VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

May 13, 2010

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555-0001

Serial No.: 10-114A
NAPS/MES
Docket Nos.: 50-338
50-339
License Nos.: NPF-4
NPF-7

VIRGINIA ELECTRIC AND POWER COMPANY (DOMINION)
NORTH ANNA POWER STATION UNITS 1 AND 2
EXEMPTION REQUEST REACTOR COOLANT PUMP OIL COLLECTION SYSTEM
WITHDRAWAL OF EXEMPTION REQUEST FOR UNIT 2 AND
SPECIAL CIRCUMSTANCES TO SUPPORT THE UNIT 1 EXEMPTION

In an April 23, 2010 letter (Serial No. 10-114), Dominion requested an exemption from the requirements of 10 CFR 50, Appendix R, Section III.O, for Operating Licenses NPF-4 and NPF-7 for North Anna Units 1 and 2. Section III.O requires that the Reactor Coolant Pumps (RCP) be equipped with an oil collection system if the containment is not inerted. In addition, Section III.O requires that collection systems shall be capable of collecting lube oil from all potential pressurized and unpressurized leakage sites in the RCP lube oil system. As a result of a May 3, 2010 telephone conference call with the NRC staff to discuss the details of the exemption request, it was determined that an exemption request is not the correct method to address a deviation from the North Anna Unit 2 Fire Protection Program. Therefore, Dominion hereby withdraws the exemption request for the oil collection system for North Anna Unit 2 and will instead address the oil misting issue and evaluate adequacy of the existing oil collection system in accordance with the existing North Anna Unit 2 licensing condition 2.D.

The North Anna Unit 1 and 2 original Fire Protection Program was reviewed and approved by the NRC in February 1979. At that time, North Anna Unit 1 was operating and North Anna Unit 2 was completing startup activities. 10 CFR 50, Appendix R was issued to establish fire protection requirements for plants that were operating before January 1, 1979. Therefore, Unit 1 is required to comply with Appendix R and Unit 2 is required to comply with the NRC approved Fire Protection Program, even though the fire protection program for both units is common, and was evaluated at the same time, and has had previous Appendix R exemption requests approved for both units in the past. The common approach appears to have been intended to maintain the Fire Protection licensing basis consistent for Units 1 and 2. However, based on the telephone conference call with the NRC staff noted above, Dominion will process any future change to the Fire Protection Program in accordance with the guidance provided in Regulatory Guide 1.189.

To support the Unit 1 exemption, Dominion is also providing a consolidated discussion of the special circumstances associated with the North Anna Unit 1 exemption request in the attachment to this letter.

If you have any questions or require additional information, please contact Mr. Thomas Shaub at (804) 273-2763.

Sincerely,

J. A. Price
Vice President Nuclear Engineering

Commitments contained in this letter: None

Attachment: Special Circumstances to Support the Issuance of an Exemption for Unit 1

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ATTACHMENT 1

10 CFR 50 APPENDIX R EXEMPTION REQUEST

SPECIAL CIRCUMSTANCES TO SUPPORT THE ISSUANCE OF AN EXEMPTION FOR UNIT 1

NORTH ANNA POWER STATION (DOMINION)
UNIT 1

Special Circumstances to Support the Issuance of an Exemption

10 CFR 50.12(a)(2) states that the NRC will not consider granting an exemption to the regulations unless special circumstances are present. The requested exemption meets the special circumstances of 10 CFR 50.12(a)(2)(ii) and (iii), which state:

(ii) Application of the regulation in the particular circumstances would not serve the underlying purpose of the rule or is not necessary to achieve the underlying purpose of the rule. In this particular circumstance, application of the subject regulations is not necessary to achieve the underlying purpose of the rule.

(iii) Compliance would result in undue hardship or other costs that are significantly in excess of those contemplated when the regulation was adopted, or that are significantly in excess of those incurred by others similarly situated;

10 CFR 50, Appendix R, Section III.O, *Oil Collection System for Reactor Coolant Pump*, in part, states: "The reactor coolant pump (RCP) shall be equipped with an oil collection system if the containment is not inerted during normal operation. The oil collection system shall be so designed, engineered, and installed that failure will not lead to fire during normal or design basis accident conditions and that there is reasonable assurance that the system will withstand the Safe Shutdown Earthquake. Such collection systems shall be capable of collecting lube oil from all potential pressurized and unpressurized leakage sites in the reactor coolant pump lube oil systems. Leakage shall be collected and drained to a vented closed container that can hold the entire lube oil system inventory."

The intent of the rule is to ensure that failure of the RCP lube oil system will not lead to a fire during normal or design basis accident conditions that could impact the safe operation or shutdown of the unit. Dominion has shown that the installed oil collection system is adequate to prevent a fire during normal and emergency operations. Any remaining oil sheen that may develop due to misting does not present a safety concern due to the small volume of oil, fire protection features such as automatic fire detection, manual suppression capability, the physical properties of the oil, and the limited presence of ignition sources within the area. Therefore, additional modification, beyond those currently scheduled, to the existing RCP oil collection system to collect all of the oil from potential pressurized and unpressurized leakage sites, is not necessary to achieve the underlying purpose of the rule.

In addition, implementing additional measures to completely eliminate minor oil misting would require the significant expenditure of engineering and maintenance resources, as well as capital cost, which would represent an unwarranted burden on Dominion.

To reduce oil misting, which is common in Reactor Coolant Pump (RCP) motor designs, resetting of the labyrinth seal would be required each refueling cycle. Currently, industry standards for Westinghouse RCPs are taken from Technical Bulletin (TB)-04-5

"Westinghouse RCP Motor Recommended 1-Year, 5-Year, and 10-Year Inspection and Maintenance". This instruction was given by the vendor as follows:

"Original instruction manuals issued for reactor coolant pump (RCP) motors did not include recommended inspection intervals. To provide this recommendation, Westinghouse EMD issued Product Update M-001-1 in November, 1991. The Product Update identified recommended inspection and maintenance activities for domestic plants with Westinghouse RCP Motors based on 1-year, 5-year, and 10-year intervals. This Technical Bulletin updates the inspection and maintenance recommendations. This document supersedes Product Update M-001-1."

The 10-year refurbishment is when the vendor recommends that the RCP motor's seals be removed and reset to their normal acceptance value. This can be found in Step 31.c. in the 10-year refurbishment section of TB-04-5. In order to reduce the oil misting that has been described this step would have to be completed every refueling cycle. Furthermore, a refurbishment of this type cannot be completed during a normal scheduled refueling outage. Replacement of the labyrinth seals would require a spare motor for every installed motor. In addition, this maintenance would be required to be completed at a motor rewind facility.

Since there is no significant fire risk associated with the oil misting issue we consider the substantial outage and resource impact not commensurate with the impact of verbatim compliance to "...collecting lube oil from all potential pressurized and unpressuirzed leakages sites... ."

As for use of a different type of seal in the motor to reduce misting, this would require a design change by the pump vendor, and still could not guarantee total elimination of oil misting issue. Such modification would require motor disassembly and this maintenance is normally done at a rewind facility.