

May 28, 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. 027 RELATED TO  
SRP SECTION 14.03 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 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 301-415-9967 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. 171

Enclosure:  
Request for Additional Information

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NRO-002

OFFICE	CPIB/BC		NWE1/PM	OGC	NWE1/L-PM
NAME	DCurtis*		BAnderson*	PMoulding*	JSebrosky*
DATE	4/15/08		5/16/08	5/19/08	5/28/08

\*Approval captured electronically in the electronic RAI system.

**OFFICIAL RECORD COPY**

**Request for Additional Information**  
**Bellefonte Units 3 and 4**  
**Tennessee Valley Authority**  
**Docket No. 52-014 and 52-015**  
**SRP Section: 14.03 - Inspections, Tests, Analyses, and Acceptance Criteria**  
**Application Section: 14.3**

**QUESTION from Electrical Engineering Branch**

14.03-1

SRP 14.3-01

The staff notes that ITAAC Screening Summary Table 14.3-201 of the BNL FSAR does not include a site-specific ITAAC entry for the transmission switchyard and offsite power system. RG 1.206, CIII.7.2, Site-Specific ITAAC, recommends that applicants develop ITAAC for the site-specific systems that are designed to meet the significant interface requirements of the standard certified design, that is, the site-specific systems that are needed for operation of the plant (e.g., offsite power). The offsite power system performs an important function in the passive designs as it provides power to the safety-related batteries (through battery chargers) during normal and accident conditions so that the batteries are not challenged unnecessarily. It also provides power to those active systems that provide defense-in-depth capabilities for reactor coolant makeup and decay heat removal. These active systems are the first line of defense to reduce challenges to the passive systems in the event of transients or plant upsets. Relatedly, under the AP1000 DCD's availability controls (see DCD Table 16.3-2), one offsite and one onsite ac power supply should be available during modes 5 and 6 with reduced inventory, when the loss of RNS cooling is important. In addition, the offsite power is required for charging batteries and for supplying plant safety loads at the end of 72 hours after recovery from a Station Blackout event. Although the AP1000 certified design was partially exempted from the requirements of GDC 17, the above function of the offsite power system in passive designs supports the need for ITAAC for these systems so that the NRC staff can verify that (1) the designed and installed systems, structures, or components of the offsite power systems will perform as designed and (2) the required single circuit from the transmission network satisfies the requirements of GDC 17 regardless of its low risk significance in the AP1000 design. Please justify why there are no ITAAC entries associated with offsite power, or revise Table 14.3-201 of the BNL FSAR to include ITAAC entries for the transmission switchyard and the offsite power system.