

November 21, 2000

Mr. J. A. Scalice  
Chief Nuclear Officer and  
Executive Vice President  
Tennessee Valley Authority  
6A Lookout Place  
1101 Market Street  
Chattanooga, Tennessee 37402-2801

SUBJECT: WATTS BAR NUCLEAR PLANT, UNIT 1 - ENVIRONMENTAL ASSESSMENT  
AND FINDING OF NO SIGNIFICANT IMPACT FOR INCREASE IN  
ALLOWABLE THERMAL POWER LEVEL, TS CHANGE NO. 00-06  
(TAC NO. MA9152)

Dear Mr. Scalice:

Enclosed is a copy of an "Environmental Assessment and Finding of No Significant Impact," related to your application dated June 7, 2000, as supplemented June 23, August 24, September 26, October 6, October 27 and November 16, 2000. The proposed license amendment would allow an increase in the licensed power level from 3411 megawatts thermal (MWt) to 3459 MWt for the Watts Bar Nuclear Plant, Unit 1. The assessment is being forwarded to the Office of the Federal Register for publication.

Sincerely,

**/RA/**

Robert E. Martin, Senior Project Manager, Section 2  
Project Directorate II  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Docket No. 50-390

Enclosure: As stated

cc w/encl: See next page

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UNITED STATES NUCLEAR REGULATORY COMMISSION

TENNESSEE VALLEY AUTHORITY

DOCKET NO 50-390

WATTS BAR NUCLEAR PLANT, UNIT 1

ENVIRONMENTAL ASSESSMENT AND FINDING OF

NO SIGNIFICANT IMPACT

The U.S. Nuclear Regulatory Commission (NRC) is considering issuance of an amendment to the Facility Operating License (FOL) issued to Tennessee Valley Authority (TVA, licensee) for operation of the Watts Bar Nuclear Plant, Unit 1 (WBN). The facility is located at the licensee's site on the west branch of the Tennessee River approximately 50 miles northeast of Chattanooga, Tennessee.

ENVIRONMENTAL ASSESSMENT

Identification of Proposed Action:

The proposed license amendment would allow the licensee to increase the licensed thermal power level of WBN, Unit 1, from 3411 to 3459 megawatts thermal (MWt), which represents a 1.4 percent increase in the allowable thermal power. This facility was authorized for power production at 3411 MWt with issuance of the FOL on February 7, 1996.

The proposed action is in accordance with the licensee's application for license amendment dated June 7, as supplemented by letters dated June 23, August 24, September 26, October 6, October 27 and November 16, 2000.

The Need for the Proposed Action:

The proposed action will allow an increase in power generation at WBN to provide additional electrical power for distribution to the grid. Power uprate has been widely recognized by the industry as a safe and cost-effective method to increase generating capacity.

Environmental Impacts of the Proposed Action:

The Commission has previously evaluated the environmental impact of operation of WBN, as described in the "Final Environmental Statement Related to the Operation of Watts Bar Nuclear Plant, Units 1 and 2," NUREG-0498, December 1978 and its Supplement 1, April 1995. With regard to consequences of postulated accidents, the licensee has reanalyzed the design-basis accident doses for the exclusion area boundary, low population zone, and the control room dose to the operators and determined that there will be a small increase in these doses; however, the analysis presented in NUREG-0498 postulates these doses resulting from releases at 104.5 percent of the currently licensed power level. Thus, the increase in postulated doses due to design-basis accidents is bounded by the previous evaluation presented in NUREG-0498. No increase in the probability of these accidents is expected to occur.

With regard to normal releases, calculations have been performed that show the potential impact on the radiological effluents from the proposed 1.4 percent increase in power level of WBN. For the 1.4 percent uprating calculation, the offsite doses from normal effluent releases remain significantly below the bounding limits of Title 10 of the Code of Federal Regulation (10 CFR), Part 50, Appendix I. Normal annual average gaseous releases remain limited to a small fraction of 10 CFR Part 20 limits for identified mixtures. Solid and liquid waste processing systems are expected to operate within their design requirements. More frequent operation of these systems may lead to a slight increase in solid and liquid waste production.

The Commission has completed its evaluation of the proposed action and concludes that the proposed action will not increase the probability or consequences of accidents, no changes are being made in the types of any effluents that may be released off site, and there is no significant increase in occupational or public radiation exposure. Therefore, there are no significant radiological environmental impacts associated with the proposed action.

With regard to potential nonradiological impacts, the proposed action does not involve any historic sites. With regard to thermal discharges to the Chickamauga Reservoir on the Tennessee River, a small increase in the upstream to downstream temperature rise allowed by the National Pollution Discharge Elimination System (NPDES) permit for the Tennessee River is expected, due to the proposed 1.4 percent power uprate. The increase is expected to be approximately 0.1 degrees Fahrenheit, and therefore, insignificant. Existing administrative controls ensure the conduct of adequate monitoring such that appropriate actions can be taken to preclude exceeding NPDES permitted limits. No additional monitoring requirements or other changes relative to the NPDES permit are required as a result of the power uprate.

Therefore, as described in the preceding discussions, the 1.4 percent uprate of WBN does not have a significant environmental impact on the Chickamauga Reservoir.

No other nonradiological impacts are associated with the proposed action.

Based upon the above, the Commission concludes that the proposed action does not affect nonradiological plant effluents and has no other environmental impact. Therefore, there are no significant nonradiological environmental impacts associated with the proposed action.

Accordingly, the Commission concludes that there are no significant environmental impacts associated with the proposed action.

#### Alternatives to the Proposed Action:

As an alternative to the proposed action, the staff considered denial of the proposed action (i.e., the “no-action” alternative). Denial of the application would result in no change in current environmental impacts. The environmental impacts of the proposed action and the alternative action are similar.

#### Alternative Use of Resources:

This action does not involve the use of resources not previously considered in the FES for Watts Bar.

Agencies and Persons Contacted:

In accordance with its stated policy, on November 20, 2000, the staff consulted with the Tennessee State Official, Mr. J. Graves, regarding the environmental impact of the proposed action. The State official had no comments.

FINDING OF NO SIGNIFICANT IMPACT

On the basis of the environmental assessment, the NRC concludes that this action will not have a significant effect on the quality of the human environment. Accordingly, the NRC has determined not to prepare an environmental impact statement for this action.

For further details with respect to this action, see the licensee's application for license amendment dated June 7, 2000, as supplemented June 23, August 24, September 26, October 6, October 27 and November 16, 2000. Documents may be examined, and/or copied for a fee, at the NRC's Public Document Room, located at One White Flint North, 11555 Rockville Pike (first floor), Rockville, Maryland. Publicly available records will be accessible electronically from the ADAMS Public Library component on the NRC Web site, <http://www.nrc.gov> (the Electronic Reading Room).

Dated at Rockville, Maryland this 21st day of November 2000.

FOR THE NUCLEAR REGULATORY COMMISSION

**/RA/**

Kahtan N. Jabbour, Acting Chief, Section 2  
Project Directorate II  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Mr. J. A. Scalice  
Tennessee Valley Authority

## **WATTS BAR NUCLEAR PLANT**

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