BellefonteRAIsPEm Resource

From: Joseph Sebrosky
Sent: Monday, July 07, 2008 10:24 AM
To: BellefonteRAIsPEm Resource
Subject: REQUEST FOR ADDITIONAL INFORMATION LETTER NO. 067 RELATED TO SRP SECTION 2.4.12 FOR THE BELLEFONTE UNITS 3 and 4 COMBINED LICENSE APPLICATION
Attachments: BLN-RAI-LTR-067.doc

Hearing Identifier: Bellefonte_COL_RAI_Public
Email Number: 44

Mail Envelope Properties (C4A4C9A16294FB4CBA5A36312D05FFAC0A9B4ADBE7)

Subject: REQUEST FOR ADDITIONAL INFORMATION LETTER NO. 067 RELATED TO SRP SECTION 2.4.12 FOR THE BELLEFONTE UNITS 3 and 4 COMBINED LICENSE APPLICATION
Sent Date: 7/7/2008 10:23:48 AM
Received Date: 7/7/2008 10:23:49 AM
From: Joseph Sebrosky

Created By: Joseph.Sebrosky@nrc.gov

Recipients:
"BellefonteRAIsPEm Resource" <BellefonteRAIsPEm.Resource@nrc.gov>
Tracking Status: None

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Files	**Size**	**Date & Time**
MESSAGE	3	7/7/2008 10:23:49 AM
BLN-RAI-LTR-067.doc	56942	

Options
Priority: Standard
Return Notification: No
Reply Requested: No
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Expiration Date:
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July 7, 2008

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. 067 RELATED TO SRP SECTION 2.4.12 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. 426

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. 426

Enclosure:
Request for Additional Information

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*Approval captured electronically in the electronic RAI system.

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Request for Additional Information
Bellefonte Units 3 and 4
Tennessee Valley Authority
Docket No. 52-014 and 52-015
SRP Section: 02.04.12 - Groundwater
Application Section: 2.4.12

QUESTIONS from Hydrologic Engineering Branch

02.04.12-6
During the May 13-16, 2008, hydrology site visit TVA indicated that it would make several changes to the application to clarify issues associated with the ground water review. These clarifications are described below. TVA should provide a commitment or a schedule for when these changes will be made to the Bellefonte COL application. At the beginning of the question there is a cross reference to the item number contained in Attachment 5 of the May 13-16, 2008, hydrology-related safety site trip report dated June 12, 2008 (ADAMS accession number ML081610308).

a) Attachment 5, item 2, of the May 13-16, 2008 trip report stated that TVA should provide a subject matter expert (SME) to identify the local water users including those around Town Creek. The applicant stated that the State of Alabama does not require registration of groundwater wells and that the wells on the other side of Town Creek are generally located in a formation distinct from the formation on the plant side of Town Creek. According to the applicant the closest large capacity well (Hollywood #2) is over 2 miles away and has been abandoned.

Commitment: TVA is to identify location of the discussion of the wells in a separate formation in the final safety analysis report.

b) Attachment 5, item 3, of the May 13-16, 2008 trip report stated that TVA should provide a subject matter expert (SME) to describe the evidence for the existence of perched or semi-perched conditions at the site. The applicant stated that the terms 'perched' and 'semi-perched' do not well represent the conditions at the site.

Commitment: TVA will document changes to the final safety analysis report to eliminate the use of these terms.

c) Attachment 5, item 6, of the May 13-16, 2008 trip report stated that TVA should provide a SME to explain the large variability in wells WT2 and WT5 (and WT1?) during the 1970s seen in Fig. 2.4.12-211. In response the applicant stated that the variability was a result of construction activities and dewatering. Excavations occurred between 1974 and 1975 and were documented in photos of the excavation activities. The applicant also stated that the flood in 1973 may have affected water levels.

Commitment: TVA will change the application to indicate that the historical data in Figure 2.4.12-211 is not inconsistent with the applicant's conceptual model of the groundwater conditions at the site.

Enclosure

d) Attachment 5, item 7, of the May 13-16, 2008 trip report stated that TVA should provide an SME to identify the 12 aquifer test observation wells. The applicant identified the figure in the FSAR.

Commitment: TVA will provide coordinates of observation wells

e) Attachment 5, item 10, of the May 13-16, 2008 trip report stated that TVA should provide an SME to discuss the protocols by which samples were classified as soil, epikarst, or bedrock and the methods used to conceptualize the lithology through various cross sections. The applicant's SME described the characterization activities and stated the 'top of rock" elevation is based on interpretation of the geotechnical boring logs by the geology expert. A copy of the FSAR Appendix 2.BB was reviewed by the staff. Staff identified some boring logs that were omitted from the document and possible revisions that were not included in the document.

Commitment: TVA will provide a copy of the FSAR Appendix 2.BB that includes the latest revision of boring logs for all boreholes.

f) Attachment 5, item 11, of the May 13-16, 2008 trip report stated that TVA should provide an SME to discuss methods used to estimate porosity and the depth of the abrupt porosity change. The applicant self-identified an error in the porosity estimate. The applicant stated that FSAR 2.5 describes the calculation of the porosity as the fractional length of voids and/or cavities encountered divided by the length of the borehole, and the minimum fracture size in this estimate was of 1/10 ft. The applicant stated that the two porosity values provided in the FSAR were average values above and below the 20 ft. depth, but that there is no abrupt change in porosity.

Commitment: TVA will advise NRC of the timeline for completing a revised analysis of porosity and all calculations dependent on the porosity estimate. The applicant will provide a discussion of the estimation of both "total porosity" and "effective porosity". The applicant will ensure that the porosity is consistent with discussion in 2.5 regarding porosity.

g) Attachment 5, item 12 of the May 13-16, 2008 trip report stated that TVA should provide an SME to discuss methods used to provide a conservative estimate of the hydraulic conductivity. The applicant stated they will revise calculations and the FSAR to use the highest conductivity value observed. The applicant provided copies of the pump test report and the borehole packer test report which the staff reviewed.

Commitment: TVA will revise calculations and the FSAR to use the highest conductivity value and agreed to provide the pump test data.

h) Attachment 5, item 22, of the May 13-16, 2008 trip report stated that TVA should provide the correct citation for second complete paragraph on FSAR p. 2.4-50 (Reference 205 is apparently incorrect). The applicant stated that the citation was in error and would be deleted in future revisions.

Commitment: TVA will delete the reference in future revision.

i) Attachment 5, item 23, of the May 13-16, 2008 trip report stated that TVA should provide an SME to discuss the rationale for excluding wells completed in the soil zone in preparation of groundwater piezometric surface maps. The applicant stated that soil zone water level maps were not produced due to limited amount of data with water table in soil zone.

Commitment: TVA will clarify wording.