

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of

THE TENNESSEE VALLEY
AUTHORITY

(Sequoyah Nuclear Plant,
Unit 2)

}
} Docket No. 50-328
}

EXEMPTION

I.

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

The Sequoyah Nuclear Plant, Unit 2, is one of the two pressurized water reactors located at the licensee's site in Hamilton County, Tennessee.

II.

General Design Criterion (GDC) 52 of Appendix A to 10 CFR Part 50 requires that each reactor containment be designed so that periodic integrated leakage rate testing can be conducted to assure containment isolation integrity. Section III.D.1(a) of Appendix J to 10 CFR Part 50 requires that the third Type A test in a 10-year service period shall be conducted when the unit is shut down for the 10-year unit inservice inspection (ISI).

The Type A tests are conducted to measure the primary reactor containment integrated leakage rate. They are also known as the containment integrated leak rate tests. These tests are required by Appendix J to assure that the containment leakage following a large break loss-of-coolant accident is less

than the maximum allowable leak rate assumed in the accident analysis. In addition to the Type A tests, Appendix J requires Type B and Type C tests of leakage through containment penetrations and containment isolation valves to also assure containment integrity during an accident. This requested exemption does not affect the requirements on (1) the Type B and Type C tests in Appendix J or (2) the maximum allowed containment leakage rate in Appendix J and the Unit 2 Technical Specifications.

The containment is required to be operable when the unit is at reactor system conditions above cold shutdown and refueling. The containment is not required for cold shutdown or refueling.

By letter dated August 31, 1990, the licensee requested an exemption from the Type A testing requirements in Section III.D.1(a) of Appendix J. This is an exemption from conducting the third Type A test in a 10-year service period during the unit shutdown for the 10-year inservice inspection (ISI). The third Type A test for the first 10-year service period for Unit 2 is scheduled for the Unit 2 Cycle 5 refueling outage in 1992. The licensee contends that, because the 10-year ISI has been extended beyond 1992, the inspection is not required for the Unit 2 Cycle 5 refueling outage and, therefore, must be uncoupled from the third Type A test in each 10-year service period which is required by Appendix J.

TVA stated that the third Type A test of the first 10-year service period for Unit 2 is presently scheduled to commence toward the end of the Unit 2 Cycle 5 refueling outage (i.e., May 1992). It intends to conduct the Unit 2 10-year inservice inspection during the Unit 2 Cycle 6 refueling outage (i.e., October-November 1993).

and concludes it is justified on the grounds that the third Type A test within each 10-year service period and the 10-year ISI must be scheduled separately for Unit 2 and the safe operation of Unit 2 does not require that the two tests be conducted in the same outage. The licensee is still required to conduct the Unit 2 10-year ISI in accordance with Section XI of the ASME Code.

III.

Accordingly, the Commission has determined that, pursuant to 10 CFR 50.12, the exemptions are (1) authorized by law, (2) will not present an undue risk to public health and safety, and are (3) consistent with the common defense and security. The Commission further determines that special circumstances, as provided in 10 CFR 50.12(a)(2)(ii), are present justifying the exemption -- namely, that application of the regulation in these particular circumstances is not necessary to achieve the underlying purpose of the rule in that the Unit 2 containment will continue to provide a reliable and acceptable means of containment isolation integrity within the leakage requirements of Appendix J and the Unit 2 Technical Specifications and the Unit 2 10-year ISI will still be conducted in accordance with the ASME Code.

When Appendix J was adopted, the end of the 10-year service period and the 10-year inservice inspection outage were contemplated to be concurrent milestones; however, these milestones are unrelated within the meaning of containment integrity because the 10-year ISI is not conducted to assure containment integrity. The Type A, B, and C tests of Appendix J assure containment integrity. The rule did not anticipate extended outages that would extend the 10-year ISI in accordance with the ASME Code. Appendix J requires that the Unit 2 10-year ISI be rescheduled to coincide with the Unit 2 Cycle 5 refueling

The 10-year ISI is not related to the integrity of the containment pressure boundary. The purpose of the Appendix J test program is to ensure that leakage through the primary reactor containment does not exceed allowable leakage rate values. The purpose of the ISI program is to ensure that structural integrity of Class 1, 2, and 3 components is maintained in accordance with ASME Code requirements. Therefore, the proposed separation has no safety consequences because the requirements on containment integrity in Appendix J and the Unit 2 Technical Specifications, and on structural integrity of Class 1, 2, and 3 components in the ASME Code are not being changed by the proposed exemption.

The 10-year ISI is scheduled for the Unit 2 Cycle 6 refueling outage in 1993 in accordance with Section XI of the American Society of Mechanical Engineers (ASME) Code and with 10 CFR 50.55a(g)(4). The first 10-year ISI for Unit 2 is, therefore, scheduled for a future refueling outage other than the upcoming Unit 2 Cycle 5 refueling outage which is scheduled for 1992. The extension of the 10-year ISI is necessary in order for the plant to accumulate sufficient operating time to conduct the 10-year ISI because of the extended 33-month outage of Unit 2 from 1985 to 1988. In accordance with the provision of Section XI, Article IWA-2400(c), of the ASME Code, the licensee extended the Sequoyah Unit 2 10-year ISI to 1993. (The Unit 1 10-year ISI was extended to 1994 because of the similar extended outage from 1985 to 1988.) The ASME Code allows the 10-year ISI to be postponed if the time the plant has operated is significantly less than the 10-year inspection cycle which is true for Sequoyah because of its extended outage.

The staff has considered the Appendix J exemption request for uncoupling the third Type A test of each 10-year service period from the 10-year unit ISI.

outage. The 10-year inservice inspection for Unit 2 is currently scheduled for 1993 in accordance with Section XI of the ASME Code and 10 CFR 50.55a(g)(4). Performing the 10-year ISI early and concurrent with the third Type A test in a 10-year service period is not necessary to assure containment isolation integrity and would impose a hardship on the licensee with little or no increase in the level of quality or safety at Unit 2.

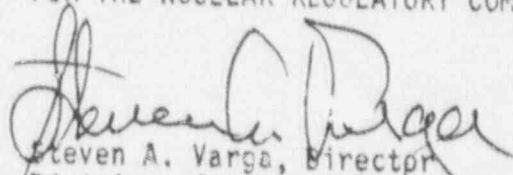
Accordingly, pursuant to 10 CFR 50.12(a)(2)(ii), the Commission hereby grants an exemption from the requirements of Section III.D.1(a) of Appendix J to 10 CFR Part 50 to the licensee for operation of the Sequoyah Nuclear Plant, Unit 2, as described above. The Commission granted such an exemption for Unit 1 in its letter dated September 29, 1989.

Pursuant to 10 CFR 51.32, the Commission has determined that the issuance of this exemption will have no significant impact on the environment. This was noticed in the Federal Register (56 FR3121 , January 28, 1991).

For further details with respect to this action, see the request for exemption dated August 31, 1990, which is available for public inspection at the Commission's Public Document Room, Gelman Building, 2120 L Street, N.W., Washington, DC., and at the Chattanooga-Hamilton County Bicentennial Library, 1001 Broad Street, Chattanooga, Tennessee 37402.

This exemption is effective upon issuance.

FOR THE NUCLEAR REGULATORY COMMISSION


Steven A. Varga, Director
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Office of Nuclear Reactor Regulation

Dated at Rockville, Maryland
this 29th day of January 1991