

June 3, 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. 029 RELATED TO  
SRP SECTION 10.04.07 FOR THE BELLEFONTE UNITS 3 and 4 COMBINED  
LICENSE APPLICATION

Dear Ms. Sterdis:

By letter dated September 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 45 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 301-415-9967 or you may contact Joseph Sebrosky, the lead project manager for the Bellefonte combined license at 301-415-1132.

Sincerely,

**/RA/**

Brian C. Anderson, Project Manager  
AP1000 Projects Branch 1  
Division of New Reactor Licensing  
Office of New Reactors

Docket Nos. 52-014  
52-015

Enclosure:  
Request for Additional Information

CC: see next page

If you have any questions or comments concerning this matter, you may contact me at 301-415-9967 or you may contact Joesph Sebrosky, the lead project manager for the Bellefonte combined license at 301-415-1132.

Sincerely,

**/RA/**

Brian C. Anderson, Project Manager  
 AP1000 Projects Branch 1  
 Division of New Reactor Licensing  
 Office of New Reactors

Docket Nos. 52-014  
 52-015  
 eRAI Tracking No. 268

Enclosure:  
 Request for Additional Information

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NRO-002

OFFICE	CPIB/BC		NWE1/PM	OGC	NWE1/L-PM
NAME	JSegala*		BAnderson*	PMoulding*	JSebrosky*
DATE	5/5/08		5/7/08	5/9/08	6/3/08

\*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: 10.04.07 - Condensate and Feedwater System**  
**Application Section: 10.4.7**

**QUESTION from Balance of Plant Branch 1**

10.04.07-1

In FSAR Section 10.4.7.2.1, the applicant incorporates by reference the corresponding AP1000, Revision 16, DCD section, and adds standard supplement STD-SUP 10.4-2, which adds supplemental information regarding the use of “operation and maintenance” procedures to help avoid the water hammer occurrences in the condensate and feedwater system. SRP Section 10.4.7, Acceptance Criterion 2, describes acceptable methods of compliance with the requirements in GDC 4, as it applies to fluid flow instabilities (e.g., water hammer). In particular, SRP Section 10.4.7, Acceptance Criterion 2B, “Meeting the guidance related to feedwater-control-induced water hammer,” states that guidance for water hammer prevention and mitigation is found in NUREG-0927. The supplemental information added to the FSAR states that operations and maintenance procedures include appropriate precautions to avoid steam/water hammer occurrences, but it does not identify what type of precautions would be included with respect to water hammer prevention and mitigation. Please provide a more detailed statement concerning TVA’s intended use of the operations and maintenance procedures, including information on what specific essential elements in the procedures will result in reduced potential for water hammer occurrences.