

October 17, 1995

Mr. Oliver D. Kingsley, Jr.
President, TVA Nuclear and
Chief Nuclear Officer
Tennessee Valley Authority
6A Lookout Place
1101 Market Street
Chattanooga, Tennessee 37402-2801

SUBJECT: WATTS BAR NUCLEAR PLANT - EXEMPTION REGARDING THE INGESTION PATHWAY
PORTION OF THE FULL PARTICIPATION PRE-LICENSING EXERCISE
(TAC M92943)

Dear Mr. Kingsley:

By letter dated July 19, 1995, as supplemented by letters dated July 26, and September 6, 1995, the Tennessee Valley Authority (TVA) requested an exemption from the ingestion pathway portion of the requirement in 10 CFR Part 50, Appendix E, IV.F.2(a), which states that a full-participation exercise shall be conducted within two years before the issuance of the first operating license for full power (one authorizing operation above 5% of rated power) of the first reactor and shall include participation by each State and local government within the plume exposure pathway emergency planning zone (EPZ) and each State within the ingestion exposure pathway EPZ. Specifically, TVA requested relief from the requirement to include participation of each State within the ingestion exposure pathway EPZ during the Watts Bar exercise scheduled for November 1995, because the State of Tennessee participated in full participation exercises which included the ingestion pathway EPZs at Watts Bar in 1993 and at Sequoyah in 1992.

The staff has completed its review of the exemption request and supporting documentation. The requested exemption is granted. This review was performed by Mr. Edward Fox, Jr.

Sincerely,

ORIGINAL SIGNED BY:

Peter S. Tam, Senior Project Manager
Project Directorate II-3
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

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Docket Nos. 50-390 and 50-391

Enclosure: Exemption

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Mr. Oliver D. Kingsley, Jr.
Tennessee Valley Authority

WATTS BAR NUCLEAR PLANT

cc:

Mr. O. J. Zeringue, Sr. Vice President
Nuclear Operations
Tennessee Valley Authority
3B Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

Senior Resident Inspector
Watts Bar Nuclear Plant
U.S. Nuclear Regulatory Commission
1260 Nuclear Plant Road
Spring City, TN 37381

Dr. Mark O. Medford, Vice President
Engineering & Technical Services
Tennessee Valley Authority
3B Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

The Honorable Robert Aikman
County Executive
Rhea County Courthouse
Dayton, TN 37321

Mr. D. E. Nunn, Vice President
New Plant Completion
Tennessee Valley Authority
3B Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

The Honorable Garland Lanksford
County Executive
Meigs County Courthouse
Decatur, TN 37322

Mr. J. A. Scalice, Site Vice President
Watts Bar Nuclear Plant
Tennessee Valley Authority
P.O. Box 2000
Spring City, TN 37381

Mr. Michael H. Mobley, Director
Division of Radiological Health
3rd Floor, L and C Annex
401 Church Street
Nashville, TN 37243-1532

General Counsel
Tennessee Valley Authority
ET 11H
400 West Summit Hill Drive
Knoxville, TN 37902

Ms. Danielle Droitsch
Energy Project
The Foundation for
Global Sustainability
P.O. Box 1101
Knoxville, TN 37901

Mr. P. P. Carrier, Manager
Corporate Licensing
Tennessee Valley Authority
4G Blue Ridge
1101 Market Street
Chattanooga, TN 37402-2801

Ms. Ann Harris
305 Pickel Road
Ten Mile, TN 37880

Mr. B. S. Schofield
Site Licensing Manager
Watts Bar Nuclear Plant
Tennessee Valley Authority
P.O. Box 2000
Spring City, TN 37381

Ms. Beth Zilbert, Energy Campaigner
Greenpeace
20 13th Street, NE.
Atlanta, GA 30309

TVA Representative
Tennessee Valley Authority
11921 Rockville Pike
Suite 402
Rockville, MD 20852

Mr. James P. Riccio
Public Citizen
4340 Georgetown Square, #612
Atlanta, GA 30338

Regional Administrator
U.S. Nuclear Regulatory Commission
Region II
101 Marietta Street, NW., Suite 2900
Atlanta, GA 30323

Ms. O. Megs Hepler
Federal Emergency Management Agency
Federal Center Plaza
500 C Street, SW.
Washington, DC 20472

Ms. Sue Perez
Federal Emergency Management Agency
Federal Center Plaza
500 C Street, SW.
Washington, DC 20472

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of)	
)	Docket No. 50-390
Tennessee Valley Authority)	
(Watts Bar Power Station, Unit 1))	

EXEMPTION

I.

Tennessee Valley Authority (TVA, the applicant) is the holder of Construction Permit CPPR-91, which authorizes the construction of Watts Bar Power Station, Unit 1 (WBN, the facility). Construction permit applications must contain emergency plans pursuant to 10 CFR 50.34. 10 CFR 50.34(b)(6)(v) provides that the Final Safety Analysis Report will contain plans for coping with emergencies, which shall include the items in Appendix E of 10 CFR Part 50. When converting from a construction permit to a license upon completion of the construction or alteration of a facility in compliance with the terms and conditions of the construction permit and subject to any necessary testing of the facility for health or safety purposes, the Commission will, in the absence of good cause shown to the contrary, issue a license of the class for which the construction permit was issued or an appropriate amendment of the license, as the case may be. An operating license provides, among other things, that it is subject to all rules, regulations and orders of the Commission now or hereafter in effect. The facility will consist of two pressurized water reactors located at the licensee's site in Rhea County, Tennessee, even though only one is being considered for an operating license at this time.

II.

Section IV.F.2(a) of Appendix E of 10 CFR Part 50 requires that a full participation exercise be conducted within 2 years before the issuance of the first operating license for full power (one authorizing operation above 5 percent of rated power) of the first reactor and shall include participation by each State and local government within the plume exposure pathway emergency planning zone (EPZ) and each State within the ingestion pathway exposure EPZ.

The NRC may grant exemptions from the requirements of the regulations which, pursuant to 10 CFR 50.12(a), are (1) authorized by law, will not present an undue risk to the public health and safety, and are consistent with the common defense and security; and (2) present special circumstances. Section 50.12(a)(2) of 10 CFR Part 50 describes the special circumstances for an exemption. Special circumstances are present when the 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 [10 CFR 50.12(a)(2)(ii)]. The underlying purpose of Appendix E, Section IV.F.2(a) is to demonstrate the integrated capabilities of appropriate local and State authorities and licensee personnel to adequately assess and respond to an accident at a commercial nuclear power plant within 2 years before the issuance of the first operating license for full power (authorizing operation above 5 percent of rated power) of the first reactor. Special circumstances are also present when compliance would result in undue hardship or other costs that are significantly in excess of those contemplated when the regulation was adopted [10 CFR 50.12(a)(2)(iii)]. Additionally, special circumstances are present when the exemption would provide only temporary

relief from the applicable regulation and the licensee or applicant has made good faith efforts to comply with the regulation [10 CFR 50.12(a)(2)(v)].

III.

By letter dated July 19, 1995, as supplemented by letters dated July 26, and September 6, 1995, TVA requested an exemption from the ingestion pathway portion of the requirement of Appendix E of 10 CFR Part 50 to conduct a prelicensing full-participation exercise of the Watts Bar Emergency Plan in 1995. TVA plans to conduct a full-participation emergency preparedness exercise, limited to the 10-mile plume exposure pathway EPZ, in November 1995. The Watts Bar plant, in conjunction with the State of Tennessee and the Counties of McMinn, Meigs, Rhea, Cumberland, and Roane, conducted a full participation emergency preparedness exercise, which included both the plume exposure and ingestion exposure pathway EPZs, on October 6-7, 1993. Offsite emergency response activities associated with the exercise were evaluated by the Federal Emergency Management Agency (FEMA) and the onsite emergency response activities were evaluated by the NRC. The NRC's evaluation of onsite emergency response activities is documented in Inspection Report 50-390/93-64, dated November 15, 1993. The report states that no violations, deviations, or exercise weaknesses were identified. It also states that the October 6-7, 1993, full-participation emergency preparedness exercise demonstrated the ability of the applicant's emergency response organization to respond to a simulated emergency condition and to implement its radiological emergency plan and implementing procedures.

FEMA's final exercise report for the October 1993 exercise, dated August 11, 1994, identified one deficiency. This deficiency involved the inability of the State of Tennessee to demonstrate the capability to provide

both an alert signal and an initial instructional message to the populated areas throughout the 10-mile plume EPZ within 15 minutes of the decision to activate the alert and notification system to implement a protective action decision. The deficiency was shown to be corrected during a remedial exercise conducted on November 15, 1993. The FEMA report also indicates that the States of North Carolina and Georgia lie within the WBN 50-mile ingestion exposure pathway EPZ. These states did not participate in the October 1993 exercise because the State of Georgia participated in the 1992 exercise at the Vogtle site and the State of North Carolina participated in the 1991 exercise at the McGuire site. No deficiencies were noted concerning ingestion pathway exposure activities in the State of Tennessee during the October 1993 exercise. FEMA concluded that, based on the results of the October 6-7, 1993, exercise and the November 15, 1993, remedial exercise, the offsite radiological emergency response plans and preparedness for the State of Tennessee and the affected local jurisdictions, site specific to the Watts Bar Nuclear Plant, can be implemented and are adequate to provide reasonable assurance that appropriate measures can be taken to protect the health and safety of the public in the event of a radiological emergency at the site.

TVA's exemption request extends only to that portion of the full-participation, prelicensing exercise requirement that provides for an ingestion exposure pathway (50 miles) exercise of the type that plants licensed for full-power operations are required to conduct once every 6 years. Section IV.F.(2)(d) of Appendix E of 10 CFR Part 50 indicates that States should participate in the ingestion pathway portion of exercises at least once every 6 years. As noted above, the State of Tennessee participated in an

ingestion exposure pathway exercise at Watts Bar in October 1993. It also participated in an ingestion exposure pathway exercise at Sequoyah in 1992. In anticipation of receiving an operating license in 1985, TVA conducted its first pre-license full-participation exercise on September 11, 1984. A second prelicensing full participation exercise was conducted on July 25, 1985, before TVA suspending its efforts to obtain the operating license for Watts Bar Unit 1.

In a letter dated July 3, 1995, the Tennessee Emergency Management Agency (TEMA) indicated that the State and local governments in the Watts Bar area have conducted three full-participation exercises for Watts Bar since 1983 with the last on October 6-7, 1993. TEMA stated that another licensing exercise for Watts Bar would not be cost effective in that the State and local governments exercise both the Watts Bar and Sequoyah plans regularly and the same personnel participate in both the Watts Bar and Sequoyah exercises. TEMA also noted that the State of Tennessee has participated in exercises since the late 1970's and no problems have been experienced at either site with offsite programs. Consequently, these State and local government agencies would be required to duplicate past efforts at significant expense. Additionally, TEMA did not budget for State participation in a second prelicensing full-participation WBN exercise in calendar year 1995, since the frequency requirements for State participation in the emergency plan exercise would have been met under the previous schedule for the licensing of WBN. If the prelicensing 50-mile ingestion pathway requirement is not exempted, it is estimated that an additional \$160,000 would be expended by the State. Furthermore, State resources have been strained in responding to six major

emergencies which have occurred in the last 15 months, including tornadoes, flooding and ice storms. The State has spent in excess of \$30 million mitigating the consequences of these major emergencies. TEMA further states that the local government agencies did not include funding for another prelicensing full-participation exercise in calendar year 1995. Consequently, they would have to redirect financial and personnel resources to support such an effort. Since TVA and the State and local governments depend heavily upon volunteer organizations to support the radiological emergency preparedness program, there is concern that the repeated use of the volunteers in emergency exercises would lessen their enthusiasm for support of another ingestion pathway exercise.

The staff's last Systematic Assessment of Licensee Performance (SALP) report (Inspection Report Nos 50-390/94-41 and 50-391/94-41) for Watts Bar for the period of June 13, 1993 through June 18, 1994, indicates that the emergency preparedness program was excellent, emergency response training was strong, and that TVA's emergency response facilities were good and capable of supporting emergency operations. Additionally, the report indicated that individuals demonstrated knowledge of duties and an ability to respond to emergency conditions and mitigate the consequences during the October 1993 full-scale exercise and that TVA conducted thorough critiques and was timely in correcting identified problems.

The exemption from the ingestion exposure pathway exercise portion of Section IV(F)(2)(a) to Appendix E of 10 CFR Part 50 would provide relief from what was originally intended as a "one-time" prelicense exercise requirement. As discussed above, TVA has already conducted three full-participation plume

and ingestion pathway exercises to support anticipated operating license scheduled dates. In view of past and planned emergency planning efforts and successful results, TVA has made good faith efforts to fully comply with the prelicense emergency exercise rule. If WBN does not obtain a full-power operating license within 2 years of the November 1995 exercise, another prelicensing full-participation exercise, to include both the plume and ingestion exposure pathway EPZs, will have to be conducted.

IV.

On the basis of its review of the applicant's request for an exemption from the requirement to conduct the ingestion exposure pathway portion of the qualifying full-participation exercise of the Watts Bar Emergency Plan, the staff finds that the underlying purpose of the regulation has been achieved through the applicant's conduct of the ingestion exposure pathway portion of the October 6-7, 1993, full participation exercise at Watts Bar and the ingestion exposure pathway portion of the September 1992 full-participation exercise at Sequoyah. In addition, because the States of Georgia and North Carolina have participated in ingestion pathway exercises at other nuclear power plant sites within their respective borders, as well as the fact that only limited actions are required of these States in the WBN ingestion pathway exposure EPZ, the staff concludes the underlying purpose for their potential participation in the ingestion pathway portion of the November 1995 exercise at WBN has been achieved. FEMA concurs with this exemption.

For these reasons, the Commission has determined that, pursuant to 10 CFR 50.12, the exemption requested by the applicant is authorized by law, will not present an undue risk to public health and safety, and is consistent

with the common defense and security and that special circumstances are present as set forth in 10 CFR 50.12(a)(ii), (iii), and (v).

Pursuant to 10 CFR 51.32, the Commission has determined that granting of this exemption will have no significant impact on the environment (60FR53814, dated October 17, 1995). A copy of the applicant's request for exemption and supporting documentation is available for public inspection at the Commission's Public Document Room, 2120 L Street, NW, Washington, D.C. and at the local public document room located at Chattanooga-Hamilton Library, 1101 Broad Street, Chattanooga, Tennessee 37402.

This exemption is effective upon issuance.

Dated at Rockville, Maryland this 17th day of October 1995.

FOR THE NUCLEAR REGULATORY COMMISSION



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