



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

January 27, 2009

10 CFR 52.79

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

In the Matter of)
Tennessee Valley Authority)

Docket No. 52-014 and 52-015

**BELLEFONTE COMBINED LICENSE APPLICATION – RESPONSE TO REQUEST FOR
ADDITIONAL INFORMATION – REGULATORY GUIDE COMPLIANCE**

Reference: Letter from Ravindra G. Joshi (NRC) to Andrea L. Sterdis (TVA), Request for
Additional Information Letter No. 142 Related to SRP Section 01 for the
Bellefonte Units 3 and 4 Combined License Application, dated December 16,
2008

This letter provides the Tennessee Valley Authority's (TVA) response to the Nuclear Regulatory
Commission's (NRC) request for additional information (RAI) items included in the reference
letter.

A 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 27th day of Jan, 2009.

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

Enclosure
cc: See Page 2

DOBS
NRO

Document Control Desk

Page 2

January 27, 2009

cc: (w/Enclosure)

J. P. Berger, EDF
E. Cummins, Westinghouse
S. P. Frantz, Morgan Lewis
M.W. Gettler, FP&L
R. C. Grumbir, NuStart
P. S. Hastings, NuStart
P. Hinnenkamp, Entergy
R. G. Joshi, NRC/HQ
M. C. Kray, NuStart
D. Lindgren, Westinghouse
G. D. Miller, PG&N
M. C. Nolan, Duke Energy
N. T. Simms, Duke Energy
G. A. Zinke, NuStart

cc: (w/o Enclosure)

B.C. Anderson, NRC/HQ
M. M. Comar, NRC/HQ
B. Hughes, NRC/HQ
R. H. Kitchen, PGN
M. C. Kray, NuStart
A. M. Monroe, SCE&G
C. R. Pierce, SNC
R. Reister, DOE/PM
L. Reyes, NRC/RII
T. Simms, NRC/HQ
K. N. Slays, NuStart
J. M. Sebrosky, NRC/HQ

Enclosure
TVA letter dated January 27, 2009
RAI Responses

Responses to NRC Request for Additional Information letter No. 142 dated December 16, 2008
(10 pages, including this list)

Subject: Regulatory guide compliance in the Final Safety Analysis Report

<u>RAI Number</u>	<u>Date of TVA Response</u>
01-11	This letter – see following pages

<u>Associated Additional Attachments / Enclosures</u>	<u>Pages Included</u>
None	

Enclosure
TVA letter dated January 27, 2009
RAI Responses

NRC Letter Dated: December 16, 2008

NRC Review of Final Safety Analysis Report

NRC RAI NUMBER: 01-11

Bellefonte FSAR Appendix 1AA provides an evaluation of the degree of compliance with regulatory guides as applicable to content of this FSAR, or to the site-specific design, construction and/or operational aspects. Section 1.9.1.1 of the FSAR contains Table 1.9-201 that identifies the appropriate regulatory guide to FSAR cross-reference and the cross-referenced sections contain descriptive information applicable to the regulatory guide positions found in Appendix 1AA. Bellefonte Appendix 1AA lists the later version of the regulatory guides when compared with the DCD Table 1.9-1 but in some cases Appendix 1AA does not discuss compliance with the later version. A Request for Additional Information (RAI) was transmitted to TVA in letters dated July 7, and 16, 2008 (RAI 1-5 and 1-7 respectively). In the July 7, 2008, letter the NRC indicated that the FSAR Appendix 1AA lists the later version of regulatory guides when compared with the DCD Table 1.9-1 but in some cases TVA does not discuss compliance with the later version of the regulatory guide. In the July 16, 2008 letter, the NRC asked TVA to provide appropriate references to the FSAR Sections where conformance with regulatory guide is addressed. In a letter dated August 19, 2008, TVA provided conformance discussion on the later version of those regulatory guides. In addition the response includes conformance discussion on additional regulatory guides for which there is no conformance discussion in the current Appendix 1AA of the FSAR. This new information was not available to the NRC earlier and in addition in some cases TVA has revised its original compliance statement on some of the regulatory guides. In a letter dated August 29, 2008, TVA provided the revised Table 1.9-201 to include the new or revised regulatory guide cross reference to FSAR Sections. Other RAI response letters from TVA include new information related to compliance with regulatory guides and in some instances this information is not reflected in the revised Appendix 1AA of the FSAR, [examples: Response to RAI letters (1) dated July 31, 2008 (RAI # 11.5-01), (2) dated August 1, 2008 (RAI # 11.2-01), (3) Response RAI letter 016 related to SRP section 17.5 (RAI # 17.05-15) dated June 24, 2008].

The conformance discussion included in the revised Appendix 1AA was reviewed and the comments on the revised Appendix 1AA are provided below:

{Note: The individual Regulatory Guide comments are listed in the BLN Response along with the BLN response discussion for the individual Regulatory Guide.}

BLN RAI ID: 2222

BLN RESPONSE:

- **General Comment**— Page 10 of TVA's August 19, 2008 letter states in part, "each stated conformance with the programmatic and/or operational aspects is only to the extent that a design change or departure from the approved DCD is not required to implement those programmatic and/or operational aspects." This general statement is repeated in the conformance discussion of several regulatory guides. There is no detailed explanation or discussion (in the Bellefonte FSAR) of where a design change would be required if TVA adopts completely certain regulatory positions that are related to the programmatic and/or operational aspects. Therefore, expand or explain the conformance discussion (or include additional information in the FSAR) on those regulatory guides that apply this general statement.

Response – Currently, there are no regulatory guides to which this statement is applied. The purpose of this statement is to allow future revisions to regulatory guide position statements in the FSAR if it is determined that full conformance "with the programmatic and/or operational aspects" would require "a

Enclosure
TVA letter dated January 27, 2009
RAI Responses

design change or departure from the approved DCD.” As indicated in the FSAR for each occurrence of this general exception, the purpose is “to preserve the finality of the certified design” throughout the life of the plant. As the operational and programmatic aspects become more fully defined (for example, during the preparation, approval, or initial implementation of plant procedures), there exists a potential that a conflict could be identified between the design as certified in the DCD and the programmatic and/or operational aspects of the guidance. It is the applicant’s position that in such cases, the design certification (rule) becomes the controlling factor, and the design conformance to the Regulatory Guide is per the revision stated in the DCD.

- **Regulatory Guide 1.21**—the original Appendix 1AA took exception for this Regulatory Guide position C.6, indicating that ANSI N 13.1-1999 will be used instead of ANSI N13.1-1969. In response to RAI 11.05-01 (TVA letter dated July 31, 2008), TVA indicated that it will commit to the 1969 version of the standard and Appendix 1AA will be revised to reflect that. The revised Appendix 1AA (dated August 19, 2008) does not reflect that commitment. Revise Appendix 1AA accordingly.

Response – As indicated in the response to BLN-RAI-LTR-066 (NRC RAI Number 01-05), the listing for Appendix 1AA was not a complete update of all changes. The identified change to the conformance statement for Regulatory Guide 1.21 position C.6 will be incorporated into a future FSAR revision as stated in response to BLN-RAI-LTR-043 (NRC RAI Number 11.05-01). No additional revision is needed.

- **Regulatory Guide 1.26**—the conformance discussion in the revised Appendix 1AA is not consistent with the conformance discussion included in response to RAI 17.05-15 (letter dated June 24, 2008). Please reconcile the apparent discrepancy.

Response – The cited June 24, 2008, response to RAI 17.05-15 states the applicant “commits to the applicable regulatory position guidance provided in this regulatory guide for NGDC with the exception of Criteria C.1, C.1.a, C.1.b, and C.3. Refer to the Westinghouse AP1000 Design Control Document, Appendix 1A, for a detailed discussion of these exceptions.” Differently worded, the applicant has committed to Revision 4 for the scope outside the DCD conformance statement, which commits to Revision 3. Thus, both the revision to the QAPD in the cited letter and the revision to Appendix 1AA in the response to BLN-RAI-LTR-066 (NRC RAI Number 01-05) indicate conformance with Revision 3 for the DCD scope and Revision 4 for the remaining scope.

- **Regulatory Guide 1.27**—the original and revised Table 1.9-201 lists this Regulatory Guide (references FSAR Section 2.4.11.6) but no conformance discussion is provided in the original or revised Appendix 1AA. Provide the conformance discussion for this Regulatory Guide in Appendix 1AA.

Response – Table 1.9-201 lists the Regulatory Guide in order to identify an FSAR subsection where it is referenced. However, the conformance statement for this Regulatory Guide is provided through incorporation by reference of the DCD and need not be repeated in the FSAR.

- **Regulatory Guide 1.29**-- the conformance discussion in the revised Appendix 1AA is not consistent with the conformance discussion included in response to RAI 17.05-15 (letter dated June 24, 2008). Please reconcile the apparent discrepancy.

Response – The cited June 24, 2008, response to RAI 17.05-15 states the applicant “commits to the applicable regulatory position guidance provided in this regulatory guide for NGDC with the exception of Criteria C.1.d, C.1.g, and C.1.n. Refer to the Westinghouse AP1000 Design Control Document, Appendix 1A, for a detailed discussion of these exceptions.” Differently worded, the applicant has committed to Revision 4 for the scope outside the DCD conformance statement, which commits to Revision 3. Thus, both the revision to the QAPD in the cited letter and the revision to 1AA in the response to BLN-RAI-LTR-066 (NRC RAI Number 01-05) indicate conformance with Rev 3 for the DCD scope and Rev 4 for the remaining scope.

Enclosure
TVA letter dated January 27, 2009
RAI Responses

- **Regulatory Guide 1.30**— the conformance discussion in the revised Appendix 1AA states that conformance for the DCD scope of work is stated in the DCD. However, Table 1.9-1 (Appendix 1A) of the DCD states that this Regulatory Guide is not applicable to the Design Certification. Reconcile this apparent discrepancy.

Response – The installation, inspection, and testing of instrumentation and electric equipment is outside the scope of the DCD as stated in the DCD. A future FSAR revision will reflect the response to BLN-RAI-LTR-066, dated August 19, 2008, which states that the plant QA program conforms to the requirements of NQA-1.

- **Regulatory Guide 1.31**—the original and revised Table 1.9-201 lists this Regulatory Guide but no conformance discussion is provided in the original or revised Appendix 1AA. Provide the conformance discussion for this Regulatory Guide in Appendix 1AA.

Response – Table 1.9-201 lists the Regulatory Guide in order to identify an FSAR subsection where it is referenced. However, the conformance statement for this Regulatory Guide is provided through incorporation by reference of the DCD and need not be repeated in the FSAR.

- **Regulatory Guide 1.33**—the conformance discussion in the revised Appendix 1AA provides an exception that states, “quality assurance requirements utilize the more recently NRC endorsed NQA-1 in lieu of the identified outdated standards”. It is noted that NQA-1 does not incorporate the regulatory guidance in RG 1.33. Therefore, TVA should document the mechanism for incorporation of the regulatory guidance of RG 1.33 in conformance discussion in Appendix 1AA. Please revise Appendix 1AA accordingly.

Response – While the QA Program Description, which follows NEI 06-14A, commits to ASME NQA-1-1994, it also incorporates many operational aspects that are not addressed by NQA-1-1994. Those operational aspects are explicitly included consistent with the acceptance criteria in SRP Section 17.5, as is identified in the NRC Safety Evaluation Report issued for NEI 06-14A. The conformance statement for Regulatory Guide 1.33 will be supplemented in a future amendment as shown in the Application Revisions section below to include this reference to NEI 06-14A.

- **Regulatory 1.37-** the Original Appendix 1AA took exception to revision 1 of the Regulatory Guide for QA requirements whereas the revised compliance discussion states that it generally conforms. Does "generally conforms" mean that TVA complies with all regulatory guide positions related programmatic and/or operational aspects?

Response – The statement is not “generally conforms,” but a statement of “conforms” for the “general” Regulatory Guide rather than specifically listing each position. The conformance statement of “Conforms” indicates that the applicant “complies with all regulatory guide positions related programmatic and/or operational aspects.” This is consistent with the response to RAI 17.05-15 which states the applicant “commits to the applicable regulatory position guidance provided in this regulatory guide for NGDC.”

- **Regulatory Guides 1.38 and 1.39**—the conformance discussion in the revised Appendix 1AA does not define ‘remaining scope’ when describing the conformance to these Regulatory Guides whereas the original conformance specifies scope as ‘programmatic and/or operational aspects.’ Revise Appendix 1AA accordingly.

Response – Many Regulatory Guide positions can be identified as applicable to the scope of work identified and addressed by the DCD and others can be identified as applicable to the scope of work identified and addressed by the COLA. However, some QA guidance positions could be accomplished by either scope of work and thus addressed in either the DCD or the COLA. These positions are primarily dependent on who does the work. The DCD conformance statement indicates an exception to apply NQA-1. The COLA identifies an exception to apply NQA-1. Per the DCD, WEC work before March 15,

Enclosure
TVA letter dated January 27, 2009
RAI Responses

2007 applied a 1991 version of the standard. A 1994 version of the standard is applied for work done after that date by WEC. If the work is done under the applicant's COL program, the 1994 version of NQA-1 identified in the COLA QAPD is applied. Thus, DCD scope (identified in DCD Appendix 1A) and "remaining scope" are considered to appropriately differentiate the application of the guidance identified in this Regulatory Guide, and no revision to the Appendix 1AA is considered necessary.

- **Regulatory Guide 1.44**—the original and revised Table 1.9-201 lists this Regulatory Guide but no conformance discussion is provided in the original or revised Appendix 1AA. Provide conformance discussion for this Regulatory Guide in Appendix 1AA.

Response – Table 1.9-201 lists the Regulatory Guide in order to identify an FSAR subsection where it is referenced. However, the conformance statement for this Regulatory Guide is provided through incorporation by reference of the DCD and need not be repeated in the FSAR.

- **Regulatory Guide 1.77**—the revised Table 1.9-201 provides cross reference to the FSAR sections (TS Bases 3.2.1, 3.2.2, 3.2.4, 3.2.5 reference Regulatory Guide 1.77, Rev.0). The DCD Table 1.9-1 states that the guidance of Regulatory Guide 1.183 will be followed instead of Regulatory Guide 1.77. Reconcile this apparent discrepancy.

Response – The DCD statement indicates that the assumptions for evaluation of an AP1000 control rod ejection event comply with Regulatory Guide 1.77, with the singular exception that when the offsite dose consequences are calculated as identified in Position C of the Regulatory Guide, the accident dose consequences will be developed using the source term guidance of Regulatory Guide 1.183 rather than those identified in Appendix B. The remaining portions of Regulatory Guide 1.77 are applied as indicated in the referenced Technical Specification Bases.

- **Regulatory Guide 1.78**—the original Appendix 1AA provides conformance with individual regulatory positions whereas the revised Appendix 1AA states simply 'general conformance'. Does it mean that TVA complies with all regulatory guide positions related programmatic and/or operational aspects?

Response – The statement is not "generally conforms," but a statement of "conforms" for the "general" Regulatory Guide rather than specifically listing each position. The conformance statement of "Conforms" indicates that the applicant "complies with all regulatory guide positions related programmatic and/or operational aspects."

- **Regulatory Guide 1.97**—the revised Appendix 1AA states that conformance with Revision 3 of this Regulatory Guide is as stated in the DCD and this guidance is completely within the scope of the DCD. NEI-07-03 is incorporated by reference (with no exception or deviation to NEI-07-03) into Appendix 12AA of the Bellefonte FSAR. NEI-07-03 in section 12.5.3 states in part that the types and characteristics of instrumentation are consistent with guidance in Regulatory Guide 1.97 (NEI 07-03 references Revision 4 of Regulatory Guide 1.97). Clarify this apparent discrepancy with regard to compliance discussion on Regulatory Guide 1.97.

Response – NEI 07-03 references Regulatory Guide 1.97 in two subsections (i.e., 12.5.3 and 12.5.3.2) and in the References. However, FSAR Revision 1, Appendix 12AA incorporates only the reference in NEI 07-03 Subsection 12.5.3.2. Subsection 12.5.3.2 of the NEI template includes the option for COL applicants to modify the section based on company and site-specific information. The reference to Regulatory Guide 1.97 is specifically made in the bullet discussion on portable sampling and onsite analysis capability. Most of the Regulatory Guide 1.97 instrumentation is addressed by the DCD and is certified to conform to Revision 3. As indicated in Position C.1 of Revision 4 of the Regulatory Guide, it is intended that a plant will use one revision or the other but not attempt to use a mixture of the two since "there is no means to correlate Revision 4 criteria being applied to the modification of variables that have been licensed to the criteria in Revisions 2 or 3." Therefore, Appendix 12AA will be modified in a future amendment as shown in the Application Revisions section below to change the NEI 07-03 References to

reference Revision 3 of Regulatory Guide 1.97 rather than Revision 4. This will resolve the discrepancy and consistently apply Revision 3 of Regulatory Guide 1.97.

- **Regulatory Guide 1.101**—for this Regulatory Guide, the revised Table 1.9-201 provides cross reference to FSAR Section 9.5.1.8.2.2, Table 9.5-201 and 13.3. However, Appendix 1AA states that this Regulatory Guide is not applicable. Reconcile this apparent discrepancy.

Response – Regulatory Guide 1.101, Revision 5 states “The purpose of this fifth revision of RG 1.101 is to provide guidance on the conduct of A&I [activities and interactions] to reflect the provisions of the regulations addressing co-located licensees.” The provisions for “co-located licensees” are not applicable to this applicant and thus, Revision 5 is not applicable as indicated in FSAR Appendix 1AA. As noted, FSAR Table 1.9-201 provides references to Regulatory Guide 1.101, which are actually references to Revision 3 of the guidance. Other than the Revision 4 endorsement of NEI 99-01 (which does not apply to passive plants such as the AP1000), Revision 3 and Revision 4 are equivalent. Thus, referencing either Revision 3 or Revision 4 should be acceptable. Application of either Revision 3 or Revision 4 requires an exception to allow the use of alternative guidance (i.e., NEI 07-01) for the development of the Emergency Action Levels (EALs). The Emergency Plan for this application has been written with reference to Revision 3. The FSAR Table 1.9-201 and Appendix 1AA will be modified in a future amendment as shown in the Application Revisions section below to identify Revision 3 as the applicable revision. These changes should reconcile the apparent discrepancy.

- **Regulatory Guide 1.112**—the conformance discussion in the revised Appendix 1AA states that TVA conforms to ANSI 18.1-1999. Regulatory Guide 1.112, Position 4 states in part, “When using the standard (i.e., ANSI 18.1-1999) the applicant should describe and justify all adjustments made to the reference PWR plant parameters in developing radionuclide concentration in PWR primary coolant and secondary water and steam.” The Bellefonte FSAR section 11.1 does not provide the above information. Instead, Section 11.1 states that this section of the referenced DCD is incorporated by reference with no departures or supplements. DCD Section 11.1.3, Realistic Reactor Coolant and Secondary coolant Activity, states that it uses the ANSI 18.1-1984 version and not the 1999 version as indicated in Appendix 1AA of the Bellefonte FSAR. Reconcile this apparent discrepancy.

Response – The revised Appendix 1AA conformance statement for Regulatory Guide 1.112 divides the scope between the DCD (using Rev 0-R) and the COLA (using Rev 1). The question is with regard to Position 4, which addresses the methodology for “developing radionuclide concentrations in... PWR primary coolant and secondary water and steam.” This activity is within the DCD scope, i.e., performed by WEC, and thus is accomplished in accordance with Revision 0-R as identified in the DCD. The COL applicant has not made any “adjustments... to the reference PWR plant parameters in developing radionuclide concentration in PWR primary coolant and secondary water and steam.” Thus, the requested description is not applicable to the COL applicant and has been previously addressed by the DCD review and approval.

- **Regulatory Guide 1.139**—the conformance discussion in the revised Appendix 1AA states that the programmatic and/or operational aspects are not applicable since this guidance was withdrawn by NRC (73 FR 32750, 06/10/2008). The response to RAI 17.05-17 (TVA Letter dated 06/24/08) states in part that Appendix 1AA will be revised to show conformance with this Regulatory Guide (specifically, it states that TVA conforms to position C. 7). Reconcile this discrepancy.

Response – At the time of the RAI 17.05-17 response submittal (June 2008), it had not yet been recognized that the Regulatory Guide had been withdrawn. The RAI 17.05-17 June 2008 response is correctly superseded by the later (August 19, 2008) response to NRC RAI 01-05 (BLN-RAI-LTR-066), which indicated that the Regulatory Guide is not applicable due to withdrawal. The August 19, 2008 response will be incorporated into a future FSAR revision.

Enclosure
TVA letter dated January 27, 2009
RAI Responses

- **Regulatory Guide 1.150**—the conformance discussion in the revised Appendix 1AA states that the programmatic and/or operational aspects are not applicable since this guidance was withdrawn by NRC (73 FR 7766, 02/11/2008). Based on this statement, revise FSAR Section 5.2.4.3.2 (top of the page 5.2-6) to delete a reference to Regulatory Guide 1.150.

Response – The reference to Regulatory Guide 1.150 in FSAR Subsection 5.2.4.3.2 was removed via item AP-STD-166 in Errata Rev 2 (submitted April 28, 2008). This will be incorporated into a future FSAR revision.

- **Regulatory Guide 1.152**—the conformance discussion included in TVA’s letter dated August 5, 2008 (response to RAI 1.01) is not consistent (Word for word) with the Appendix 1AA discussion. Revise Appendix 1AA accordingly.

Response – The wording in the response to NRC RAI 01-01 is superseded by the later wording in response to NRC RAI 01-05. The later wording will be incorporated in a future FSAR Appendix 1AA revision.

- **Regulatory Guide 1.155**- The Bellefonte QAPD, Part III, Section 2, “Non-Safety-Related SSCs Credited for Regulatory Events,” states, that TVA shall implement quality requirements for Station Blackout (SBO) equipment in accordance with Regulatory Position 3.5, “Quality Assurance and Specific Guidance for SBO Equipment That Is Not Safety Related,” and Appendix A, “Quality Assurance Guidance for Non-Safety Systems and Equipment,” in Regulatory Guide (RG) 1.155, “Station Blackout.” In addition, Appendix 1AA of the FSAR lists Bellefonte’s conformance with NRC Regulatory Guides (RGs). The staff notes that Appendix 1AA does not address conformance to RG 1.155. The AP1000 DCD addresses the technical requirements of SBO where as the QAPD should be addressing the quality controls on this equipment that are non-safety related but credited in the SBO analysis. Accordingly, the staff requests the applicant to revise Appendix 1AA of the Bellefonte FSAR to address conformance with RG 1.155 with respect to regulatory position 3.5 and Appendix A of RG 1.155.

Response – The response to BLN-RAI-LTR-025 identified that SBO is not applicable for the AP1000 design in accordance with the certified design as shown in DCD Appendix 1A. Accordingly, the QAPD, Part III, Section 2, “Non-Safety-Related SSCs Credited for Regulatory Events,” will be revised to state: “Regulatory Guide 1.155 is not applicable for the AP1000 design in accordance with the certified design as shown in DCD Appendix 1A. Regulatory Guide 1.155 relates to the availability of safety related functions supported by AC power. Since AC power is not required to support the availability of safety-related functions, the guidance is not applicable.” This resolves the apparent discrepancy between the QAPD and Appendix 1AA of the FSAR, and resolves the apparent discrepancy between the QAPD and the DCD.

- **Regulatory Guide 1.159**—the conformance discussion in the revised Appendix 1AA states that this Regulatory Guide (Assuring the availability of funds for decommissioning nuclear reactors) is outside the scope of the FSAR. However, conformance with guidelines is required in accordance with 10 CFR 50.33 (k)(1) and 10 CFR 50.75 and is discussed in Part 1 of the Bellefonte Application. Revise Appendix 1AA accordingly.

Response – Part 1 of the COLA provides the information requested by 10 CFR 52.77 and is not within the scope of the FSAR. This regulation, 10 CFR 52.77, does not request regulatory guide conformance discussions. The Regulatory Guide listings in the FSAR Table 1.9-201 and Appendix 1AA are per the requirements and guidance associated with 10 CFR 52.79 for FSAR content, not 10 CFR 52.77. Thus, Regulatory Guide 1.159 is not within the scope of the FSAR, and no revision is necessary.

Enclosure
TVA letter dated January 27, 2009
RAI Responses

- **Regulatory Guide 1.161**—the DCD Table 1.9-1 states that this Regulatory Guide is not applicable to the AP1000 design certification. However, Appendix 1AA provides a conformance discussion with this Regulatory Guide for programmatic and/or operational aspects. In addition, the revised Table 1.9-201 does not list this Regulatory Guide. Reconcile this apparent discrepancy.

Response – This Regulatory Guide conformance statement was deleted from FSAR Appendix 1AA by the Application Revision item number 5 identified with the response to NRC RAI No. 01-05 (BLNRAI-LTR-066). Removal of the Regulatory Guide conformance statement from FSAR Appendix 1AA, which will be accomplished in a future FSAR revision, will reconcile this apparent discrepancy.

- **Regulatory Guides 1.174**-- the conformance discussion in the revised Appendix 1AA states that this Regulatory Guide is outside the scope of the FSAR. We suggest you revise this statement as follows: this approach is not being utilized for this plant.

Response – The position is correct as is. The approach used to make plant-specific changes to the licensing basis is not addressed in the FSAR, and thus is outside the scope of the FSAR.

- **Regulatory Guides 1.176**—for Regulatory Guide 1.176 (Risk Informed--Graded QA), Appendix 1AA states that Bellefonte conforms to the guidance of this Regulatory Guide. Revise Table 1.9-201 to include an FSAR reference or Technical Specification reference that discusses this Regulatory Guide.

Response – The conformance statement for Regulatory Guide 1.176 in FSAR Appendix 1AA was removed via item APSTD-212 in Errata Rev 2 (submitted April 28, 2008); this removal will be incorporated into a future FSAR revision. The “not applicable” identified in the DCD for this Regulatory Guide is incorporated by reference.

- **Regulatory Guides 1.37, 1.38, 1.196 and 1.197**—for these Regulatory Guides, the revised Appendix 1AA states that it generally conforms. Specifically, under column headings titled "Criteria Section" and "FSAR Position," Bellefonte (TVA) states: "General" and "Conforms", respectively. Does it mean that Bellefonte (TVA) complies with all regulatory guide positions related to programmatic and/or operational aspects? Please clarify BLN use of the term "General" and explain the level of conformance to Regulatory Positions (Section C) in Regulatory Guides 1.37, 1.38, 1.196 and 1.197 to include bases/descriptions for non-conformance or non-applicability. Note this comment is also applicable for other Regulatory Guides where TVA states that it generally conforms.

Response – The statement is not “generally conforms,” but a statement of “conforms” for the “general” Regulatory Guide rather than specifically listing each position. The conformance statement of “Conforms” indicates that the applicant “complies with all regulatory guide positions related programmatic and/or operational aspects.” Note that the conformance statement for Regulatory Guide 1.38 identifies an exception to the “general” Regulatory Guide.

- **Regulatory Guides 4.15, 8.6**---TVA takes exception/provides an alternative to certain guidelines of these Regulatory Guides but does not provide any justification (RAI 1-5 item 2 is not completely answered). Provide appropriate justification for any exception/alternatives proposed for conformance with the Regulatory Guide positions.

Response – The exception to the guidance of Regulatory Guide 4.15 is provided in FSAR Subsection 11.5.3. FSAR Appendix 1AA will be revised to provide a reference to this justification in FSAR Subsection 11.5.3. FSAR Appendix 1AA will also be revised in a future amendment as shown in the Application Revisions section below to include justification for using a more recent standard as identified in the exception to Regulatory Guide 8.6.

Enclosure
TVA letter dated January 27, 2009
RAI Responses

- **Regulatory Guides 1.6, 1.60, 1.77, 1.93, 1.99, 1.121, 1.140, 1.155, and 1.183**—These Regulatory Guides were added to Table 1.9-201 but the revised Appendix 1AA does not provide any conformance discussion for these Regulatory Guides. Provide conformance for these Regulatory Guides in Appendix 1AA.

Response – Table 1.9-201 lists the Regulatory Guides in order to identify an FSAR subsection where they are referenced. The conformance statements for these Regulatory Guides are provided through incorporation by reference of the DCD and need not be repeated in the FSAR.

- "Given the number of apparent discrepancies regarding regulatory guide information in the Bellefonte COL application, please address, what, if anything TVA has done to determine if other regulatory guide information in the COL application needs to be changed."

Response – As indicated in the above responses, few actual discrepancies existed. The perception of numerous apparent discrepancies was the result of original RAI responses pertaining to Regulatory Guide conformance being superseded by subsequent RAI responses (see RAI letters No. 16 dated June 24, 2006, No. 50 dated August 5, 2008, and No. 66 dated August 19, 2008), as well as the incorporation by reference of several Regulatory Guides in the DCD. The few discrepancies that did exist are considered to be minor oversights that are readily corrected as identified in the Associated Revisions section below. As such, an extensive re-review of other regulatory guide information in the COL application is not warranted.

This response is expected to be STANDARD for the S-COLAs.

ASSOCIATED BLN COL APPLICATION REVISIONS:

1. COLA Part 2, FSAR Chapter 1, Section 1.9, Table 1.9-201, Revision 1, will be revised from:

1.101	Emergency Response Planning and Preparedness for Nuclear Power Reactors (Rev. 5, June 2005)	9.5.1.8.2.2 Table 9.5-201 13.3 (Emergency Plan I.C.1)
-------	---	---

To read:

1.101	Emergency Response Planning and Preparedness for Nuclear Power Reactors (Rev. 5, June 2005)	Not referenced
1.101	Emergency Planning and Preparedness for Nuclear Power Reactors (Rev. 4, July 2003)	Not referenced
1.101	Emergency Planning and Preparedness for Nuclear Power Reactors (Rev. 3, August 1992)	9.5.1.8.2.2 Table 9.5-201 13.3 (Emergency Plan I.C.1)

2. COLA Part 2, FSAR Chapter 1, Appendix 1AA, Revision 1, conformance statement for Regulatory Guide 1.33 will be revised from:

General	Exception	Quality assurance requirements utilize the more recently NRC endorsed NQA-1 in lieu of the identified outdated standards.
---------	-----------	---

Enclosure
TVA letter dated January 27, 2009
RAI Responses

To read:

General	Exception	Quality assurance requirements utilize the more recently NRC endorsed NQA-1 and NEI 06-14A in lieu of the identified outdated standards.
---------	-----------	--

3. COLA Part 2, FSAR Chapter 1, Appendix 1AA, Revision 1, conformance statement for Regulatory Guide 1.101 will be revised from:

General	N/A
---------	-----

To read:

General	Exception	Rev. 5 is not applicable for this site. Rev. 3 and 4 are essentially the same except for endorsement of NEI 99-01 which is not directly applicable to the AP1000 passive design. The EP conforms to Rev. 3 and 4 with the exception that the EALs are written with necessary modifications to address the passive plant design.
---------	-----------	---

4. COLA Part 2, FSAR Chapter 1, Appendix 1AA, Revision 1, conformance statement for Regulatory Guide 8.6 will be revised from:

General	Exception	Instrument calibration program is based upon criteria in ANSI N323A-1997 (with 2004 Correction Sheet) "Radiation Protection Instrumentation Test and Calibration, Portable Survey Instruments."
---------	-----------	---

To read:

General	Exception	Instrument calibration program is based upon criteria in ANSI N323A-1997 (with 2004 Correction Sheet) "Radiation Protection Instrumentation Test and Calibration, Portable Survey Instruments." The ANSI 42.3-1969 Standard is no longer recognized as sufficient for calibration of modern instruments.
---------	-----------	--

5. COLA Part 2, FSAR Chapter 12, Appendix 12AA, Revision 1, will be revised to include the following additional statements:

Revise the References section, Reference 8, to read as follows:

8. Regulatory Guide 1.97, Revision 3, "Instrumentation for Light-Water-Cooled Nuclear Power Plants to Assess Plant and Environs Conditions During and Following an Accident."

ASSOCIATED ATTACHMENTS/ENCLOSURES:

None