 2001, outlining the Ventilation Radiation Monitoring (RM) System Replacement Project.

The Process Vent Radiation Monitor (1-GW-RM-178) was replaced with a new monitor and was placed inservice. On March 2, 2002, the sample pump for 1-GW-RM-178 tripped due to condensation in the sample flow tubing causing 1-GW-RM-178 to shutdown. Technical Specification 3.3.3.1 requires initiation of a preplanned alternate method of monitoring within 72 hours when a ventilation RM is inoperable. The RM must also be restored to operability within 7 days or submit a Special Report within 14 days. A preplanned alternate method was already in place as part of the Ventilation Radiation Monitoring (RM) System Replacement Project. Since 1-GW-RM-178 was not returned to operable status on March 9, 2002, this special report is being submitted.

The sample pump tripped due to condensation in the sample flow tubing causing 1-GW-RM-178 to shutdown. The new sample pumps contain particulate filters that are more sensitive to condensation. The apparent cause for condensation in the sample flow tubing was the result of inadequate heat trace (HT). A temperature element (TE) attached to the sample flow tubing was reading a low tubing temperature, in part because the TE was not in direct contact with the tubing, and because the HT at the location of the TE was degraded. This caused the temperature controller to keep the rest of the HT energized continuously until much of the circuit failed due to overheating.

The failed portions of HT installed during the replacement project have been replaced. The HT has been properly attached to the sample flow tubing to ensure maximum heat transfer. The TE installation has been corrected to ensure direct contact with the

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tubing. Although not required by design, insulation has also been added to portions of the sample flow tubing to aid in preventing condensation. Temperature and humidity data is being obtained from the sample flow to ensure existing HT reliability and to determine if additional actions are required. A root cause evaluation is being performed to resolve the remaining HT concerns and actions for returning the RM to operable status. Following completion of the root cause evaluation a supplemental report will be issued identifying the plan and schedule.

Continuous display and control capability for the discharge path monitored by 1-GW-RM-178 is being maintained in the main Control Room by using the redundant normal range monitoring equipment (Westinghouse) and high range monitoring equipment (Nuclear Research Corporation monitors). The redundant monitoring equipment can be used in either MIDAS or emergency procedures to perform dose projections. The results of these projections can be used to classify an event in accordance with the Emergency Action Levels described in the station Emergency Plan procedures. Grab sample capability on the Process Vent will also be maintained so that supporting sample analysis can be performed.

The Station Nuclear Safety and Operating Committee has reviewed this report and it will be provided to the Management Safety Review Committee. Should you have any questions regarding this report, please contact us.

Very truly yours,



D. A. Heacock  
Site Vice President

Commitments made in this letter:

1. Complete the root cause evaluation (RCE).
2. Submit supplemental report based on results of the RCE.

cc: U. S. Nuclear Regulatory Commission  
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