



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

January 18, 2018

Mr. Joseph W. Shea
Vice President, Nuclear Regulatory Affairs
and Support Services
Tennessee Valley Authority
1101 Market Street, LP 4A
Chattanooga, TN 37402-2801

SUBJECT: WATTS BAR NUCLEAR PLANT, UNIT 2 – PUBLIC NOTICE OF
APPLICATION FOR AMENDMENT TO FACILITY OPERATING
LICENSE (EPID L-2018-LLA-0003)

Dear Mr. Shea:

The enclosed announcement was forwarded to the *Rhea County Herald-News, Advocate and Democrat*, and *Daily Post-Athenian* newspapers for publication. This announcement relates to your application dated January 10, 2018, for an amendment to Facility Operating License No. NPF-96 for the Watts Bar Nuclear Plant, Unit 2. The proposed amendment would provide a one-time change to Technical Specification Table 3.3.4-1, Function 4a, "RCS Hot Leg Temperature Indication," to permit the temperature indication for the Reactor Coolant System Loop 3 hot leg to be inoperable for the remainder of Watts Bar Unit 2 Operating Cycle 2.

If you have any questions, please contact me at 301-415-6020 or by email at Robert.Schaaf@nrc.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Robert G. Schaaf", is positioned below the word "Sincerely,".

Robert G. Schaaf, Senior Project Manager
Licensing Project Branch II-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-391

Enclosure:
Public Notice

cc w/encl: Listserv

ENCLOSURE

PUBLIC NOTICE

(ADAMS Accession No. ML180012A008)

PUBLIC NOTICE

NRC STAFF PROPOSES TO AMEND THE FACILITY OPERATING LICENSE FOR THE WATTS BAR NUCLEAR PLANT, UNIT 2

The U.S. Nuclear Regulatory Commission (NRC, the Commission) has received an application dated January 10, 2018, from the Tennessee Valley Authority (TVA, the licensee) for an exigent amendment to the facility operating license for the Watts Bar Nuclear Plant (WBN), Unit 2, located in Rhea County, Tennessee.

The proposed exigent amendment would provide a one-time change to Technical Specification (TS) Table 3.3.4-1, Function 4a, "RCS Hot Leg Temperature Indication," to permit the temperature indication for the Reactor Coolant System (RCS) Loop 3 hot leg to be inoperable for the remainder of WBN Unit 2 Operating Cycle 2, the refueling outage for which is scheduled to start in spring 2019. Additionally, the proposed change would require the licensee to repair selected components of the temperature indicator if WBN Unit 2 enters Modes 3, 4, or 5 prior to the end of Operating Cycle 2. The licensee also proposed to add a condition to the operating license to require implementation of compensatory measures described in the application that will remain in effect until the temperature indicator is returned to operable status.

The request is necessary because on December 30, 2017, TVA declared that Temperature Indicator (TI) 2-TI-68-43C was not operable. Upon the declaration of this condition, TVA entered TS 3.3.4, "Remote Shutdown System," Condition A. Condition A requires restoration of the temperature indicator within 30 days. TVA states that it has isolated the problem to two components of the temperature indicator, either the modifier circuit or the thermocouple, both of which are located inside the Reactor Building Polar Crane Wall. The 30-day completion time for Condition A of TS 3.3.4 expires on January 29, 2018, at approximately 3:43 a.m. EST, at which point a plant shutdown is required. Accordingly, TVA requested approval of the proposed TS change by January 28, 2018, and that the implementation of the

revised TS be effective immediately to avoid the requirement to shutdown WBN Unit 2. The temperature indicator is one of four instruments that provide indication in the Auxiliary Control Room (ACR) for the hot leg temperatures of the four RCS Loops. The other three instruments remain operable.

The licensee requested that the proposed amendment be processed on an exigent basis, in accordance with the provisions in Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.91(a)(6). Under 10 CFR 50.91(a)(6)(i), where the Commission finds that exigent circumstances exist, in that a licensee and the Commission must act quickly and that time does not permit the Commission to publish a *Federal Register* notice allowing 30 days for prior public comment, and it also determines that the amendment involves no significant hazards considerations, the Commission may use local media to provide reasonable notice to the public in the area surrounding a licensee's facility of the licensee's amendment and of its proposed determination that no significant hazards consideration is involved, consulting with the licensee on the proposed media release and on the geographical area of its coverage.

The licensee bases its claim of exigent circumstances on the following considerations. First, TVA stated that it could not have reasonably anticipated the failure of the instrumentation because although WBN Unit 1 experienced failures of the RCS loop hot leg instruments in 2004 and 2015, the WBN Unit 2 RCS Loop 3 hot leg instrument modifier circuit is a different make and model than the corresponding Unit 1 modifier circuit. Second, the licensee stated that the configuration of the affected instrumentation precludes repair at power because the instrumentation is located inside the Reactor Building Polar Crane Wall. The radiological and environmental conditions inside this area during power operations would impose a significant challenge to plant staff attempting to repair the components. Third, the shutdown of the plant to

implement repairs is not necessary because the remaining temperature indications available in the ACR are adequate to safely shut down the unit should an emergency arise.

As required by 10 CFR 50.91(a), the licensee has provided its analysis of the issue of no significant hazards consideration using the standards in 10 CFR 50.92. The licensee and the NRC have evaluated the proposed change with regard to the determination of whether or not a significant hazards consideration is involved.

Operation of WBN Unit 2 in accordance with the proposed amendment will not involve a significant increase in the probability or consequences of an accident previously evaluated. The proposed TS change to allow operation with only three of four loop remote shutdown indications for RCS hot leg temperature until the Cycle 2 refueling outage is only applicable to the following conditions:

- Fire or smoke in Main Control Room (MCR).
- An evacuation of the MCR due to some other (non-fire) unspecified reason.
- The design basis flood.

The inoperability of the one hot leg temperature indicator does not change the probability of occurrence for these events because the indicator is not an accident initiator. The hot leg temperature indicators on the four RCS loops are used for indication only and have no automatic control functions. During safe shutdown for an MCR evacuation event, design basis flood, or fire related event, no fuel damage is postulated to occur, nor is the integrity of the reactor coolant pressure boundary or containment barriers postulated to be lost. Sufficient redundancy exists with the operational instrumentation to ensure that decay heat removal functions are not adversely affected by this change. Therefore, the proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

The proposed amendment will not create the possibility of a new or different kind of accident from any previously evaluated. The proposed TS change does not alter the function of the remote shutdown system, which is to achieve and maintain safe reactor shutdown from outside the MCR. The TS instrumentation and controls required are such that sufficient capability is retained for decay heat removal via the steam generators to provide the indication required for safe shutdown capabilities. The proposed change will not result in the installation of any new equipment or system. The hot leg temperature instrument is used for indication only and has no automatic control functions. No new operations procedures are created by this change. Appropriate operational procedures will be updated to clarify that the RCS Loop 3 hot leg temperature indication in the ACR is not available during the remainder of Cycle 2. No new operating conditions or modes will be created by this proposed change. Therefore, the proposed change does not create the possibility of a new or different kind of accident from any previously evaluated.

The proposed amendment will not involve a significant reduction in a margin of safety. The radiological dose consequences are not affected because this change is only applicable to an evacuation of the MCR due to fire or smoke in the MCR, evacuation of the MCR for some other unspecified reason, or the design basis flood. During safe shutdown for an MCR evacuation event, design basis flood, or fire related event, no fuel damage is postulated to occur, nor is the integrity of the reactor coolant pressure boundary or containment barriers postulated to be lost. Sufficient redundancy exists with the operational instrumentation to ensure that decay heat removal functions are not adversely affected by this change. Because the conduit, cables, and equipment that provide hot leg temperature indication in the ACR are routed outside the control building, removal of the RCS Loop 3 hot leg temperature indication is

acceptable due to the redundant paths not being affected by a control building fire. Therefore, the proposed change does not involve a significant reduction in a margin of safety.

Following an initial review of this application, the requested amendment has been evaluated against the standards in 10 CFR 50.92 and the NRC has made a proposed (preliminary) determination that the requested amendment involves no significant hazards considerations. Operation of WBN Unit 2 in accordance with the proposed amendment would not significantly increase the probability or consequences of any accident previously considered, nor create the possibility of a new or different kind of accident, nor significantly reduce any margin of safety.

If the proposed determination that the requested exigent license amendment involves no significant hazards consideration becomes final, the NRC will issue the amendment without first offering an opportunity for a public hearing. An opportunity for a hearing will be published in the *Federal Register* at a later date and any hearing request will not delay the effective date of the amendment.

If the NRC decides in its final determination that the requested exigent license amendment does involve a significant hazards consideration, a notice of opportunity for a prior hearing will be published in the *Federal Register* and, if a hearing is granted, it will be held before the amendment is issued.

Comments on the proposed determination of no significant hazards consideration may be (1) telephoned to Undine Shoop, Chief, Licensing Projects Branch II-2, by collect call to 301-415-2063, or by facsimile to 301-415-2102, (2) e-mailed to Undine.Shoop@nrc.gov, or (3) submitted in writing to May Ma, Office of Administration, Mail Stop: OWFN-2-A13, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001. All comments received by 4:15 p.m. EST on January 24, 2018, will be considered in reaching a final determination. A copy of the

application may be examined electronically through the NRC's Agencywide Documents Access and Management System (ADAMS) in the NRC Library at <http://www.nrc.gov/reading-rm/adams.html> by using Accession No. ML18010B043 and at 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. 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, or 301-415-4737, or by e-mail to pdr.resource@nrc.gov.

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***via e-mail**

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