

UNITED STATES OF AMERICA  
 NUCLEAR REGULATORY COMMISSION

In the Matter of  
 VIRGINIA ELECTRIC AND  
 POWER COMPANY  
 (Surry Power Station,  
 Unit 2)

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Docket No. 50-281

EXEMPTION

I.

The Virginia Electric and Power Company (VEPCO, the licensee) is the holder of Operating License No. DPR-37, which authorizes operation of Surry Power Station (SPS), Unit 2. The operating license provides, among other things, that the SPS, Unit 2 is subject to all rules, regulations, and orders of the Commission now or hereafter in effect.

The facility consists of a pressurized water reactor at the licensee's site in Surry County, Virginia.

II.

One of the conditions of all operating licenses for water-cooled power reactors, as specified in 10 CFR 50.54(o), is that the primary containment shall meet the leakage test requirements set forth in 10 CFR Part 50, Appendix J. More specifically, Section III.D.3 of Appendix J, "Type C tests," requires that:

Type C tests shall be performed during each reactor shutdown for refueling but in no case at intervals greater than 2 years.

By letter dated September 14, 1990, as supplemented September 18, 1990, VEPCO requested a schedular exemption from the regulatory requirements of 10 CFR Part 50, Appendix J, Section III.D.3 until June 30, 1991. This Section requires, in part, periodic testing of isolation barriers (valves) associated with certain containment penetrations. The interval between leak rate tests is not to exceed 2 years. A recent quality assurance audit of the Surry Inservice Inspection program revealed that VEPCO's implementation of the Type C test program does not satisfy this test interval requirement. Due to a misinterpretation of Appendix J, VEPCO was unaware of this anomaly until September 7, 1990. VEPCO had interpreted Appendix J to mean that the 2-year inspection interval was initiated at the end of the overall Type C periodic testing rather than applied individually to each valve. VEPCO requested an exemption from this requirement so that the required testing on certain containment isolation valves can be performed during the 1991 SPS, Unit 2 refueling outage, which is in excess of the maximum allowed 2-year interval which expires on September 18, 1990. Therefore, the proposed exemption would allow a one-time relief from performing Type C tests for valves which would otherwise require testing between September 18, 1990 and April 1991. In the above submittals, VEPCO evaluated the acceptability of the exemption request. More details are contained in the NRC's Safety Evaluation issued concurrent with this exemption.

### III.

SPS, Unit 2 was shut down for refueling on September 30, 1988 and remained in refueling outage until September 16, 1989 (374 days) to perform maintenance and modifications. During this interval, the last local Type C tests were completed. Due to the extended maintenance outage, the next refueling outage is currently scheduled for the second quarter of 1991. The interval between the refueling

outages will exceed the 2-year limit of Appendix J. Therefore, an exemption to this Appendix J requirement in the form of a one-time extension of the interval is being requested. In addition to this exemption request, by letter dated September 14, 1990, VEPCO requested a one-time conforming Technical Specifications (TS) change to reflect the requested exemption by adding a footnote to TS 4.4.B.2 and 4.4.D denoting the Appendix J exemption.

As indicated above, the intent of Appendix J was that isolation valves and associated penetrations be tested during each refueling outage but at intervals not to exceed 2 years. SPS, Unit 2 is presently scheduled for a refueling outage in April 1991. The exemption would allow local leak rate Type C tests for the 76 affected containment isolation valves to be postponed until the next refueling outage, which is in excess of the 2-year interval. Such an extension is desirable in order to prevent the need for earlier shutdown of the plant to perform the required tests.

During the extended maintenance outage which lasted approximately 1 year, modifications and testing were performed on the emergency diesel generators, the circulating and service water systems and the electrical distribution system. In addition, during this time, plant components were not exposed to the normally severe operating temperatures, pressures and radiation conditions. As of April 30, 1991, when this exemption expires, the total exposure time for the valves and containment penetrations to the normal plant operating environment will be only about 13 months; the remainder calendar time between valve testing will have occurred during periods of cold shutdown in a less hostile environment. Based on the good material condition, improved maintenance history of the subject valves, and the projected leakage rate, the granting of an extension will not impair valve operability or significantly degrade leak tightness.

The 2-year interval requirement for the Type C penetrations is intended to be often enough to prevent significant deterioration from occurring and long enough to permit the local leak rate tests (LLRTs) to be performed during plant outages. In addition, leak testing of the penetrations during plant shutdown is preferable because of the lower radiation exposures to plant personnel. Moreover, some penetrations, because of their intended functions, cannot be tested at power operation. For penetrations that cannot be tested during power operation or those that, if tested during plant operation, would cause a degradation in the plant's overall safety (e.g., the closing of a redundant line in a safety system), the increase in confidence of containment integrity following a successful test is not significant enough to justify a plant shutdown specifically to perform the LLRTs within the 2-year time period, especially in light of the above discussions.

iv.

Pursuant to 10 CFR 50.12(a)(2)(v), the Commission will not consider granting a schedular exemption unless the licensee has made good faith efforts to comply with the regulation. The NRC staff believes that VEPCO has taken prudent steps to improve the containment integrity and, if not for the extended refueling outage, would have complied with Appendix J.

Based on our evaluation, the NRC staff has concluded VEPCO has made good faith efforts to comply with the requirements of Appendix J and that the special circumstances as described in 10 CFR 50.12(a)(2)(v) exist, in that the exemption would provide only temporary relief from the applicable regulation. However, based on the information provided, it is the staff's view that the exemption interval shall be effective until April 30, 1991 rather than the requested date of June 30, 1991, because this interval should provide sufficient

time to complete the required tests following the start of the April 5, 1991, refueling outage. Therefore, the staff has determined that a schedular exemption for 10 CFR Part 50, Appendix J should be granted.

V.

Accordingly, the Commission has determined that pursuant to 10 CFR 50.12, the exemption is authorized by law, will not endanger life or property or the common defense and security, and is otherwise in the public interest. Therefore, the Commission hereby approves the following exemption request.

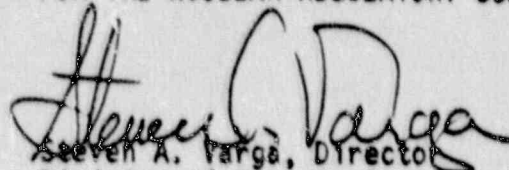
A temporary exemption is granted from the requirements of Section III.D.3, which requires a local leak rate test be conducted within 2-year interval. For good cause shown, this exemption extends that period by approximately 7 months from September 18, 1990 until April 30, 1991.

Pursuant to 10 CFR 51.32, the Commission has determined that the granting of this exemption will have no significant impact on the environment (55 FR 38616).

A copy of the licensee's request for exemption dated September 14, 1990, as supplemented September 18, 1990, is available for public inspection at the Commission's Public Document Room, 2120 L Street, N.W. Washington, D.C., and at the Swem Library, College of William and Mary, Williamsburg, Virginia 23185.

This exemption is effective upon issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Steven A. Varga, Director  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

Dated at Rockville, Maryland  
this 26th day of September 1990