

VIRGINIA ELECTRIC AND POWER COMPANY  
RICHMOND, VIRGINIA 23261

W. L. STEWART  
VICE PRESIDENT  
NUCLEAR OPERATIONS

November 30, 1984

Mr. Harold R. Denton, Director  
Office of Nuclear Reactor Regulation  
Attn: Mr. Steven A. Varga, Chief  
Operating Reactors Branch No. 1  
Division of Licensing  
U. S. Nuclear Regulatory Commission  
Washington, D. C. 20555

Serial No. 692  
NO/JDH:acm  
Docket Nos. 50-280  
50-281  
License Nos. DPR-32  
DPR-37

Gentlemen:

VIRGINIA ELECTRIC AND POWER COMPANY  
SURRY POWER STATION UNIT NOS. 1 AND 2  
10 CFR 50 APPENDIX R REANALYSIS - PHASE II

On July 6, 1984, Vepco submitted descriptions of modifications and requests for exemptions for the Surry Power Station as a result of our Appendix R reanalysis effort. In that letter, we also advised you that the reanalysis had identified the need for further modifications and requests for exemptions in addition to those submitted on July 6, 1984. This additional information was designated as "Phase II" information and is attached. Appropriate compensatory measures have also been identified.

In addition to the descriptions of modifications and requests for exemptions contained in this letter, Vepco has revised or is withdrawing several exemptions and/or modification descriptions. These actions are the result of discussions with the NRC staff subsequent to our July 6, 1984, submittal. Any changes from the information submitted on July 6, 1984, have been explained in the revised text and are highlighted by change bars or revision numbers in the margin. The status of each modification is also now provided in the text.

In meetings on October 24, 1984, and November 9, 1984, with NRR and Region II, respectively, we informed you that a few modification schedules have been revised from those we had originally identified. As we stated at those meetings, the final milestone for completing certain Appendix R modifications for Surry Power Station was December 31, 1985. Where appropriate, a schedular exemption is requested to support the revised schedules. The request is provided in Attachment 1 to this letter. Pursuant to 10 CFR 170, an Application Fee of \$150 is enclosed.

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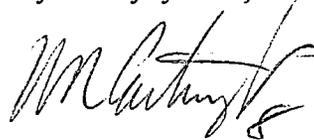
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Since the October and November meetings, however, we have revised one schedule to extend beyond December, 1985. This schedule pertains to a III.G.2 modification for installing heat exchangers for the charging pumps (see item III.6 in Attachment 2). This modification will now be completed during the 1986 refueling outages currently scheduled for May, 1986 and October, 1986 for Units 1 and 2, respectively.

Ten copies of the information (including photographs) are provided in the form of revisions to Volume II (Chapters 6 and 7) of the Surry Appendix R reanalysis. Please update your volume in accordance with the attached Table of Changes.

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

Very truly yours,



W. L. Stewart

Attachments

1. Scheduling Exemption Request
2. Phase II information
3. Application Fee

cc: Mr. J. P. O'Reilly  
Regional Administrator  
NRC Region II

Mr. D. J. Burke  
NRC Resident Inspector  
Surry Power Station

Mr. J. D. Neighbors  
Operating Reactors Branch No. 1  
Division of Licensing

Mr. T. E. Conlon  
NRC Region II

ATTACHMENT 1

SCHEDULAR EXEMPTION REQUEST

REQUEST FOR SCHEDULAR EXEMPTION REGARDING  
CERTAIN FIRE PROTECTION MODIFICATIONS  
SURRY POWER STATION UNIT NO. 1

Pursuant to 10 CFR 50.12, 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 outage for Unit 1 to: the Spring 1985 maintenance outage for the Air-Operated Valve modification; and the Fall 1985 maintenance outage for the the Main Steam System Isolation modification and the 4kV Pump Motor Control Isolation modification. The Spring 1985 outage is currently scheduled for March, 1985; the Fall 1985 outage is currently scheduled for October, 1985.

Because NRC approval for Vepco's alternative shutdown capability was issued November 18, 1982, the earliest event as described in 10 CFR 50.48(c)(3) is the current 1984 refueling outage for Surry Unit 1. Surry Unit 1 is scheduled to restart in mid-December, 1984. The corresponding schedule for Surry Unit 2 expired during the 1983 refueling outage except for those items for which a schedular exemption had previously been granted by the NRC on September 9, 1983. That exemption extended the completion dates for certain modifications to the 1985 refueling outage for Surry Unit 2.

As discussed with the NRC staff in meetings held in Bethesda, Maryland, on January 27, 1984, July 3, 1984 and October 24, 1984, and in Atlanta, Georgia on November 9, 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 wherein fires were postulated to occur in areas for which alternative shutdown capability was being provided. The design and engineering activities necessary to correct those concerns were immediately initiated. However, because those concerns have been only recently identified and because of the amount of time necessary to complete the work, the permanent modifications cannot be installed during the currently scheduled refueling outage.

Each of the concerns 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. MAIN STEAM SYSTEM ISOLATION MODIFICATION

As part of the recent Appendix R reanalysis effort and review of spurious operations, the main steam isolation valves (MSIVs) were reviewed. The MSIVs provide main steam isolation between the steam generators and the turbine. Venting of the instrument air through operation of solenoid operated valves (SOVs) assures closure of the MSIVs. A single fire in the Control Room, Emergency Switchgear Room or the Cable Vault/Tunnel could both cause the MSIVs to fail open and cause the steam generator PORVs to operate spuriously. The ability to assure the closure of the MSIVs will preclude the loss of steam generator inventory as a result of a spurious operation of a valve downstream of the MSIVs.

This proposed modification will provide an additional SOV in series with the two existing SOVs for each MSIV. Cable to the new SOVs will be routed in such a manner as to meet the requirements of Appendix R and power will be supplied from a different station battery than those supplying the existing SOVs.

Until the permanent modification is completed during the Fall 1985 outage, the following compensatory measure will be implemented:

For the Emergency Switchgear Room, either a fire watch is in place or instructions are provided for utilizing the manual Halon system. The instructions require the following:

- (1) Upon receipt of an alarm from the smoke detection system in the ESR, the Control Room operator would immediately dispatch an operator or fire brigade member to the ESR to determine the validity of the alarm.
- (2) This individual will report back to the Control Room within approximately five minutes of being dispatched, and the Halon system will be discharged if necessary.

The Control Room is continually manned. Because the Control Room is continuously manned, existing Control Room personnel provide adequate assurance that a fire would be promptly detected and extinguished. No additional, reasonable compensatory measure has been postulated which would increase the level of protection above that provided by continuous manning.

There are automatic fire detection and suppression (CO<sub>2</sub>) systems installed in the Cable Vault/Tunnel areas. Procedures will be in place to shut the MSIVs when fire threatens cables in the Emergency Switchgear Room, Cable Vault and Tunnel or Control Room. These measures, including the procedures, will be in place for Unit 1 prior to its startup from the 1984 refueling outage.

## 2. AIR-OPERATED VALVE MODIFICATION

In order to ensure adequate inventory control and boration of the reactor coolant system, the Appendix R shutdown procedures will be based on establishing a letdown path. A fire in the Reactor Containment Cable Vault/Tunnel, Emergency Switchgear Room, or Control Room has the potential to damage the cables associated with the redundant letdown valves. An alternative letdown path may be established by manually aligning and blocking open certain valves. The alternative letdown path does not need to be established until several hours after the start of the shutdown procedure.

Some of the required valves are air-operated valves (AOVs). If the fire has damaged the instrument air supply to these AOVs, they may be locally operated using a portable air bottle. A modification is necessary to facilitate quick connection of the portable air bottle.

Until the permanent modification is completed during the Spring 1985 outage, the following compensatory measure will be implemented:

An interim procedure will be developed for using a portable air bottle to locally operate the AOVs. This procedure will be in place prior to restart from the 1984 refueling outage.

## 3. 4kV PUMP MOTOR CONTROL ISOLATION MODIFICATION

It may be postulated that a fire in the Control Room could render the 4kV pump motor controls in the residual heat removal, and component cooling water systems inoperable. This modification will provide a transfer switch for each of the affected pumps which will isolate the control circuit from the Control Room. The transfer switches will be located in the Emergency Switchgear Room.

Because the Control Room is the only area of concern and is continuously manned, existing Control Room personnel provide adequate assurance that a fire would be promptly detected and extinguished. No additional, reasonable compensatory measure has been postulated which would increase the level of protection above that provided by the continuous manning. The modification is scheduled for completion during the Fall 1985 outage.

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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, and that the overall level of fire protection at Surry Power Station Unit 1, as a result of the compensatory measures implemented, results in a level of safety substantially the same as that required by Appendix R during this interim period. We, therefore, request that the exemption be granted.

ATTACHMENT 2

PHASE II INFORMATION

## TABLE OF CHANGES

Please remove and insert the pages listed below in your copy of the Vepco Surry 10 CFR 50 Appendix R Report, Volume II, Description of Modifications and Exemption Requests.

1. Replace old Table of Contents with new Table of Contents (3 pages).

### CHAPTER 6

2. Replace entire Chapter 6 with new Chapter 6 (pages I-1 through III-9).

### CHAPTER 7

3. Remove Preface to Exemptions (pages i and ii). Replace with revised Preface to Exemptions (pages i and ii).
4. Remove Figure 1.3. Replace with revised Figure 1.3.
5. Remove all pages of Exemption Request 6 up to and including the first two photographs. (The remaining photographs are to stay). Insert new Exemption Request 6, pages 6-1 through 6-33 and Figures 6.1 through 6.7.
6. Remove all pages of Exemption Request 7. (The photographs are to remain). Insert new pages 7-1 through 7-10 and Figures 7.1.
7. Remove all pages of Exemption Request 8. (The photographs are to remain). Insert new pages 8-1 through 8-7 and Figures 8.1.
8. Remove all pages of Exemption Request 9. (The photographs are to remain). Insert new pages 9-1 through 9-7 and Figures 9.1.
9. Remove all pages of Exemption Request 10. (The photographs are to remain). Insert new pages 10-1 through 10-8 and Figures 10.1.
10. Insert new Exemptions 14 through 20.

NOTE: Not all pages being replaced contain new information. All changes (other than minor typographical corrections) are highlighted with a revision bar in the right margin.