

From: Green, Kimberly
Sent: Tuesday, February 25, 2020 2:58 PM
To: Wells, Russell Douglas
Cc: Shoop, Undine
Subject: Acceptance Review Results for Watts Bar Nuclear Plant, Units 1 and 2, License Amendment Request Implement the FULL SPECTRUM™ LOCA (FSLOCA™) Methodology for Loss-of-Coolant Accident (LOCA) Analysis (EPID L-2020-LLA-005)

Dear Mr. Wells:

By letter dated January 17, 2020 (Agencywide Documents Access and Management System (ADAMS) Package Accession No. ML20017A337), Tennessee Valley Authority (TVA) submitted a license amendment request (LAR) for the Watts Bar Nuclear Plant (WBN), Units 1 and 2. The proposed amendments would: revise WBN Units 1 and 2 Technical Specification (TS) 5.9.5, "Core Operating Limits Report," to replace the loss-of-coolant accident (LOCA) analysis evaluation model references with reference to the FULL SPECTRUM™ Loss-of-Coolant Accident (FSLOCA™) Evaluation Model analysis applicable to WBN Units 1 and 2, with replacement steam generators; revise the WBN Unit 2 Operating License (OL) condition 2.C(4) to reflect the implementation of the FSLOCA Evaluation Model methodology; and revise WBN Unit 1 TS 4.2.1, "Fuel Assemblies," to delete discussion of Zircalloy fuel rods.

The purpose of this email is to provide the results of the U.S. Nuclear Regulatory Commission (NRC) staff's acceptance review of the proposed LAR. The acceptance review was performed to determine if there is sufficient technical information in scope and depth to allow the NRC staff to complete its detailed technical review. The acceptance review is also intended to identify whether the application has any readily apparent information insufficiencies in its characterization of the regulatory requirements or the licensing basis of the plant.

Consistent with Section 50.90 of Title 10 of the *Code of Federal Regulations*, an amendment to the license (including the technical specifications) must fully describe the changes requested, and following as far as applicable, the form prescribed for original applications.

The NRC staff has reviewed TVA's application and concluded that it does provide sufficient technical information to enable the NRC staff to complete its detailed technical review and make an independent assessment regarding the acceptability of the proposed amendment in terms of regulatory requirements and the protection of public health and safety and the environment. However, during the staff's acceptance review, it identified the need for the following additional information, which are not considered sufficiency items:

- Details of the LOCA-specific TPBAR stress analysis methodology developed by Pacific Northwest National Laboratory (PNNL)
- Details of how the TPBAR cladding temperature is used to determine whether TPBARs would be expected to rupture following LOCA
- Details of how the two acceptance criteria are developed (Page E1-11 of CNL-19-051)
- Reference to OPEN literature from where the allowable stress limits were developed (Page E1-11 of CNL-19-051)

- Details of the statistical approach (Monte Carlo) for uncertainty analysis to determine figures of merit related to the TPBAR structural integrity; rupture due to primary membrane and bending stress and rupture due to creep damage.

The NRC staff believes that early identification of the above information needs will allow for the timely provision and review of the information and potentially eliminate the need for multiple rounds of request for additional information. Formal communication of the staff's information needs identified above will be forthcoming.

Given the lesser scope and depth of the acceptance review as compared to the detailed technical review, there may be instances in which issues that impact the NRC staff's ability to complete the detailed technical review are identified despite completion of an adequate acceptance review. If additional information is needed, you will be advised by separate correspondence.

Based on the information provided in TVA's submittal, the NRC staff has estimated that this licensing request will take approximately 700 hours to complete and that the review can be completed by February 28, 2021. If there are emergent complexities or challenges in our review that would cause changes to the initial forecasted completion date or significant changes in the forecasted hours, the reasons for the changes, along with the new estimates will be communicated, during the routine interactions.

These estimates are based on the staff's initial review of the application and they could change, due to several factors including requests for additional information and unanticipated addition of scope to the review.

If you have any questions, please contact me at (301) 415-1627.

Sincerely,
Kimberly J. Green, Senior Project Manager
Plant Licensing Branch II-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Hearing Identifier: NRR_DRMA
Email Number: 454

Mail Envelope Properties (MN2PR09MB5820018839CCEB9C3D83567A8FED0)

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Sent Date: 2/25/2020 2:57:58 PM

Received Date: 2/25/2020 2:57:00 PM

From: Green, Kimberly

Created By: Kimberly.Green@nrc.gov

Recipients:

"Shoop, Undine" <Undine.Shoop@nrc.gov>

Tracking Status: None

"Wells, Russell Douglas" <rdwells0@tva.gov>

Tracking Status: None

Post Office: MN2PR09MB5820.namprd09.prod.outlook.com

Files	Size	Date & Time
MESSAGE	4621	2/25/2020 2:57:00 PM

Options

Priority: Normal

Return Notification: No

Reply Requested: No

Sensitivity: Normal

Expiration Date: