

WBN2Public Resource

From: Lamb, John
Sent: Wednesday, June 09, 2010 8:56 AM
To: Arent, Gordon; wdcrouch@tva.gov
Cc: WBN2HearingFile Resource; Raghavan, Rags; Milano, Patrick; Wiebe, Joel; Haag, Robert
Subject: For Your Review - Watts Bar Unit 2 - Preliminary RAIs - AADB - FSAR 15.5
Attachments: AADB WBar2 Prelim Met RAI15.docx

Gordon & Bill,

Please review the attached preliminary RAI questions regarding WBN Unit 2. Please review to ensure that the RAI questions are understandable, the regulatory basis is clear, there is no proprietary information contained in the RAI, and to determine if the information was previously docketed. Please also let me know how much time TVA needs to respond to the RAI questions.

Thanks.
John

Hearing Identifier: Watts_Bar_2_Operating_LA_Public
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Subject: For Your Review - Watts Bar Unit 2 - Preliminary RAIs - AADB - FSAR 15.5
Sent Date: 6/9/2010 8:56:19 AM
Received Date: 6/9/2010 8:56:24 AM
From: Lamb, John

Created By: John.Lamb@nrc.gov

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Options

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PRELIMINARY REQUEST FOR ADDITIONAL INFORMATION
REGARDING FINAL SAFETY ANALYSIS REPORT AMENDMENT NO. 97 FOR
CHAPTER 15.5: ENVIRONMENTAL CONSEQUENCES OF ACCIDENTS
TENNESSEE VALLEY AUTHORITY
WATTS BAR NUCLEAR PLANT, UNIT 2
DOCKET NUMBER 50-391

By letter dated January 11, 2010 (ADAMS Accession No. ML100191686), the Tennessee Valley Authority (TVA) submitted Final Safety Analysis Report (FSAR) Amendment No. 97 for Watts Bar Nuclear Plant (WBN), Unit 2. The U.S. Nuclear Regulatory Commission (NRC) staff has reviewed the information provided by the TVA in FSAR Amendment No. 97.

Please review the below preliminary RAI questions regarding WBN Unit 2. Please review to ensure that the RAI questions are understandable, the regulatory basis is clear, there is no proprietary information contained in the RAI, and to determine if the information was previously docketed. Please also let me know how much time TVA needs to respond to the RAI questions.

Accident Dose Branch – FSAR 15.5

1. For calculations of atmospheric dispersion factors (χ/Q values) using the ARCON96 methodology, please provide the input files (electronic files for data input into computer codes) and a discussion of the assumptions used to generate the χ/Q values. Include one or more scaled figures with true north clearly shown, when appropriate, from which distance, height, and direction inputs can be reasonably approximated. Provide the scale of each figure. Highlight all postulated sources and receptors, including the location of the control room envelop with respect to the postulated release locations. Please explain how distance inputs into the ARCON96 calculations were estimated (e.g., horizontal straight line distances). Please explain how the procedure used to estimate the distances properly factored in differences in heights between each source and receptor pair. Were any sources modeled as diffuse or high energy releases? If so, what is the basis for determination of the inputs specific to those cases?
2. Which χ/Q values were used in the dose assessments to model unfiltered inleakage into the control room envelope and why is use of these χ/Q values appropriate?
3. Please explain if any source/receptor pairs other than those resulting in the χ/Q values listed in Table 15.5-14 were considered. If so, which source/receptor pairs and χ/Q values were compared to determine the limiting control room χ/Q values for each design basis accident? Please explain how limiting releases were determined (quantitatively or subjectively). If only three source/receptor pairs were considered, as implied by the χ/Q values listed in Table 15.5-14, explain why they were the limiting cases. For example, was this determined by examination of plant drawings or plant walk-downs? Do the postulated accident scenarios

and generated χ/Q values model the limiting doses considering multiple release scenarios, including those due to loss of offsite power or other single failures?

4. Please provide an electronic copy of the PAVAN computer code input, if available. Otherwise, provide a list of all inputs and assumptions used in the PAVAN calculations. A copy of the summary pages of the PAVAN outputs is acceptable to show inputs.
5. The choice of wind speed categories used in the PAVAN computer code calculations appears to result in some clustering of the data in the lower categories. NRC Regulatory Issues Summary (RIS) 2006-4, "Experience with Implementation of Alternative Source Terms," states that input to PAVAN should have a large number of wind speed categories at the lower wind speeds in order to produce the best results. Therefore, please provide justification that the wind speed categories used in the PAVAN calculations have produced adequate estimates of the exclusion area and low population zone χ/Q values for the Watts Bar site.