

BellefonteRAIsPEm Resource

From: Joseph Sebrosky
Sent: Thursday, April 16, 2009 9:51 AM
To: BellefonteRAIsPEm Resource
Subject: REQUEST FOR ADDITIONAL INFORMATION LETTER NO. 155 RELATED TO SRP SECTION 2.5.2 FOR THE BELLEFONTE UNITS 3 and 4 COMBINED LICENSE APPLICATION
Attachments: BLN-RAI-LTR-155.doc

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Subject: REQUEST FOR ADDITIONAL INFORMATION LETTER NO. 155 RELATED TO SRP SECTION 2.5.2 FOR THE BELLEFONTE UNITS 3 and 4 COMBINED LICENSE APPLICATION
Sent Date: 4/16/2009 9:51:00 AM
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From: Joseph Sebrosky

Created By: Joseph.Sebrosky@nrc.gov

Recipients:
"BellefonteRAIsPEm Resource" <BellefonteRAIsPEm.Resource@nrc.gov>
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April 16, 2009

Ms. Andrea L. Sterdis
Manager, Nuclear Licensing & Industry Affairs
Nuclear Generation Development & Construction
Tennessee Valley Authority
1101 Market Street
Chattanooga, Tennessee 37402-2801

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION LETTER NO. 155 RELATED TO
SRP SECTION 2.5.2 FOR THE BELLEFONTE UNITS 3 and 4 COMBINED
LICENSE APPLICATION

Dear Ms. Sterdis:

By letter dated October 30, 2007, as supplemented by letters dated November 2, 2007, January 8, 2008 and January 14, 2008, Tennessee Valley Authority (TVA) submitted its application to the U. S. Nuclear Regulatory Commission (NRC) for a combined license (COL) for two AP1000 advance passive pressurized water reactors pursuant to 10 CFR Part 52. The NRC staff is performing a detailed review of this application to enable the staff to reach a conclusion on the safety of the proposed application.

The NRC staff has identified that additional information is needed to continue portions of the review. The staff's request for additional information (RAI) is contained in the enclosure to this letter.

To support the review schedule, you are requested to respond within 30 days of the date of this letter. If changes are needed to the final safety analysis report, the staff requests that the RAI response include the proposed wording changes.

If you have any questions or comments concerning this matter, you may contact me at 301-415-1132.

Sincerely,

/RA/

Joseph M. Sebrosky, Senior Project Manager
AP1000 Projects Branch 1
Division of New Reactor Licensing
Office of New Reactors

Docket Nos. 52-014
52-015

eRAI Tracking No. 2541

Enclosure:
Request for Additional Information

CC: see next page

If you have any questions or comments concerning this matter, you may contact me at 301-415-1132.

Sincerely,

/RA/

Joseph M. Sebrosky, Senior Project Manager
AP1000 Projects Branch 1
Division of New Reactor Licensing
Office of New Reactors

Docket Nos. 52-014
52-015

eRAI Tracking No. 2541

Enclosure:
Request for Additional Information

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DATE	4/6/09	4/6/09		4/7/09	4/16/09

*Approval captured electronically in the electronic RAI system.

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**Bellefonte Units 3 and 4
Tennessee Valley Authority
Docket No. 52-014 and 52-015
SRP Section: 02.05.02 - Vibratory Ground Motion
Application Section: 2.5.2**

QUESTIONS for Geosciences and Geotechnical Engineering Branch 1 (RGS1)

02.05.02-10

FSAR Section 2.5.2.4 describes the PSHA sensitivity study and update for the BLN site. For the Charleston source, Section 2.5.2.4 indicates that TVA used the TVA Dam Hazard Assessment, developed by Geomatrix (FSAR page 2.5-72). FSAR 2.5.2.4.4, "Updated PSHA," describes the Charleston repeating large magnitude earthquake source, as shown in FSAR Figure 2.5-268. Finally, FSAR Section 2.5.2.4.4.4, "PSHA Results," states that the Charleston source "was simplified to be represented by the Woodstock fault, because this fault is near the center of the alternative geometries and this fault has the highest weight among alternative geometries." Because this Charleston seismic source model has not been previously reviewed by the staff, please provide the following:

- a) Clarify whether FSAR Figure 2.5-268 is a representation of the Charleston source as done by Geomatrix for the TVA Dam Study.
- b) Clarify whether mean hazard curves (1 and 10 Hz) for the Charleston source shown in FSAR Figures 2.5-272 and 273 are from the full Charleston source model (TVA Dam Study) or from the simplified single fault source (Woodstock fault). Also indicate whether these hazard curves have been through the CAV filter.
- c) Indicate how the 6000-yr completeness event scenarios are incorporated into the Charleston source model as FSAR Figure 2.5-268 shows only one set of three scenarios for the 2000-yr completeness record. Have you considered 2 sigma confidence range in your evaluation of recurrence times for paleoliquefaction events? Also indicate how different Mmax values are incorporated into the logic tree. As currently shown, FSAR Figure 2.5-268 appears to be missing several branches.
- d) Describe the development of the Charleston source model in terms of the process used to incorporate epistemic uncertainty. Did the TVA Dam Study by Geomatrix use the SSHAC process to elicit expert opinion?
- e) For the simplified single fault model used for the updated PSHA, provide the range of maximum magnitudes along with their corresponding weights as well as the logic tree for the single fault source model.
- f) In order for the staff to perform a sensitivity study of the Charleston source for the BLN site, please provide 1 and 10 Hz mean seismic hazard curves for the Charleston source for both the simplified single fault model (used for the actual PSHA) and the full source model (TVA Dam Study). Provide the actual numerical values of each hazard curve in text format. Please also provide these sets of hazard curves both with and without the CAV filter. In addition, provide the coordinates of the two endpoints for the Woodstock fault (lat, lon) used for the simplified single fault source model.

Enclosure