

June 27, 1991

Mr. Dan A. Nauman  
Senior Vice President, Nuclear Power  
Tennessee Valley Authority  
6N 38A Lookout Place  
1101 Market Street  
Chattanooga, Tennessee 37402-2801

Dear Mr. Nauman:

SUBJECT: EXTENSION OF CONSTRUCTION COMPLETION DATES - WATTS BAR NUCLEAR  
PLANT, UNITS 1 AND 2 (TAC 70417 AND 70418)

In response to TVA's letter dated May 16, 1991, requesting an extension of the completion dates for the Watts Bar Nuclear Plant, Units 1 and 2, the Nuclear Regulatory Commission has issued an order extending the construction completion dates. In lieu of the latest completion date of July 1, 1991, the construction completion date of Construction Permit No. CPPR-91 (Unit 1) has been extended to December 31, 1993. In addition, the Unit 2 completion date of December 31, 1992, as specified in Construction Permit No. CPPR-92, has been extended to June 30, 1997. The staff believes that the requested extension period as stated in TVA's letter dated May 16, 1991 is acceptable.

Copies of the Order and the staff's Safety Evaluation of your request are enclosed for your information. The Order has been sent to the Office of the Federal Register for publication. The Environmental Assessment and Finding of No Significant Impact was published in the Federal Register on .

Sincerely,

Original signed by

Peter S. Tam, Senior Project Manager  
Project Directorate II-4  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

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PDR

Enclosures:

- Order Extending Construction Completion Dates
- Safety Evaluation

cc w/enclosures:  
See next page

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Mr. Dan A. Nauman

cc:

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UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

In the Matter of  
TENNESSEE VALLEY AUTHORITY  
(Watts Bar Nuclear Plant,  
Unit 1 and 2)

)  
) Docket Nos. 50-390  
50-391

ORDER

Tennessee Valley Authority is the current holder of Construction Permit Nos. CPPR-91 and CPPR-92, issued by the Atomic Energy Commission on January 23, 1973, for construction of the Watts Bar Nuclear Plant, Units 1 and 2. These facilities are currently under construction at the permittee's site on the west branch of the Tennessee River approximately 50 miles northeast of Chattanooga, Tennessee.

On May 16, 1991 the Tennessee Valley Authority (the permittee) filed a request pursuant to 10 CFR 50.55(b) for an extension of the completion dates. The extension has been requested because construction has been delayed by the following events:

1. Delays resulting from the implementation of a comprehensive plan consisting of corrective action programs (CAPs), special programs, inspections, audits, and walkdowns to provide assurance that Unit 1 is designed and constructed in accordance with regulatory requirements and TVA commitments.
2. Delay resulting from the current stop-work order imposed by TVA to improve work control practices at the site.

The NRC staff has concluded that good cause has been shown for the delays, the extension is for a reasonable period, and that this action involves no

significant hazards consideration, the basis for which are set forth in the staff's evaluation of the request for extension dated June 27, 1991.

The NRC staff has prepared an environmental assessment and finding of no significant impact which was published in the FEDERAL REGISTER on June 25, 1991 (56 FR 28933).

Pursuant to 10 CFR 51.32, the Commission has determined that extending the construction completion dates will have no significant impact on the environment.

The applicant's letter dated May 16, 1991, and the NRC staff's letter and Safety Evaluation of the request for extension of the construction permits, dated June 27, 1991, are available for public inspection at the Commission's Public Document Room, Gelman Building, 2120 L Street, N.W., Washington, D.C. 20555 and the Chattanooga-County Library, 1001 Broad Street, Chattanooga, Tennessee 37402.

IT IS HEREBY ORDERED THAT the latest completion date for Construction Permit No. CPPR-91 is extended from July 1, 1991 to December 31, 1993 and the latest completion date for Construction Permit No. CPPR-92 is extended from December 31, 1992 to June 30, 1997.

Dated at Rockville, Maryland, this 27th day of June 1991.

FOR THE NUCLEAR REGULATORY COMMISSION



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



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

ENCLOSURE 2

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATING TO REQUEST FOR EXTENSION

OF CONSTRUCTION PERMIT NOS. CPPR-91 AND CPPR-92

WATTS BAR NUCLEAR PLANT, UNITS 1 AND 2

DOCKET NOS. 50-390 AND 50-391

1. 0 INTRODUCTION

Two construction permits were issued to Tennessee Valley Authority (TVA or permittee) on January 23, 1973, authorizing construction of the Watts Bar Nuclear (WBN) Plant, Units 1 and 2, (the facility) in Rhea County, Tennessee. Currently, Construction Permit CPPR-91 specifies July 1, 1991, as the latest date for completion of Unit 1. Construction Permit CPPR-92 specifies December 31, 1992, as the latest date for completion of construction for Unit 2.

Pursuant to 10 CFR 50.55(b), the permittee requested that these dates be extended to December 31, 1993 for Unit 1 and June 30, 1997, for Unit 2. The permittee's request for these construction permit extensions is contained in its letter dated May 16, 1991.

2.0 DISCUSSION

The permittee's letter of May 16, 1991, states that the delay in the completion of construction of the Watts Bar Nuclear Plant, Units 1 and 2, is due to the following factors:

With regard to Unit 1, TVA has implemented a comprehensive plan consisting of corrective action programs (CAPs), special programs, inspections, audits, and walkdowns to provide assurance that WBN Unit 1 is designed and constructed in accordance with regulatory requirements and TVA commitments. Since the time of the last extension request, TVA has been engaged in extensive efforts to resolve problems which this comprehensive program was designed to address as well as problems which were discovered in the course of implementing the plan. These efforts include inspections, documentation reviews, and where necessary, redesign and/or modification of affected structures, systems, and components.

In addition to the significant amount of work associated with these efforts, TVA has also recently halted WBN construction activities in order to improve work control practices at WBN. The delays associated with the above efforts to ensure that WBN meets regulatory requirements and licensing commitments make it necessary for TVA to request an extension of the expiration date for Construction Permit No. CPPR-91 until December 31, 1993.

With regard to Unit 2, TVA is committed to applying lessons learned from the Unit 1 issue identification and correction programs to the Unit 2 completion of construction and startup efforts and appropriately staging construction activities. Given the activities described above and the resulting delays at WBN Unit 1, TVA requests an extension of the expiration date for Construction Permit No. CPPR-92 (Unit 2) until June 30, 1997.

The design and construction of WBN, Unit 1, was completed in March 1985. At that time, the NRC staff had completed its review of the WBN Final Safety Analysis Report (FSAR) and documented its evaluation in the Safety Evaluation Report, NUREG-0847 and its Supplements 1 through 4. However, several nonconforming issues have been raised since then by the NRC, as a result of TVA employees concerns, and many internal and external TVA audits and reviews. In response to recognition of these problems and nonconforming issues, TVA undertook a vigorous recovery program at WBN beginning in 1986 which included many significant programs to identify root causes for these issues and develop and implement programs for their resolution. A number of these programs have been completed and are in various stages of implementation. In June 1990, the staff reactivated the licensing activities, resulting in issuance of Safety Evaluation Report Supp. 5 and 6 (NUREG-0847).

On November 4, 1987, TVA established an independent team to perform an integrated systematic evaluation of WBN and make recommendations regarding the adequacy of WBN design and construction. This team developed a Watts Bar Program Plan (WBPP) which was submitted to the NRC on May 27, 1988. According to TVA, the WBPP provides in-depth review of the issues and programs which when implemented, will provide the basis for determining with reasonable assurance that WBN is designed and built in conformance with licensing requirements. The WBPP has been approved by the staff in safety evaluation reports (NUREG-1232, Vol. 4; NUREG-0847 Supp. 5 and 6).

The construction delays listed above are the results of concerns raised by NRC, TVA employees or TVA contractors. These concerns must be resolved satisfactorily prior to issuance of the operating license to ensure the safe operation of the facility. Therefore, good cause has been shown for the extension requested by the permittee. The staff believes that the requested construction completion dates are achievable and the requested extension period as stated in TVA's letter dated May 16, 1991, is acceptable.

### 3.0 ENVIRONMENTAL CONSIDERATION

Pursuant to 10 CFR 51.21, 51.32, and 51.35, an environmental assessment and finding of no significant impact have been prepared and published in the Federal Register on June 25, 1991 (56 FR 28933). Accordingly, based upon the environmental assessment we have determined that extending the construction completion dates will not have a significant effect on the quality of the human environment.

Based on the review of the permittee's request, the NRC staff concludes that the factors discussed above constitute good cause for the delay in the completion of construction under 10 CFR 50.55(b). The permittee, as stated above, is in the process of implementing the programs described in the WBPP. This may result in revising the design and construction of the facility to correct design deficiencies and to make plant improvements which are needed to enhance plant safety. The staff believes that the requested construction completion dates are achievable and the requested extension period is acceptable.

As a result of the staff's review of the Watts Bar Final Safety Analysis Report to date and considering the nature of the delays, the staff has identified no area of significant safety considerations resulting directly from the extension of the construction completion dates. In addition, the staff finds that the only modification proposed by the permittee to the existing construction permits is an extension of the latest completion dates. This extension does not allow any work to be performed of the type not previously authorized by the existing construction permits.

#### 4.0 CONCLUSION

The staff finds that (1) this action does not involve a significant increase in the probability or consequences of an accident previously evaluated, does not create the possibility of a new or different kind of accident from any previously evaluated and does not involve a significant reduction in a margin of safety; (2) there is reasonable assurance that the health and safety of the public will not be endangered by extension of the construction completion dates; and (3) good cause exists for issuance of an order extending the completion dates. Accordingly, the NRC staff has concluded that the action does not involve a significant hazards consideration and that based upon the foregoing evaluation, issuance of an order extending the latest completion dates for construction of the Watts Bar Nuclear Plant is reasonable and should be authorized. The latest completion date for Unit 1 should be extended to December 31, 1993 and the latest completion date for Unit 2 should be extended to June 30, 1997.

Dated: June 27, 1991

Principal Contributor: Peter S. Tam

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