VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

W. L. STEWART
VICE PRESIDENT
NUCLEAR OPERATIONS

September 14, 1984

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
Attn: Mr. Darrell G. Eisenhut, Director
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, D. C. 20555

Serial No: 431A
NO/JDH/lms
Docket Nos. 50-338
50-339
License Nos. NPF-4
NPF-7

Gentlemen:

VIRGINIA ELECTRIC AND POWER COMPANY
NORTH ANNA POWER STATION UNIT NOS. 1 AND 2
REQUEST FOR SCHEDULAR EXEMPTION REGARDING
CERTAIN FIRE PROTECTION MODIFICATIONS

On July 3, 1984, in Bethesda, Maryland, we met with representatives of your staff and an NRC Region II representative to advise them on the status of Vepco's Appendix R fire protection program for the North Anna Power Station. We subsequently submitted the information presented at that meeting in our letter dated July 31, 1984 (Serial No. 431).

We met with you again on July 19, 1984, in Bethesda, Maryland, to further discuss spurious operations affecting alternative shutdown capability, the modifications to correct those deficiencies, and appropriate compensatory measures. We indicated that the engineering details associated with the permanent modifications have not yet been fully developed. As stated in our July 31, 1984 letter, the final engineering information will be submitted by October 15, 1984. We are also evaluating whether all of the compensatory measures identified to date are still required.

As was also discussed at the July 3rd meeting, it was our intent to submit a schedular exemption request for any of the modifications to which the provisions of 10 CFR 50.48 (c) were still applicable. That request for a schedular exemption for certain modifications is attached. Those modifications are associated with alternative shutdown capability.

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FOR $150.00

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VIRGINIA ELECTRIC AND POWER COMPANY TO Harold R. Denton

Pursuant to 10 CFR Part 170, an Application Fee of $150.00 is enclosed.

Should you have questions or need additional information, please contact us.

Very truly yours,

W. L. Stewart

Attachment 1: Exemption Request
2: Voucher check

cc: Mr. James P. O'Reilly
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REQUEST FOR SCHEDULAR EXEMPTION
NORTH ANNA POWER STATION UNIT NOS. 1 AND 2

Pursuant to 10 CFR 50.12 (a), the Virginia Electric and Power Company requests exemption from the schedular provisions of 10 CFR 50.48 (c) (4) to the extent that the completion dates for certain fire protection modifications be extended from the current 1984 refueling outages for Units 1 and 2 to the next refueling outages for each unit.

Because NRC approval for Vepco's alternative shutdown capability was issued November 18, 1982, the earliest events as described in 10 CFR 50.48 (c) (3) are the current 1984 refueling outages for North Anna Units 1 and 2. North Anna Unit 1, which shutdown for refueling on May 11, 1984, is scheduled to restart in September 1984; North Anna Unit 2, shutdown on August 2, 1984, is scheduled to restart in October 1984.

As discussed with the NRC staff in meetings held in Bethesda, Maryland, on January 27, 1984, July 3, 1984 and July 19, 1984, Vepco has embarked on a reanalysis of its fire protection program to ensure full compliance with Appendix R. In the latter phase of that reanalysis, certain issues were identified regarding spurious operations of components that could adversely affect the capability to safely shutdown the plant in the event of a fire. Fires were postulated to occur in certain areas for which alternative shutdown capability have been provided (e.g., Control Room, Emergency Switchgear Room). The design and engineering activities necessary to correct those concerns were immediately initiated. However, because those concerns have been only recently identified (after North Anna Unit 1 had already shut down for its refueling outage), and because of the amount of time necessary to complete the work, the permanent modifications cannot be installed during the currently scheduled refueling outages.

Each of the areas of concern is discussed below. The discussion includes a description of the deficiency, the permanent modification to correct the deficiency, and the compensatory measures that will be in place until the modifications are completed.

1. PRESSURIZER PORV: In the event of a fire inside containment, Cable Vault and Tunnel, Control Room or Emergency Switchgear Room, spurious operation of one or both of the pressurizer PORVs and their associated block valves could occur resulting in a loss of coolant. A permanent modification to correct this deficiency is presently being engineered which would consist of installation of manual isolation switches outside containment, and the rerouting of the affected cables inside and outside containment in conduit downstream of the isolation switches to achieve separation and protection against "hot shorts". An exemption request will be submitted demonstrating that the cable modification will provide adequate protection against "hot shorts" by demonstrating compliance with the intent of Appendix R requirements.

Until the permanent modifications are completed, the following compensatory measures will be implemented:

Fire detection capability in and under affected cable trays will be provided inside containment prior to startup. An automatic detection and CO_2 suppression system is installed in the Cable Vault and Tunnel for each unit. A fire watch has been implemented in the Emergency Switchgear Room. Procedures are in place for Unit 1 to shut the affected PORV and block valve when fire threatens cables inside or outside containment. These procedures will be in place on Unit 2 prior to startup.

2. REACTOR VESSEL HEAD VENT AND PRESSURIZER VENT: In the event of a fire inside the Cable Vault and Tunnel, Control Room or the Emergency Switchgear Room, spurious operation of the reactor vessel head vent or the pressurizer vent could occur resulting in a loss of coolant. A permanent modification to correct this deficiency is presently being engineered which would consist of installation of manual isolation switches outside containment and rerouting the affected cables in conduit outside containment downstream of the isolation switches to achieve separation and protection against "hot shorts". An exemption request will be submitted demonstrating that the conduit provides adequate protection against "hot shorts".

Until the permanent modifications are completed, the following compensatory measures will be implemented:

An automatic detection and CO_2 suppression system is installed in the Cable Vault and Tunnel for each unit. A fire watch has been implemented in the Emergency Switchgear Room. Procedures are in place for Unit 1 to de-energize the vents when fire threatens cables outside the containment. For a fire inside containment sufficient makeup capability is available. These procedures will be in place on Unit 2 prior to startup.

3. CVCS NORMAL LETDOWN: In the event of a fire inside containment, Cable Vault and Tunnel, Control Room or Emergency Switchgear Room, spurious operation of the CVCS Normal Letdown LCV's could occur, resulting in a loss of coolant. A permanent modification to correct this deficiency is currently being engineered which would consist of installation of manual isolation switches outside containment, and rerouting the affected cables in conduit inside and outside containment downstream of the isolation switches to achieve separation and protection against "hot shorts". An exemption request will be submitted demonstrating that the conduit provides adequate protection against "hot shorts".

Until the permanent modifications are completed, the following compensatory measures will be implemented:

Fire detection in and under affected cable trays will be provided inside containment prior to startup. An automatic detection and CO_2 suppression system is installed in the Cable Vault and Tunnel for each unit. A fire watch has been implemented

in the Emergency Switchgear Room. Procedures are in place for Unit 1 to de-energize the normal letdown valves when fire threatens cables inside or outside containment. These procedures will be in place on Unit 2 prior to startup.

4. MAIN STEAM ISOLATION VALVES (MSIV): In the event of a fire in the Control Room, Cable Vault and Tunnel or Emergency Switchgear Room, the ability to actuate the solenoid-operated valves for the MSIVs could be lost, and a concurrent spurious operation of a condenser steam dump valve could occur resulting in a too rapid cooldown of the primary system. A permanent modification to address this concern is currently being engineered. This modification will focus on the expenditious closure of the MSIV's or otherwise isolation of the Main Steam System.

   Until the permanent modifications are completed, the following compensatory measures will be implemented:

   A Fire watch has been located in the Emergency Switchgear Room. An automatic detection and CO_2 fire suppression system is installed in the Cable Vault and Tunnel. Procedures are in place for Unit 1 to shut the MSIV's when fire threatens cables in the Emergency Switchgear Room, Cable Vault and Tunnel, or Control Room. These procedures will be in place on Unit 2 prior to startup.

In each of the compensatory measures, the actions taken are initiated by the indication that the cables are threatened by fire. The procedures that have been developed require the Shift Supervisor to evaluate the threat and initiate the corrective actions.

As an alternative to the fire watch in the Emergency Switchgear Room, a procedure is being developed that will require a response by Operations personnel to a fire detection alarm in the Emergency Switchgear Room. This procedure will require response, evaluation and initiation of the Halon System within five minutes if the alarm is valid. The fire detection system for the Emergency Switchgear Room currently alarms in the Control Room. For the Control Room, a continuous fire watch is currently in place by virtue of its continuous manning.

Where possible, outside containment work associated with the four modifications described above will continue during power operations in order to support the completion schedule of the permanent modifications by the next scheduled refueling outage.

In conclusion, Vepco believes the schedular exemption from 10 CFR 50.48 (c)(4) for these alternative shutdown modifications is justified, that it meets the criteria established in 10 CFR 50.12 (a), and that the overall level of fire protection at North Anna Units 1 and 2 in the upcoming cycle of operation, as a result of the compensatory measures we have implemented, results in a level of safety substantially the same as that required by Appendix R. We, therefore, request that the exemption be granted.