



Tennessee Valley Authority, 1101 Market Street, Chattanooga, Tennessee 37402

June 30, 2008

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

10 CFR 52.79

In the Matter of)
Tennessee Valley Authority)

Docket No. 52014 and 52-015

**BELLEFONTE COMBINED LICENSE APPLICATION - HYDROLOGY SCHEDULE
UPDATE AND PROPOSED REVIEW PROCESS**

- Reference Letters: 1) Letter from Tennessee Valley Authority (TVA), to Nuclear Regulatory Commission dated April 17, 2008, Review of BLN Application White Paper - Hydrologic Analysis Description.
- 2) Letter from TVA to NRC dated March 14, 2008, Review of Hydrology Calculation.

This letter documents TVA's schedule for confirming the Bellefonte (BLN) Units 3 and 4 COL application probable maximum flood (PMF) level calculation and results. This letter also proposes the adoption of a parallel phased NRC review process of the results. TVA is proposing this phased review because it will allow the NRC to continue the utilization of Staff resources on the previously-arranged schedule while at the same time allow TVA to complete the verification and confirmation of the existing, high quality PMF and probable maximum precipitation (PMP) levels included in the BLN Units 3 and 4 COL application. The proposed parallel review will enable the existing NRC schedule for review of the BLN COL application to be maintained, resulting in the delivery of the Draft Safety Evaluation Report with Open Items (DSER with OIs) to the ACRS by July 2009.

On March 14, 2008 TVA submitted a letter to the NRC outlining the overall plan and schedule for TVA to verify and confirm the BLN Units 3 and 4 COLA PMF calculation (reference letter 2). On April 17, 2008, TVA submitted a Hydrology White Paper (reference letter 1, "White Paper") discussing the plan to confirm the TVA River Operations input data used in the Bellefonte Nuclear Plant (BLN) Units 3 and 4 Probable Maximum Flood (PMF) height calculation. The White Paper also discussed the efforts to perform Software Verification and Validation on the SOCH (Simulated Open Channel Hydraulics) code and the subprograms utilized to calculate the PMF height. The detailed activities associated with the software verification and validation are provided in the White Paper, which also provides the process for confirming that the Bellefonte site remains a dry site in the event of a PMF condition. Work performed thus far confirms the quality and accuracy of the existing PMF analyses, and even with some small changes attributable to additional data and an identified data error, continues to confirm BLN is a dry site. The March 14, 2008 letter included a commitment for TVA to revise the White Paper on May 26, 2008 to reflect NRC comments. Per discussions during the May 2008 hydrology site visit, it was agreed that this revision would be provided 30 days following the June 23-27 hydrology workshop, to allow for additional NRC comments and questions. This revision is scheduled for submittal to the NRC on July 25, 2008.

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Subsequent to the TVA's submittal of the White Paper in March, NRC issued a letter to TVA on March 25, 2008 indicating that the Staff intended to re-evaluate the review schedule issued in February 2008. The re-evaluation would include consideration of TVA's verification of the BLN Units 3 and 4 PMF calculation, SOCH code, and input data. As stated, the purpose of this letter is to propose a process for maintaining the existing NRC review schedule resulting in the generation of the Draft Safety Evaluation Report with Open Items (DSER with OIs) for COLA sections 2.4.3 and 2.4.4 by July 6, 2009. This date reflects the current schedule date for the NRC to begin Phase 3 of the COLA review (DSER with OIs to ACRS) assuming no credit for management reserve schedule time. TVA believes that this schedule is still achievable and appropriate, and proposes the approach outlined in this letter to ensure review efficiency and effectiveness. This proposed approach will be supplemented with additional interim milestones defining the schedule for detailed supporting package activities for each of the key milestones. TVA is confident that maintaining the current schedule is appropriate because the PMP and PMF descriptions in the BLN Units 3 and 4 COLA continue to be accurate, any changes resulting from the verification and validation process will reflect clarifications and minor revisions, and any open issues will be satisfied by the confirmation of these existing descriptions.

The table enclosed with this letter provides the key milestones and dates for the activities outlined in the White Paper. TVA conducted the technical workshop demonstrating the functionality of the codes (methods and procedures) that have been used to define the design basis flood levels at BLN. During the workshop, the software for the SOCH model along with the User's Manual were provided to the NRC. In addition, the User's Manuals for the subprograms are nearing completion and will be provided to the NRC in July and August 2008 (with the final manual provided for NRC use no later than August 22, 2008). TVA has also indicated that the verified input packages will be made available in Rockville starting on July 21, 2008 to facilitate NRC review.

TVA proposes that NRC initiate their review with the software and user's manuals that have been provided. The table enclosed with this letter provides the dates for completion of each of the key milestones, but many of the milestones involve multiple package deliveries. TVA plans to make these packages available when each is completed. For example, the final Geometry Input Data Package is scheduled to be verified by October 31, 2008. However, there are 11 of these packages with the first one planned for completion by July 21, 2008 and the final one planned for completion by October 31, 2008. The key milestones listed on the table include multiple packages with the exception of those identifying dates for revising the white paper, establishing the new controlling PMF level, and providing a proposed FSAR markup. Availability of all of the individual packages associated with a key milestone are not necessary for the NRC to initiate the review process.

Therefore, TVA proposes a parallel NRC review process with the NRC initiating review of the existing documentation including the documentation supplied at the recent workshop. NRC review will then continue as TVA provides additional documents confirming the PMF and PMP results as they are completed individually (and consistent with the forthcoming interim milestone schedule). This parallel review process should facilitate an effective NRC review that progresses concurrently with the TVA milestone progress. This review process is appropriate because the TVA efforts underway are expected to confirm the COL application PMF and PMP levels, and any updates are expected to be minor and continue to positively demonstrate BLN as a dry site.

TVA recognizes that the current schedule identifies October 21, 2008 as the date for RAIs and PSER draft input to be completed. In light of the proposed parallel review, TVA proposes that NRC develop the draft RAIs and PSER input based on the information provided to date, and that to be provided over the next several months, and document open items (both RAIs that remain outstanding as well as documentation that the NRC review team still needs to review or confirm). NRC reviewers have indicated that their review will include both an independent run of the SOCH code and some independent verifications of a subset of the river basin data. The enclosed table indicates that the completed Input Data File Packages will be signed and available for NRC review no later than January 5, 2009. Again, the interim schedule for these packages will be provided by July 11, 2008, allowing the NRC to plan review schedule milestones. TVA believes

that the NRC can perform parallel reviews including independent verifications of the subset of river basin data, and identify open items that will require confirmation when the overall effort is completed. In January 2009, the independent NRC SOCH calculation can be performed with a minimal risk for any additional changes. The key to maintaining the current schedule is to treat the review of the verified data packages, hydrographs and calculations as an Open Item or as Confirmatory Items once the formal scheduled RAI period is completed (i.e., Phase 2B instead of Phase 1B in the February NRC review schedule).

The TVA plan includes efforts to finalize the software V&V documents, as well as Phase 1 (controlling) documentation and Phase 2 (non-controlling) documentation from January 2009 through April 28, 2009. These activities include the efforts to finalize the documentation and procedures. These activities have minimal risk for requiring any significant technical changes to the code software, the input data packages or the calculated PMF level.

For purposes of this proposal, controlling analyses are those that define a maximum PMF elevation during a normal PMP design storm and during the worst cases seismic dam failure scenario. Non-controlling analyses include any analyses which determine a PMF level less than the maximum design basis value. Non-controlling analyses also include any beyond design basis sensitivity runs.

The TVA proposal provides a commitment to continuous communication of progress to NRC, including regular monthly status telecons, identification of any issues that arise in a timely manner, and weekly updated status reports indicating the materials that are available for NRC review.

This proposal allows for an effective parallel review of the calculation, code and input data to support the current planned delivery of a DSER with Open Items (Phase 3) to the ACRS in July 2009. As noted previously, the February 2008 NRC review schedule includes an additional management reserve for this DSER with Open Items (Phase 3) which is scheduled to be issued to the ACRS on August 24, 2009. Further more, the ACRS review period extends to January 2010. TVA believes that a parallel review process, including continuous and open communications, can be successful in maintaining the July 6, 2009 date for DSER with Open Items delivery to the ACRS. Key elements of the review can be performed in parallel with the phased delivery of the deliverables for NRC review. This proposed approach, along with confirmation of any open items in the April through June 2009 time-frame, allows the current schedule for the Bellefonte COL application review to remain on the existing plan. TVA is confident that this parallel review process does not represent a significant risk to the NRC's review of the COL application, because the reviews that TVA has performed to date have substantially confirmed that the SOCH code and utilized input data have resulted in a high quality PMF calculation.

If you have any questions, or required additional information, please do not hesitate to contact me at 423-751-7119, by mail at 1101 Market Street, LP5A, Chattanooga, Tennessee 37402-2801.



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Enclosure
cc: See Page 4

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**BLN Units 3 and 4
Hydrologic Analysis Schedule
Key Milestones**

Activity	Milestone Date
Issue Interim Milestone Schedule	7/11/08
Whitepaper revision	07/25/08
All Users Manuals Complete	08/22/08
All Excel codes - issue document	08/29/08
All Dam rating curves verified	10/03/08
All Geometry Input Data Packages verified	10/31/08
All Changes to Inputs Identified – Start final SOCH runs	11/14/08
All Unit Hydrograph input packages verified	12/19/08
New Controlling PMF Level Established / Draft FSAR Markup for review - High Confidence / Low risk of subsequent changes	12/31/08
All Input Data File Packages signed/available for review	01/05/09
All Software V&V Documents Issued	02/27/09
Phase 1 Documentation (Controlling) Complete	03/16/09
Phase 2 Documentation (Non-Controlling) Complete	04/28/09