

SAFETY EVALUATION OF 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

INTRODUCTION

Two construction permits were issued to Tennessee Valley Authority on January 23, 1973, authorizing construction of the Watts Bar Nuclear Plant, Units 1 and 2, (the facility) in Rhea County, Tennessee. Construction Permit CPPR-91 specified June 1, 1979, as the latest date for completion of construction of Unit 1. Construction Permit CPPR-92 specified March 1, 1980, as the latest date for completion of construction for Unit 2.

The applicant requested that these dates be extended to March 1, 1984, for Unit 1 and August 1, 1985, for Unit 2. The permittee's request for these construction permit extensions is contained in their letters of April 27, 1979, September 28, 1979, October 30, 1980, April 3, 1981, and September 9, 1982.

DISCUSSION

The permittee's letters of October 30, 1980, April 3, 1981, and September 9, 1982, state that the delay in the completion of construction of the Watts Bar Nuclear Plant, Units 1 and 2, is due to the following factors:

1. Changes in the scope of the project resulting in part from the accident at Three Mile Island, Unit 2, and the subsequent regulatory actions;
2. Unanticipated delays in construction and progress on preoperational testing;
3. Additional safety-related work associated with NRC requirements for pipe supports and anchors;
4. Modifications to the facility's Westinghouse Model D-3 steam generators; and
5. Allowance for any future contingencies.

EVALUATION

1. As stated in the January 23, 1981, meeting summary of the NRC's caseload forecast panel site visit, the facility's overall percentage of construction completion had essentially remained the same between May 1979, and

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December 1980, a period of 19 months, due to the construction delays instituted as a result of the accident at Three Mile Island, Unit 2. Implementation of the new requirements that were imposed by the staff as a result of the evaluation of the TMI accident contributed to these construction delays. The staff concludes that this contribution to the delay of the construction completion of the Watts Bar facility was beyond the control of the permittee.

2. Unanticipated delays in construction coupled with the lack of an integrated schedule from construction turnover to pre-operational testing delayed the progress of pre-operational testing at the Watts Bar facility. The introduction of the "work package program" by the permittee in late 1980 at the facility has assisted in resolving this problem. The staff has concluded that this factor for the delay of the construction completion of the Watts Bar facility was, in part, within the control of the permittee.
3. TVA's reinspection program for its 20,000 pipe hangers has impacted the completion of the Watts Bar facility. This program was implemented as a result of deficiencies resulting from the applicant's QA program. The reinspection program will ensure that the "as built" configuration of the hangers meets the design configuration, or will ensure that any deviations from the original design do not affect the piping and hanger analyses performed for the facility. The staff has concluded that this factor for the delay of construction completion for the Watts Bar facility was, in part, within the control of the permittee.
4. As discussed in the Watts Bar SER (NUREG-0847, June 1982) and Supplement No. 1 to the SER (September 1982), the Watts Bar facility utilizes Westinghouse Model D-3 steam generators. This model steam generator has been experiencing accelerated tube degradation as indicated in other operating facilities. TVA has determined that it would be to their advantage to install the manifold designed to reduce the tube wear and complete any necessary modifications before hot functional testing at the Watts Bar facility. The staff concurs with this conclusion since this will result in no radiation exposure if the work is completed prior to fuel load. In addition, if the modifications are performed in accordance with TVA's schedule, tube wear will be reduced to acceptable levels as soon as practicable. The staff has concluded that this cause for the delay of the construction completion of the Watts Bar facility was beyond the control of the permittee.
5. The extension request includes a 6 month period of time to allow for unexpected contingencies. The staff has concluded that this is a conservative estimate in view of the status of construction and the possible need for design changes.

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ENVIRONMENTAL CONSIDERATION

The staff has determined that most of the principal facility structures have been completed prior to June 1979. In addition, no new major roads or railways have been constructed nor has there been any significant increase in waterway traffic as a result of construction activities at the Watts Bar facility since June 1979. Extension of the construction completion dates for both units will result in the same construction impacts evaluated in the Final Environmental Statement (NUREG-0498, December 1978) spread over a longer period of time. Having made this determination, we have concluded that the amendment involves an action which is insignificant from the standpoint of environmental impact and, pursuant to 10 CFR Section 51.5(d)(4), that an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with the issuance of this amendment.

CONCLUSIONS

Based on the staff's review of the permittee's request, we conclude that the factors discussed above that were beyond the control of the permittee constitute good cause for the delay in the completion of construction under 10 CFR §50.55(b). The permittee has maintained a construction effort at the Watts Bar site and has revised the design and construction of the facility to correct design deficiencies and to make plant improvements which are needed to enhance plant safety. Based on our evaluation of the causes for the delay, we have determined that the requested extension is for a reasonable period of time.

As a result of our 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 in connection with the extension of the construction completion date. In addition, we find 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 involving new safety information of a type not considered by a previous existing construction permit. Therefore, we find that (1) this action does not involve a significant hazards consideration, (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, 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 March 1, 1984, and the latest completion date for Unit 2 should be extended to August 1, 1985.

Principal Contributor: Thomas Kenyon, Licensing Branch No. 4, Division of Licensing

Date of Issuance: November 19, 1982

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

November 19, 1982

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Docket No. s. 50-390
 50-391

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SUBJECT: **Watts Bar Nuclear Plant, Units 1 and 2 (TENNESSEE VALLEY AUTHORITY)**

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- Notice of Receipt of Application for Construction Permit(s) and Operating License(s).
- Notice of Receipt of Partial Application for Construction Permit(s) and Facility License(s): Time for Submission of Views on Antitrust Matters.
- Notice of Availability of Applicant's Environmental Report.
- Notice of Proposed Issuance of Amendment to Facility Operating License.
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- Notice of Availability of NRC Draft/Final Environmental Statement.
- Notice of Limited Work Authorization.
- Notice of Availability of Safety Evaluation Report.
- Notice of Issuance of Construction Permit(s).
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- Other: Order Extending Construction Completion Date

Enclosure:
 As Stated

Office of Nuclear Reactor Regulation

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ORDER EXTENDING CONSTRUCTION COMPLETION DATES FOR WATTS BAR NUCLEAR
PLANT, UNITS 1 AND 2

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