

September 12, 2003

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 TO FACILITY OPERATING LICENSE
(TAC NO. MC0665)

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 dated September 8, and supplemented on September 11, 2003, which would revise the Watts Bar Nuclear Plant, Unit 1, Updated Final Safety Analysis Report to reflect a change in the postulated primary-to-secondary leakage rate in a faulted steam generator in the main steamline break analysis.

Sincerely,

/RA/

Margaret H. Chernoff, 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 (the licensee) for operation of the Watts Bar Nuclear Plant, Unit 1 (WBN), located in Rhea County, Tennessee.

The proposed amendment would revise the Updated Final Safety Analysis Report to change the postulated primary-to-secondary leakage from a faulted steam generator in the main steamline break (MSLB) accident analysis.

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 Title 10 of the CODE OF FEDERAL REGULATIONS (10 CFR), Section 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:

1. Does the proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?

No. The postulated MSLB outside of containment but upstream of the main steam isolation valves is the limiting accident relative to the voltage based alternate repair criteria for axial outside diameter stress corrosion cracking (ODSCC). It is the credible accident for determining the radiological consequences of increasing the postulated primary-to-secondary leakage. The leakage is an input parameter and does not physically alter any equipment, system performance, or operator actions required to mitigate the radiological consequences of an accident.

The postulated primary-to-secondary leakage as an input parameter is used to analyze the potential radiological consequences of a MSLB accident. This postulated leakage occurs after an accident is initiated. As a result, the proposed leakage rate is not an initiator of any accident and no new failure modes are created. Exceeding the technical specification limits on reactor coolant system (RCS) operational leakage is not permitted.

The consequences of the MSLB are currently analyzed for a one gpm primary-to-secondary accident leakage in the faulted steam generator. Increasing the postulated accident leakage to three gpm increased the radiological consequences. This is a small increase in leakage which is not considered significant since the dose does not exceed the appropriate fraction of the 10 CFR 100, "*Reactor Site Criteria*," dose limits as specified in NUREG-0800, "*Standard Review Plan*," for an MSLB accident or the 10 CFR 50, Appendix A, General Design Criteria (GDC) 19, "*Control Room*," limits.

2. Does the proposed change create the possibility of a new or different kind of accident from any accident previously evaluated?

No. No new failure modes are created by the increase in the postulated primary-to-secondary leakage during an MSLB accident. The credible failure mode associated with this increase in leakage is for a steam generator tube to rupture during the MSLB accident. The use of the alternate repair criteria for axial ODSCC at the tube support plate has been previously approved for WBN. Under the alternate repair criteria for tubes that exhibit axial ODSCC at the tube support plate, a conditional burst probability calculation is performed to provide a conservative assessment of tube structural integrity during a postulated MSLB occurring at the end-of-cycle. The calculation is compared to a threshold value. If the burst probability calculation is greater than or equal to the threshold value, then tubes will be plugged to decrease below the threshold. This limits the probability of a steam generator tube rupture during an MSLB accident. Tubes that are outside of the alternate repair criteria will be plugged as specified in the WBN technical specification to maintain integrity. Additionally, RCS operational leakages are subject to continual surveillance and an accumulation of minor leaks which exceed the limits established in the technical specification is not permitted during unit operation. As previously stated, the postulated primary-to-secondary accident leakage is an input parameter and not an initiator

of any accidents. The proposed increase in leakage has no significant effect on the configuration of the plant or the manner in which it is operated.

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

3. Does the proposed change involve a significant reduction in a margin of safety?

No. An increase in the primary-to-secondary leakage during an MSLB accident allows more axial ODSCC affected tubes to remain in service; however, the structural and leakage integrity of the tubes is assured by compliance with the alternate repair criteria. The affected tubes must meet specific conditions in order to remain in service. The tubes that remain in service as a result of the proposed increase in leakage must meet the requirements for determining the structural and leakage integrity. Tubes that are outside of the alternate repair criteria will be plugged as specified in the WBN technical specification to maintain integrity. The activity in the steam and power conversion system is continually monitored and an accumulation of minor leaks which exceed the limits established in the technical specification is not permitted during unit operation.

As specified in NUREG-0800, the dose mitigation features, in this case, leakage, are acceptable since the whole body and thyroid doses at the exclusion area and the lower population zone outer boundaries do not exceed the exposure guidelines. The control room doses do not exceed the requirements in 10 CFR 50, Appendix A, GDC 19.

Therefore, the proposed change does not involve a significant reduction in a 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, Public File Area O1 F21, 11555 Rockville Pike (first floor), Rockville, Maryland.

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

By October 20, 2003, 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, or electronically on the Internet at the NRC Web site <http://www.nrc.gov/reading-rm/doc-collections/cfr/>. If there are problems in accessing the

document, contact the Public Document Room Reference staff at 1-800-397-4209, 301-415-4737, or by e-mail to pdr@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 (PDR), located at One White Flint North, Public File

Area O1 F21, 11555 Rockville Pike (first floor), Rockville, Maryland, by the above date.

Because of the continuing disruptions in delivery of mail to United States Government offices, it is requested that petitions for leave to intervene and requests for hearing be transmitted to the Secretary of the Commission either by means of facsimile transmission to 301-415-1101 or by e-mail to hearingdocket@nrc.gov. A copy of the petition for leave to intervene and request for hearing should also be sent to the Office of the General Counsel, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, and because of continuing disruptions in delivery of mail to United States Government offices, it is requested that copies be transmitted either by means of facsimile transmission to 301-415-3725 or by e-mail to OGCMailCenter@nrc.gov. A copy of the request for hearing and petition for leave to intervene should also be sent to General Counsel, Tennessee Valley Authority, ET 11A, 400 West Summit Hill Drive, Knoxville, TN 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 September 8, 2003, and supplement dated September 11, 2003, which are available for public inspection at the Commission's PDR, located at One White Flint North, File Public Area O1 F21, 11555 Rockville Pike (first floor), Rockville, Maryland. Publicly available records will be accessible from the Agencywide Documents Access and Management System's (ADAMS) Public Electronic Reading Room on the Internet at the NRC Web site, <http://www.nrc.gov/reading-rm/adams.html>. Persons who do not have access to ADAMS or who encounter problems in accessing the documents located in ADAMS, should contact the

NRC PDR Reference staff by telephone at 1-800-397-4209, 301-415-4737, or by e-mail to pdr@nrc.gov.

Dated at Rockville, Maryland, this 12th day of September 2003.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Margaret H. Chernoff, Project Manager
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WATTS BAR NUCLEAR PLANT

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