PMBelCOL PEmails

From: Ray, Phillip M [pmray@tva.gov]
Sent: Friday, March 14, 2008 3:13 PM
To: Joseph Sebrosky; Tanya Simms
Subject: Hydrology Plan
Attachments: Hydrology Plan 2008-03-14-144040.pdf

Tanya,

Attached is the letter mailed today providing the plan that TVA is following to address the hydrology calculation issue.

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Senior Project Manager
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Tennessee Valley Authority
423-751-7030

Hearing Identifier: Bellefonte_COL_Public_EX
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Subject: Hydrology Plan
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From: Ray, Phillip M

Created By: pmray@tva.gov

Recipients:
"Joseph Sebrosky" <Joseph.Sebrosky@nrc.gov>
Tracking Status: None
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Tennessee Valley Authority, 1101 Market Street, LP 5A, Chattanooga, Tennessee 37402-2801

March 14, 2008

10 CFR 52.75

Mr. R. William Borchardt
Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Borchardt:

In the Matter of	)	Docket Numbers	52-014 and 52-015
Tennessee Valley Authority	)		

NUCLEAR REGULATORY COMMISSION (NRC) – BELLEFONTE NUCLEAR PLANT (BLN) – AP1000 COMBINED LICENSE APPLICATION (COL) - REVIEW OF HYDROLOGY CALCULATION

The purpose of this letter is to provide to the application reviewers the TVA plan for addressing NRC-identified issues regarding BLN's hydrology calculation.

Subsequent to the NRC QA inspection of BLN Units 3 and 4 COL application hydrology calculations, held on February 19-22, TVA has undertaken efforts to locate information needed to confirm the TVA calculation package used to document flood levels for the BLN site. This includes verification of the river system model inputs such as topography data, flood data and hydrographs. The effort also includes gathering documentation of the Simulated Open Channel Hydraulics (SOCH) code calibration against actual river flows and elevations in the low flow turbine operation range, against actual flood data, and against standard step backwater computations using the HEC-2 code in the PMF range. Since the NRC inspection, TVA has made progress in locating and retrieving the river system input data and calibration records, and we are continuing to reconstruct the historical records associated with these calculations. To efficiently and effectively retrieve, organize, and confirm these records, TVA has established a work process that is being used by the individuals performing the document searches and associated reviews. This work process specifies standard organization of the packages and also provides for standard reconciliation should anomalies be identified.

Based on the lessons learned from the inspection results, TVA has reviewed the calculation details and has expanded the scope of inputs for verification beyond those presented explicitly in the calculation. With this in mind, TVA has developed a proposed approach for moving forward to efficiently and effectively resolve this issue. The following steps are proposed:

- Recover and organize input data, code calibration information, and results. Information is expected to be sufficient to justify the existing river system model, the SOCH code (including subprograms of the SOCH code), and calculation results included in the BLN Units 3 and 4 COL application.

- Place SOCH 90 PC code under TVA Procedure SPP 2.6. This requires a Verification and Validation (V&V) effort to be completed covering the software utilized in the SOCH 90 PC code including the subprograms. This V&V effort would be performed under the requirements of SPP 2.6 and would be consistent with software V&V efforts used throughout the industry. Sensitivity studies to address issues discussed with the NRC at the February inspection will be included in these efforts.

- Develop a white paper describing the data documentation packages and V&V plan and submit to NRC by April 18, 2008. It is proposed that NRC review this white paper and provide comments to TVA within two weeks of receipt. The comments received would be used to inform the completion of the tasks prior to holding a workshop with NRC to review the data packages, the SOCH 90 PC code V&V packages, and to provide NRC with hands-on instruction for using the SOCH 90 PC code and subprograms.

- Conduct a briefing with NRC the week of April 21, 2008, in Rockville to discuss the white paper, the detailed definition of tasks, completion status and some examples of the results at that point.

- Provide a revised white paper that addresses NRC comments. This revised white paper is planned for the week of May 26, 2008.

- Conduct a briefing with NRC the week of June 2, 2008, in Rockville to provide the preliminary outputs of the TVA efforts including examples of the code V&V packages as well as example input data documentation packages.

- Conduct NRC workshop at the TVA offices in Knoxville, Tennessee (June 23-27, 2008). Included in the workshop would be a review of the detailed documentation packages for the input data, the calculation, and the code V&V efforts. The workshop would also provide the NRC reviewers with hands-on instruction to allow their use of the SOCH 90 PC code. Furthermore, the end of the week could be used to address the QA findings from the February inspection.

TVA and NRC have discussed this proposal via teleconferences held on March 4 and March 8, 2008. TVA has indicated that the results from this proposal will allow efficient resolution of sensitivity studies beyond those discussed at the February inspection and as required to address NRC staff technical regulatory issues. With this efficiency in mind, it is anticipated that the schedule for Phase 1A for Chapter 2 of the BLN Units 3 and 4 to issue RAIs to remain as described in the February 15, 2008, NRC review schedule letter (RAIs issued by December 18, 2008). In addition to the efficiency of the verified and validated SOCH 90 PC code version, this expectation is also founded due to the success TVA has experienced since the February 2008 inspection in retrieving the supporting documentation and confirming the model. Furthermore, TVA has performed a comparison of the SOCH 88 mainframe results with SOCH 90 PC results and has shown common results from both codes.

TVA requests NRC concurrence on the proposal provided herein including both the technical plan outlined here as well as the schedule provided. If you need any additional information, please do not hesitate to contact Andrea Sterdis at (423) 751-7119.

Sincerely,

Jack A. Bailey

Jack A. Bailey
Vice President, Nuclear Generation
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