

December 11, 2001

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 - NOTICE OF CONSIDERATION OF  
ISSUANCE OF AMENDMENT (TAC NO. MB1884)

Dear Mr. Scalice:

The Commission has forwarded a "Notice of Consideration of Issuance of Amendment to Facility Operating License, Proposed No Significant Hazards Consideration Determination, and Opportunity for Hearing" to the Office of the Federal Register for publication. A copy is enclosed for your information.

This notice relates to your amendment application of April 20, 2001, which requests a change to the Watts Bar Nuclear Plant, Unit 1, Final Safety Analysis Report to reflect a change in the spent fuel pool cooling analysis methodology.

This notice has been sent to the Office of the Federal Register for publication.

Sincerely,

**/RA/**

L. Mark Padovan, Project Manager, Section 2  
Project Directorate II  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Docket No. 50-390

Enclosure: *Federal Register* Notice

cc w/encl: See next page

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UNITED STATES NUCLEAR REGULATORY COMMISSION

TENNESSEE VALLEY AUTHORITY

DOCKET NO. 50-390

NOTICE OF CONSIDERATION OF ISSUANCE OF AMENDMENT TO  
FACILITY OPERATING LICENSE, PROPOSED NO SIGNIFICANT HAZARDS  
CONSIDERATION DETERMINATION, AND OPPORTUNITY FOR A HEARING

The U.S. Nuclear Regulatory Commission (the Commission) is considering issuance of an amendment to Facility Operating License No. NPF-90 issued to Tennessee Valley Authority (TVA or the licensee) for operation of Watts Bar Nuclear Plant (WBN), Unit 1, located in Rhea County, Tennessee.

The proposed amendment would revise the Final Safety Analysis Report to reflect a change in the spent fuel pool (SFP) cooling analysis methodology. TVA proposes to increase the existing WBN SFP heat load limit from its current value of 32.6 MBTU/HR to 47.4 MBTU/HR. The proposed change would give TVA the capability to off-load the core during outages as early as 100 hours after shutdown. In addition, the change would compensate for the projected increase in SFP decay heat from tritium production activities.

Before issuance of the proposed license amendment, the Commission will have made findings required by the Atomic Energy Act of 1954, as amended (the Act) and the Commission's regulations.

The Commission has made a proposed determination that the amendment request involves no significant hazards consideration. Under the Commission's regulations in 10 CFR 50.92, this means that operation of the facility in accordance with the proposed amendment would not (1) involve a significant increase in the probability or consequences of an accident previously evaluated; or (2) create the possibility of a new or different kind of accident from any

accident previously evaluated; or (3) involve a significant reduction in a margin of safety. As required by 10 CFR 50.91(a), the licensee has provided its analysis of the issue of no significant hazards consideration, which is presented below:

- A. The proposed methodology change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

The spent fuel pool cooling and cleanup system (SFPCCS) will see higher heat loading for the spent fuel as a result a 100[-]hour core offload as well as tritium producing burnable rod (TPBAR) irradiation. The analysis methodology change takes advantage of operating data as input into the SFP cooling analysis assumptions. Specifically, by taking credit for actual (lower) fouling of the SFPCCS heat exchangers and using actual component cooling system (CCS) temperatures, higher allowable heat loads can be safely placed within the SFP without exceeding existing design limitations. The increased quantity of heat being rejected to the CCS system is well within the system's design capability. The actual SFP cooling system is not being modified from what was previously evaluated and will continue to provide cooling as previously described. Existing maximum SFP temperatures will not be exceeded. Should loss of all cooling (loss of two trains) occur, ample time and sources for providing makeup water, are available, therefore there is no increased probability for SFP boil-off to uncover the stored spent fuel. Since the stored fuel will remain covered, there is no increase in radiological effects of such an event.

Therefore, the proposed methodology change does not increase the probability or consequences of an accident previously evaluated.

- B. The proposed methodology change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

The SFP cooling system will see higher heat loading for the spent fuel as a result a 100 hour core offload as well as TPBAR irradiation, the methodology change takes advantage of operating data as input into the SFP cooling analysis assumptions. The actual SFP cooling system is not being modified from what was previously evaluated and will continue to provide cooling as previously described. The current UFSAR [Updated Final Safety Analysis Report] recognizes that a complete loss of SFP cooling (loss of two trains) would ultimately result in a SFP boiling condition. However, the revised analysis has shown that even with higher allowable decay heat loads placed in the SFP, adequate sources for makeup exists to allow reasonable time (over three days) to mitigate such an event, without reducing the SFP water level to unacceptable levels (10 feet above fuel storage racks).

Loss of one train of cooling remains within the piping design analysis basis and the pool liner structural analysis since the peak temperatures projected are the same.

An error in the determination of the heat exchanger fouling factor would be detected by comparing trends from past determinations and through measured pool temperature.

Therefore, the proposed methodology change does not create a new or different kind of accident from any accident previously evaluated.

- C. The proposed methodology change does not involve a significant reduction in a margin of safety.

This methodology change further refines assumptions made in the SFP cooling analysis based upon operating data. The SFP cooling system is not being modified and will continue to provide cooling as previously described. The current UFSAR recognizes that a complete loss of SFP cooling (loss of two trains) would ultimately result in a SFP boiling condition. However, the revised analysis has shown that even with higher allowable decay heat loads placed in the SFP, adequate sources for makeup exist to allow adequate time (over three days) to mitigate such an event, without reducing the SFP water level to unacceptable levels (10 feet above fuel storage racks). While the revised analysis has shown a decrease in the time to react to a complete loss of SFP cooling, the resulting time available to mitigate such an event is acceptable. Additionally, the analyses for loss of cooling events all considered steady state heat loads from the fuel. Since a loss of two trains must first be postulated, over three days exists to restore cooling, heat load decreases over the three days, and multiple sources of makeup (one qualified) exist, adequate assurance is provided that the proposed change will not involve a significant reduction in any margin of safety related to SFPCCS operation or storage of spent fuel.

The higher heat loads rejected to the CCS system are well within its design basis allowable heat loads experienced in other operating modes, therefore the CCS system can safely remove the increased decay heat from the SFP.

Therefore, this proposed methodology change does not involve a significant reduction in the margin of safety.

The NRC staff has reviewed the licensee's analysis and, based on this review, it appears that the three standards of 10 CFR 50.92(c) are satisfied. Therefore, the NRC staff proposes to determine that the amendment request involves no significant hazards consideration.

The Commission is seeking public comments on this proposed determination. Any comments received within 30 days after the date of publication of this notice will be considered in making any final determination.

Normally, the Commission will not issue the amendment until the expiration of the 30-day notice period. However, should circumstances change during the notice period such that failure to act in a timely way would result, for example, in derating or shutdown of the facility, the Commission may issue the license amendment before the expiration of the 30-day notice period, provided that its final determination is that the amendment involves no significant hazards consideration. The final determination will consider all public and State comments received. Should the Commission take this action, it will publish in the FEDERAL REGISTER a notice of issuance and provide for opportunity for a hearing after issuance. The Commission expects that the need to take this action will occur very infrequently.

Written comments may be submitted by mail to the Chief, Rules and Directives Branch, Division of Administrative Services, Office of Administration, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, and should cite the publication date and page number of this FEDERAL REGISTER notice. Written comments may also be delivered to Room 6D59, Two White Flint North, 11545 Rockville Pike, Rockville, Maryland, from 7:30 a.m. to 4:15 p.m. Federal workdays. 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.

The filing of requests for hearing and petitions for leave to intervene is discussed below.

By January 16, 2002, the licensee may file a request for a hearing with respect to issuance of the amendment to the subject facility operating license and any person whose interest may be affected by this proceeding and who wishes to participate as a party in the proceeding must file a written request for a hearing and a petition for leave to intervene. Requests for a hearing and a petition for leave to intervene shall be filed in accordance with the Commission's "Rules of Practice for Domestic Licensing Proceedings" in 10 CFR Part 2. Interested persons should consult a current copy of 10 CFR 2.714 which is

available at the Commission's Public Document Room, located at One White Flint North, 11555 Rockville Pike (first floor), Rockville, Maryland, and accessible electronically through the ADAMS Public Electronic Reading Room link at the NRC Web site (<http://www.nrc.gov>). If a request for a hearing or petition for leave to intervene is filed by the above date, the Commission or an Atomic Safety and Licensing Board, designated by the Commission or by the Chairman of the Atomic Safety and Licensing Board Panel, will rule on the request and/or petition; and the Secretary or the designated Atomic Safety and Licensing Board will issue a notice of hearing or an appropriate order.

As required by 10 CFR 2.714, a petition for leave to intervene shall set forth with particularity the interest of the petitioner in the proceeding, and how that interest may be affected by the results of the proceeding. The petition should specifically explain the reasons why intervention should be permitted with particular reference to the following factors: (1) the nature of the petitioner's right under the Act to be made party to the proceeding; (2) the nature and extent of the petitioner's property, financial, or other interest in the proceeding; and (3) the possible effect of any order which may be entered in the proceeding on the petitioner's interest. The petition should also identify the specific aspect(s) of the subject matter of the proceeding as to which petitioner wishes to intervene. Any person who has filed a petition for leave to intervene or who has been admitted as a party may amend the petition without requesting leave of the Board up to 15 days prior to the first prehearing conference scheduled in the proceeding, but such an amended petition must satisfy the specificity requirements described above.

Not later than 15 days prior to the first prehearing conference scheduled in the proceeding, a petitioner shall file a supplement to the petition to intervene which must include a list of the contentions which are sought to be litigated in the matter. Each contention must consist of a specific statement of the issue of law or fact to be raised or controverted. In addition, the petitioner shall provide a brief explanation of the bases of the contention and a

concise statement of the alleged facts or expert opinion which support the contention and on which the petitioner intends to rely in proving the contention at the hearing. The petitioner must also provide references to those specific sources and documents of which the petitioner is aware and on which the petitioner intends to rely to establish those facts or expert opinion. Petitioner must provide sufficient information to show that a genuine dispute exists with the applicant on a material issue of law or fact. Contentions shall be limited to matters within the scope of the amendment under consideration. The contention must be one which, if proven, would entitle the petitioner to relief. A petitioner who fails to file such a supplement which satisfies these requirements with respect to at least one contention will not be permitted to participate as a party.

Those permitted to intervene become parties to the proceeding, subject to any limitations in the order granting leave to intervene, and have the opportunity to participate fully in the conduct of the hearing, including the opportunity to present evidence and cross-examine witnesses.

If a hearing is requested, the Commission will make a final determination on the issue of no significant hazards consideration. The final determination will serve to decide when the hearing is held.

If the final determination is that the amendment request involves no significant hazards consideration, the Commission may issue the amendment and make it immediately effective, notwithstanding the request for a hearing. Any hearing held would take place after issuance of the amendment.

If the final determination is that the amendment request involves a significant hazards consideration, any hearing held would take place before the issuance of any amendment.

A request for a hearing or a petition for leave to intervene must be filed with the Secretary of the Commission, U.S. Nuclear Regulatory Commission, Washington, DC 20555-

0001, Attention: Rulemakings and Adjudications Staff, or may be delivered to the Commission's Public Document Room, located at One White Flint North, 11555 Rockville Pike (first floor), Rockville, Maryland, by the above date. A copy of the petition should also be sent to the Office of the General Counsel, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, and to the General Counsel, Tennessee Valley Authority, 400 West Summit Hill Drive, ET 10H, Knoxville, Tennessee 37902, attorney for the licensee.

Nontimely filings of petitions for leave to intervene, amended petitions, supplemental petitions and/or requests for hearing will not be entertained absent a determination by the Commission, the presiding officer or the presiding Atomic Safety and Licensing Board that the petition and/or request should be granted based upon a balancing of the factors specified in 10 CFR 2.714(a)(1)(i)-(v) and 2.714(d).

For further details with respect to this action, see the application for amendment dated April 20, 2001, which is available for public inspection at the Commission's Public Document Room, located at One White Flint North, 11555 Rockville Pike (first floor), Rockville, Maryland, and accessible electronically through the ADAMS Public Electronic Reading Room link at the NRC Web site (<http://www.nrc.gov>).

Dated at Rockville, Maryland, this 11 day of December 2001.

FOR THE NUCLEAR REGULATORY COMMISSION

***/RA/***

L. Mark Padovan, Project Manager  
Project Directorate II-2  
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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