

VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

April 20, 1992

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

Serial No. 92-168
NO/JH/ETS
Docket Nos. 50-280
50-281
License Nos. DPR-32
DPR-37

Gentlemen:

VIRGINIA ELECTRIC AND POWER COMPANY
SURRY POWER STATION UNITS 1 AND 2
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION
CONTAINMENT INSTRUMENT AIR SYSTEM

By letter dated December 2, 1991, Virginia Electric and Power Company provided supplemental information regarding our actions pursuant to Generic Letter 88-14, Instrument Air Supply System Problems Affecting Safety-Related Equipment. In that letter we noted that the particulate content of the Containment Instrument Air System did not meet the 3 micron maximum particle size specified in Instrument Society of America (ISA) Standard 7.3, Quality Standards for Instrument Air, 1981 Revision. By letter dated March 5, 1992, the NRC staff requested that we specify the particulate size that we have measured in the Containment Instrument Air System and provide justification for having no limits on particulate size in that system.

As stated in our previous correspondence, it was our original intent to use the Turbine Building Instrument Air System to supply components inside containment during plant operation. However, operation in this manner would increase offsite radioactive gas releases by a substantial degree. The increase could be up to an order of magnitude greater than the present release amounts. Therefore, given the consequences associated with using an outside air source, we believe that the appropriate course of action is to continue operation of the Containment Instrument Air System using the containment atmosphere as the suction source.

At Surry Power Station, particulate content in the instrument air systems is measured in terms of the particles per volume in the air stream equal to or larger than a specified size. This testing to date has measured between 2 and 110 particles per cubic foot equal to or larger than 3 microns in the Containment Instrument Air System. No maximum particulate size data has previously been obtained. Our justification for having no specific particulate size criteria for the Containment Instrument Air System is the continued satisfactory performance of the safety-related components supplied by that system. A review of Work Order History indicates that there have been no safety-related solenoid operated valve (SOV) failures that are attributable to the Containment Instrument Air quality from 1984 to present. The safety-related SOVs are periodically

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replaced as part of the Environmental Qualification Program to ensure that they do not exceed their qualified life time.


As noted in our initial response to Generic Letter 88-14 dated February 21, 1989, definitive air quality requirements for air operated devices were not specified with the equipment nor could be obtained from the manufacturers. Without any definitive air quality requirements provided by the manufacturers, the ISA standard was chosen as guidance for our instrument air systems. Component operability is assured by testing in accordance with the Technical Specifications and the ASME Section XI In-Service Test Program. In addition, preventive maintenance activities established in response to Generic Letter 88-14 continue to be implemented and provide further assurance of component operability. The Containment Instrument Air System primarily serves isolation valves and the pressurizer power-operated relief valves (PORVs). The consequences of air supply system problems on these components are limited. These air-operated components are designed to fail to a predetermined safe position upon loss of instrument air. The PORVs, which are required to be cycled to mitigate certain design basis accidents, are provided with dedicated backup air bottles.

Although we do not consider the existing particulate content an operability concern or particulate size a significant criterion for the operability of the existing air operated components in containment, we are implementing a sampling program to more precisely characterize the particulate matter in the Containment Instrument Air System. This program will be initiated over the next six months of operation for both units and will involve periodic collection of samples from various remote points within the system. These samples will be evaluated for composition, range of size, and probable source.

The Reliability Centered Maintenance review of the Containment Instrument Air System is scheduled to commence by the end of 1992. This review will assess the operability and reliability of the components in the system, but does not include the end-use components. However, the end-use components will be included in each plant system review. The operating and maintenance history of the safety-related SOVs supplied by Containment Instrument Air System will continue to be monitored to determine if any failures are attributable to air quality. The evaluation of the particulate matter will be completed by December 15, 1992. Any additional maintenance or modifications to enhance air quality or system operation identified during these reviews will be evaluated and identified to you.

Please contact us if you have any questions.

Very truly yours,


W. L. Stewart
Senior Vice President - Nuclear

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Surry Power Station