UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

In the Matter of	)	
	)	
TENNESSEE VALLEY AUTHORITY	)	Docket No. 50-328
	)	
Sequoyah Nuclear Plant, Unit 2)	)	

EXEMPTION

I.

The Tennessee Valley Authority (TVA) is the holder of Facility Operating License No. DPR-79, which authorizes operation of the Sequoyah Nuclear Plant, Unit 2 (the facility, Unit 2). The license provides, among other things, that the facility is subject to all rules, regulations, and orders of the Nuclear Regulatory Commission (the Commission) now or hereafter in effect.

The facility consists of a pressurized water reactor located on TVA's Sequoyah site in Hamilton County, Tennessee.

II.

Sections III.D.2(a) and III.D.3 of Appendix J to 10 CFR Part 50 require that Types B and C local leak rate tests be performed during reactor shutdown for refueling, or other convenient intervals, but in no case at intervals greater than 2 years.

On March 15, 1992, SQN Unit 2 started the Cycle 5 refueling outage. All Type B and Type C local leak rate tests were performed during the outage and the unit was returned to service on May 17, 1992. Between March 1, 1993, and October 19, 1993, Unit 2 was shut down. Several forced outages also occurred

following restart. Due to the accumulated length of time the Unit was shut down, TVA has postponed the start of the Unit 2 Cycle 6 refueling outage from September 1993 to July 1994. As a result, the expiration of the 2-year time interval for some Type B and Type C tests occurs before the outage starts. To perform the tests in accordance with the requirement would force the unit to shut down in March 1994. To prevent this, the licensee has requested an exemption that would allow a one-time deferment of the Appendix J 2-year interval requirement from March 15, 1994, until the shutdown for the refueling outage starting in July 1994, a total of approximately 4 months.

The extension would affect 39 bellows penetrations, 47 electrical penetrations, 196 isolation valves, 11 flanges, 1 hydrogen analyzer, and 10 residual heat removal system spray header valves. These valves and components, which represent approximately 88 percent of the total leak rate test program, are considered by the licensee to be leak tight and in good condition, which was verified by the leak rate tests performed during the Cycle 5 refueling outage. Based on the present containment leak rate that accounts for less than 8.0 percent of the applicable limit, the licensee believes that the remaining margin is sufficient to ensure that any incremental increase in leakage because of the extension, will not result in unacceptable as-found test results. Also, based on historical data, the licensee believes that any incremental increase in leakage from these components because of the extension would be small. In addition, many of the components were included in the boundary for the last Type A test that was performed in April 1992, and have been subjected to improved maintenance practices, which provide increased assurance that the components will be

capable of performing their intended safety function. The only valves that had appreciable leakage during both the Unit 2 Cycle 4 and Cycle 5 leak rate tests were essential raw cooling water system valves, 2-FCV-67-87 and 2-FCV-67-575A (in each case, retests following repairs showed there was no leakage). To further assure safe plant operation, the licensee has committed to perform a leak rate test of these valves should the unit experience a forced outage to Mode 5.

III.

Pursuant to 10 CFR 50.12, the Commission may, upon application by any interested person or upon its own initiative, grant exemptions from the requirements of 10 CFR Part 50 when (1) the exemptions are authorized by law, will not present an undue risk to public health or safety, and are consistent with the common defense and security; and (2) when special circumstances are present. Special circumstances are present whenever, according to 10 CFR 50.12(a)(2)(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...."

The underlying purpose of the requirement to perform Type B and Type C containment leak rate tests at intervals not to exceed 2 years, is to ensure that any potential leakage pathways through the containment boundary are identified within a time span that prevents significant degradation from continuing or being unknown, and long enough to allow the tests to be conducted during scheduled refueling outages. This interval was originally published in Appendix J when refueling cycles were conducted at approximately

annual intervals and has not been changed to reflect 18-month or 2-year operating cycles. It is not the intent of the regulation to require a plant shutdown solely for the purpose of conducting the periodic leak rate tests. Based on historical data at SQN, any incremental increase in leakage because of the extension would be small. Improved maintenance practices implemented during the Unit 2 Cycle 5 outage and improved testing techniques of containment isolation valves to detect any degraded performance indications, provide increased assurance that these components will perform their safety function. In addition, on the average, as-left leak rates are less than 25 percent of the established reference leak rates. Therefore, since the maximum extension is relatively short (4 months) compared to the 2-year test interval requirement, it is unlikely that substantial degradation of the containment components leading to the failure of the containment to perform its safety function would occur. As a result, the application of the regulation in the particular circumstances is not necessary to achieve the underlying purpose of the rule.

IV.

For the foregoing reasons, the NRC staff has concluded that the licensee's proposed increase of the 2-year time interval for performing Type B and Type C Containment Leak Rate Tests until the Cycle 6 refueling outage will not present an undue risk to public health and safety and is consistent with the common defense and security. The NRC staff has determined that there are special circumstances present, as specified in 10 CFR 50.12(a)(2), such that application of 10 CFR Part 50, Appendix J, Sections III.D.2(a) and III.D.3 are not necessary in order to achieve the underlying purpose of this regulation.

Accordingly, the Commission has determined that, pursuant to 10 CFR 50.12(a), an exemption is authorized by law, will not endanger life or property or common defense and security, and is, otherwise, in the public interest. Therefore, the Commission hereby grants the Tennessee Valley Authority exemption from the requirements of Sections III.D.2(a) and III.D.3 of Appendix J to 10 CFR Part 50 as requested in the submittal.

Pursuant to 10 CFR 51.32, the Commission has determined that the granting of this exemption will not result in any significant adverse environmental impact (59 FR 11812).

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 14thday of March 1994