Tennessee Valley Authority, 1101 Market Street, LP 5A, Chattanooga, Tennessee 37402-2801

October 16, 2008

10 CFR 52.79

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

In the Matter of) Docket No. 52-014 and 52-015
Tennessee Valley Authority)

BELLEFONTE COMBINED LICENSE APPLICATION – RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION – QUALITY ASSURANCE

Reference: 1) Letter from Brian C. Anderson (NRC) to Andrea L. Sterdis (TVA), Request for Additional Information Letter No. 014 Related to SRP Section 17.5 for the Bellefonte Units 3 and 4 Combined License Application, dated May 12, 2008

2) Letter from Andrea L. Sterdis (TVA) to Document Control Desk (NRC), Response to Request for Additional Information – Quality Assurance, dated June 11, 2008

3) Letter from Jack A. Bailey (TVA) to Document Control Desk (NRC), Change to Part 2, Final Safety Analysis, Chapter 17 – Clarification and Reference of the Tennessee Valley Authority (TVA) Nuclear Quality Assurance (NQA) Plan (TVA-NQA-PLN89-A), dated January 8, 2008

This letter provides the Tennessee Valley Authority's (TVA) revised response to the Nuclear Regulatory Commission's (NRC) request for additional information (RAI) item included in the reference letters. This revised response to RAI 17.05-10 is submitted as requested by the NRC following verbal clarifications of the requested information.

A supplemental response to the NRC request in the subject letter is addressed in the enclosure which also identifies any associated changes that will be made in a future revision of the BLN application.

If you should have any questions, please contact Thomas Spink at 1101 Market Street, LP5A, Chattanooga, Tennessee 37402-2801, by telephone at (423) 751-7062, or via email at tespink@tva.gov.

I declare under penalty of perjury that the foregoing is true and correct.
Executed on this 16th day of Oct, 2008.

Andrea L. Sterdis
Manager, New Nuclear Licensing and Industry Affairs
Nuclear Generation Development & Construction

Enclosure
cc: See Page 3

D085
NRO

cc: (w/Enclosure)
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Enclosure
TVA letter dated October 16, 2008
RAI Response

Response to NRC Request for Additional Information letter No. 014 dated May 12, 2008
(4 Pages, including this list)

Subject: Quality Assurance in the Final Safety Analysis Report

RAI Number	Date of TVA Response
17.05-10	June 11, 2008 Supplemented by this letter – see following pages; supplemental information provided in this letter replaces the original response in its entirety.
17.05-11	June 11, 2008

Attachments / Enclosures	Pages Included
None	

Enclosure
TVA letter dated October 16, 2008
RAI Response

NRC Letter Dated: May 12, 2008

NRC Review of Final Safety Analysis Report

NRC RAI NUMBER: 17.05-10

Section 17.1 of the Bellefonte Final Safety Analysis Report (FSAR) states, in part, that the NuStart Energy Development, LLC (NuStart) Quality Assurance (QA) program, along with the Westinghouse Electric Company (Westinghouse) Quality Management System (QMS), define the QA program requirements for design activities. In order to determine the potential scope for planned NRC inspections of TVA's implementation of the QA program for Bellefonte (per NRC Inspection Manual Chapter 2502), the NRC staff requests clarification on the expected NuStart and Westinghouse scope of work related to Bellefonte combined license application (COLA) design activities from the time of docketing until the time the COL might be issued. In particular, please identify when and where these design activities would take place.

BLN RAI ID: 1967

BLN RESPONSE:

As identified in FSAR Section 17.1, "Construction activities at Bellefonte are not planned before the COL is issued." Further, TVA has no plans to perform additional safety-related design beyond those necessary to continue supporting the COL Application review by the NRC prior to the COL issuance.

The phases of a Nuclear Plant Development under Part 52 from a QA Program are as follows:

1. Standard Plant Design Certification
2. Standard Plant Design Finalization
3. Site-specific Characterization
4. Site-specific Design Finalization
5. Engineering, Procurement, and Construction (EPC)
6. Fuel-load and Operation

The breadth of content for the specific phases and the timing for moving from one phase to another is influenced by an individual COL applicant/licensee's development strategy.

Standard term definitions from 10 CFR 52.1 are used in the following discussion.

Phase 1, Standard Plant Design Certification - Activities in this phase are the responsibility of the applicant for certification.

Phase 1 activities include the activities necessary to obtain the standard design certification under Subpart B of 10 CFR Part 52. The applicability of the QA Program to those activities is determined by Westinghouse. \

Phase 2, Standard Plant Design Finalization – The degree of completion of design necessary to support design certification is not necessarily sufficient to support the fabrication, procurement, and construction of the standard nuclear plant. As identified in Phase 1, the quality assurance program applied to the design of the structures, systems, and components of the standard plant is described in the application for standard design certification.

Phase 2 activities include activities necessary to develop procurement, fabrication, and construction documents, which implement the standard design certification.

The activities under Phase 2 and Phase 5 overlap. The quantity of activities completed under Phase 2 may vary greatly from plant to plant, depending on the timing of the licensee's deployment of the EPC activities. By the time the Nth plant is ready for construction, the standard design will likely be complete for the first plant deployment.

Phase 3, Site-specific Characterization – In this phase, the COL Applicant, through site investigations, determines the site characteristics and evaluates those against the site parameters from the Standard Design Certification. Application of the QA Program to activities during this phase is the responsibility of the COL Applicant. Activities supporting the development of the following FSAR Sections were performed under the Appendix B QA Program, although not all of these activities are nuclear safety-related (SR).

2.1 Geography & Demography - Applicable to demographics data analysis for off-site dose calculations, population distribution and population density determinations.

2.2 Nearby Industrial, Transportation, and Military Facilities – Applicable to some calculations developed for Section 2.2.3 which are nuclear safety-related when performed to determine impact on the safe operation of the plant.

2.3 Meteorological - Applicable to the calculations of atmospheric dispersion factors (X/Q) and site-specific meteorological data characteristics of the site that are necessary for safety analysis or that may have an impact upon plant design (such as maximum probable wind speed and precipitation) analysis.

2.4 Hydrological Engineering - Applicable to flooding analysis for probable maximum precipitation (PMP) storm (Section 2.4.2), probable maximum flood (PMF) calculations (Section 2.4.3), the dam failure flood calculation (Section 2.4.4), and site-specific hydrological data analysis.

2.5 Geology, Seismology, Geotech. Engineering - Applicable to site-specific seismic data analysis and calculations for structures, systems and components (SSC) design requirements.

3.5 Missile Protection - Applicable to aircraft hazards analysis, if required, and other required hazards analysis.

6.4 Habitability Systems - Applicable to the toxic gas analysis for control room habitability.

15.7 Radioactive Release - Radwaste tank rupture analysis is addressed in FSAR 2.4.13, per BTP 11-6 and SRP 2.4.13, as required, but it is not nuclear safety-related.

Activities supporting the Phase 3 COLA development were performed under the TVA QA Program. TVA directly performed the flooding analysis for the dam failure flood calculation (Section 2.4.4). The remaining activities were performed for TVA under TVA QA Program oversight by NuStart and its subcontractors.

Consistent with the description in FSAR Chapter 17, TVA does not plan to perform or have performed any additional safety-related activities prior to receipt of the COL, with the exception of those activities related to support of the COLA review by NRC, such as preparing responses to RAIs that may require additional analysis.

Phase 4, Site-specific Design Finalization – Detailed design for the site-specific SSCs is the responsibility of TVA. At this time, TVA does not plan to initiate this activity until after the receipt of the COL.

Phase 5, Engineering, Procurement, and Construction (EPC) – The activities in this phase include the completion/finalization of design, the procurement of materials and equipment, and the site construction activities. These activities are under the responsibility of TVA and its QA Program. TVA currently does not plan to initiate these activities until after the receipt of the COL. This scope of this phase is very time dependent and directly relates to activities completed by WEC under Standard Design Finalization.

Phase 6, Fuel-load and Operation – The operational QA Program (as documented in the QAPD) is implemented for this phase. The operational QA Program will not be implemented prior to issuance of the COL.

This response is PLANT-SPECIFIC.

ASSOCIATED BLN COL APPLICATION REVISIONS:

Note that first paragraph of the FSAR text shown below was added by TVA letter dated January 8, 2008 (Reference 3).

COLA Part 2, FSAR Chapter 17, Section 17.1, first and second paragraphs, will be revised from:

Tennessee Valley Authority (TVA) is responsible for the establishment and execution of BLN COL 17.5-1 quality assurance program requirements during the design and construction phases of Bellefonte Nuclear Plant Units 3 and 4. TVA may delegate and has delegated to others, such as NuStart Energy Development, LLC, Enercon Services, Inc., and Westinghouse Electric Company, the work of establishing and executing the quality assurance program, or any parts thereof, but retains responsibility for the quality assurance program.

Effective during COL application development, through and until COL issuance, the NuStart Energy Development, LLC (NuStart) Quality Assurance (QA) program, along with the Westinghouse Electric Company Quality Management System (DCD Section 17.6 Reference 9) defines the QA program requirements for design activities. Construction activities at Bellefonte are not planned before the COL is issued.

To read:

Tennessee Valley Authority (TVA) is responsible for the establishment and execution of BLN COL 17.5-1 quality assurance program requirements during the design and construction phases of Bellefonte Nuclear Plant Units 3 and 4. TVA may delegate and has delegated to others, such as NuStart Energy Development, LLC, and Enercon Services, Inc., the work of establishing and executing the quality assurance program, or any parts thereof, but retains responsibility for the quality assurance program.

Effective during COL application development, through and until COL issuance, the NuStart Energy Development, LLC (NuStart) Quality Assurance (QA) program, defines the QA program requirements for design activities. Construction activities at Bellefonte are not planned before the COL is issued.

ATTACHMENTS/ENCLOSURES:

None