

May 1, 1998

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

SUBJECT: WATTS BAR NUCLEAR PLANT, UNIT 1, NOTICE OF CONSIDERATION OF  
ISSUANCE OF AMENDMENT (TAC NO. MA1491)

Dear Mr. Zeringue:

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.

The notice relates to your application dated April 29, 1998 to amend the Watts Bar Nuclear Plant, Unit 1, Technical Specifications for the Hydrogen Mitigation System igniters.

Sincerely,

/s/

Robert E. Martin, Sr. Project Manager  
Project Directorate II-3  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

Docket No. 50-390

Enclosure: Notice of Consideration of  
Issuance of Amendment

cc w/encl: See next page

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UNITED STATES  
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

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A handwritten signature in cursive script that reads "Robert E. Martin, Sr.".

Robert E. Martin, Sr. Project Manager  
Project Directorate II-3  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

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Mr. O. J. Zeringue  
Tennessee Valley Authority

**WATTS BAR NUCLEAR PLANT**

cc:

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UNITED STATES NUCLEAR REGULATORY COMMISSIONTENNESSEE VALLEY AUTHORITYDOCKET NO. 50-390NOTICE 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 the Tennessee Valley Authority (TVA or the licensee) for operation of the Watts Bar Nuclear Plant (WBN), Unit 1 located in Rhea County, Tennessee.

WBN currently has two containment hydrogen ignitors that are inoperable due to an apparent fault in the common circuit supplying these ignitors. This condition renders Train A of the WBN hydrogen mitigation system (HMS) inoperable in accordance with TS limiting condition for operation (LCO) 3.6.8. The condition was discovered during routine surveillance testing to the Train A ignitors on April 3, 1998, at which time WBN entered Condition A of limiting condition for operation (LCO) 3.6.8. The ignitors are located in a very high radiation and temperature area of lower containment and cannot be repaired until the reactor is taken offline. WBN's next scheduled outage for refueling is in February 1999. The proposed amendment would revise the TS LCO 3.6.8 to provide temporary requirements for hydrogen ignitors to address the two Train A ignitors which are currently out of service. The revision would apply until the next shutdown to MODE 3 following which time ignitor repairs would be performed to restore the HMS to an operable status.

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:

TVA has concluded that operation of WBN in accordance with the proposed change to the TS does not involve a significant hazards consideration. TVA's conclusion is based on its evaluation in accordance with 10 CFR 50.91(a)(1) of the three standards set forth in 10 CFR 50.92(c).

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

The proposed temporary technical specification would permit two specific Train A ignitors (30A and 31A) in non-adjacent regions to be out of service until the next WBN entry into MODE 3. In this condition, the remaining 32 of 34 ignitors, in combination with thorough containment air mixing and with the hydrogen collection function of the air return system, will maintain the ability to burn hydrogen such that containment hydrogen remains low following a degraded core accident. Thus, the design basis of the HMS will be maintained such that a controlled hydrogen burn may occur at the lower flammability concentration following a degraded core accident. In addition, although a loss of Train B power could result in loss of ignitors in two regions of lower containment, the short duration allowed by the proposed amendment for this condition (not to exceed 72 hours) minimizes the likelihood of a concurrent accident requiring the ignitors. The WBN PSA [probabilistic safety assessment] establishes a probability of  $3.6 \times 10^{-7}$  events per reactor-year of a degraded core event based on 72 hours, with the probability more remote for an accident that would generate hydrogen in amounts equivalent to a metal-water reaction of 75% of core cladding for which the HMS is intended. Additionally, sufficient ignition capability in adjacent regions combined with containment air mixing would provide capability by flame propagation to the regions with no operable ignitors. Thus the failure of the two specific ignitors

should not result in any change to the post-accident hydrogen burn profiles. Since the hydrogen concentration would remain low and pocketing which could lead to rapid burns and challenge containment is unlikely, the original design continues to be met. Thus the probability of a containment failure and associated radiological release is insignificantly altered. Because the containment response will not change, the proposed TS will not result in an increase in the probability or consequences of any accident previously evaluated in the WBN FSAR.

- (B) Operation of the facility in accordance with the proposed amendment would not create the possibility of a new or different kind of accident from any accident previously evaluated.

As discussed above, with the two Train A ignitors out of service, the remaining 32 of 34 ignitors in combination with containment air mixing will maintain the design basis of the HMS such that a controlled hydrogen burn may be accomplished following a degraded core accident, including a short time period of 72 hours for which a loss of Train B power could result in loss of ignitors in two regions of lower containment. Since the failure of the ignitors should not result in any change to the post-accident hydrogen burn profiles and because the containment response will not change, the proposed TS will not result in any new or different kind of accident from any accident previously evaluated.

- (C) Operation of the facility in accordance with the proposed amendment would not involve a significant reduction in margin of safety.

Although the HMS is not provided for a design basis accident (DBA), the Bases of the WBN TS define the design function of the HMS as having the capability to burn hydrogen in a controlled manner at the lower flammability concentration following a degraded core accident. An ignitor train is currently considered OPERABLE with at least 33 of 34 ignitors in service and each containment region having at least one operable ignitor. Although the proposed TS change would allow two specific Train A ignitors to be out of service and their associated containment regions to be without any ignitors for a short duration (72 hours), the remaining 32 of 34 ignitors will maintain the design basis of the HMS such that a controlled hydrogen burn may be accomplished following a degraded core accident. Although small increases in the hydrogen flammability concentration may occur, deflagration would still be expected to occur in a controlled manner and prior to a high hydrogen concentration. As stated earlier, failure of the two ignitors should not result in any change to the post-accident hydrogen burn profiles or containment response. Therefore, the proposed TS change will 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. Copies of written comments received may be examined at the NRC Public Document Room, the Gelman Building, 2120 L Street, NW., Washington, DC. The filing of requests for hearing and petitions for leave to intervene is discussed below.

By June 8, 1998, 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, the Gelman Building, 2120 L Street, NW., Washington, DC, and at the local public document room located at the Chattanooga-Hamilton County Library, 1001 Broad Street, Chattanooga, Tennessee 37402. 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, the Gelman Building, 2120 L Street, NW., Washington, DC, 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 General Counsel, Tennessee Valley Authority, ET 10H, 400 East Summit Hill Drive, 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 29, 1998, which is available for public inspection at the Commission's Public Document

Room, the Gelman Building, 2120 L Street, NW., Washington, DC, and at the local public document room located at the Chattanooga-Hamilton County Library, 1001 Broad Street, Chattanooga, Tennessee.

Dated at Rockville, Maryland, this 1st day of May 1998

FOR THE NUCLEAR REGULATORY COMMISSION



Robert E. Martin, Project Manager  
Project Directorate II-3  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation