PMBeICOL PEmails

From: Creek, Carolyn P [cpcreek@tva.gov]
Sent: Tuesday, July 08, 2008 11:07 AM
To: AGAUGHTM@SOUTHERNCO.COM; AMONROE@scana.com; Brian Anderson; Brian Hughes; D. Lindgren; David.Waters@pgnmail.com; Dorothy Boland; ED Cummins; erg-xl@cox.net; fredwanz@enercon.com; Jean-Pierre Berger; Joseph Sebrosky; M.C. Noland; Mallecia Hood; Manny Comar; neilhaggerty@comcast.net; Ravindra Joshi; Ray, Phillip M; skowkabany@enercon.com; Tanya Simms; Tom Miller, DOE; William_Maher@fpl.com; x2gabeck@SOUTHERNCO.COM
Cc: crpierce@SOUTHERNCO.COM; F Burford; garry.miller@pgnmail.com; gzinke@entergy.com; Jean-Pierre Berger,EDF; Julie Giles; marilyn.kray@exeloncorp.com; N.T. Simms, Duke-Energy; pshastings@duke-energy.com; R Sisk @ Westinghouse ; RCLARY@scana.com; Rebecca.Smith-Kevern@nuclear.energy.gov; rgrumbir@gmail.com; Richard.Reister@nuclear.energy.gov; robert.kitchen@pgnmail.com; sfrantz@morganlewis.com; Tillie Wilkins; Wesley Sparkman
Subject: Letters to NRC
Attachments: BLN RAI Response to RAI Letter 024 Final 20080702.pdf; BLN RAI Response to RAI Letter 019 Final 20080611 final.pdf; BLN RAI Response to RAI Letter 005S1 Final 20080625 pmr.pdf; BLN RAI Response to RAI Letter 023 Final 20080701.pdf; BLN RAI Response to RAI Letter 025 Final t 20080607pmr _2_.pdf

This is the first of a number of emails covering the Letters Sent to NRC over the past few weeks.

The rest will follow.

The first four are in eB

<<BLN RAI Response to RAI Letter 024 Final 20080702.pdf>> Letter 024 Code Compliance <<BLN RAI Response to RAI Letter 019 Final 20080611 final.pdf>> Letter 019 Initial Plant Test Program <<BLN RAI Response to RAI Letter 005S1 Final 20080625 pmr.pdf>> Letter 05 - S1 <<BLN RAI Response to RAI Letter 023 Final 20080701.pdf>> Letter No. 23 Preservice Inspection

Letter No. 25 Electrical Power
(error with eB, trying to resolve)

<<BLN RAI Response to RAI Letter 025 Final t 20080607pmr _2_.pdf>>

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Hearing Identifier: Bellefonte_COL_Public_EX
Email Number: 393

Mail Envelope Properties (28921B76CDD05940A918AEEC9EBCA7C007B4C057)

Subject: Letters to NRC
Sent Date: 7/8/2008 11:06:45 AM
Received Date: 7/8/2008 11:08:57 AM
From: Creek, Carolyn P

Created By: cpcreek@tva.gov

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Files	**Size**	**Date & Time**
MESSAGE	862	7/8/2008 11:08:57 AM
BLN RAI Response to RAI Letter 024 Final 20080702.pdf	266030	
BLN RAI Response to RAI Letter 019 Final 20080611 final.pdf	224020	
BLN RAI Response to RAI Letter 005S1 Final 20080625 pmr.pdf		435056
BLN RAI Response to RAI Letter 023 Final 20080701.pdf	263034	
BLN RAI Response to RAI Letter 025 Final t 20080607pmr _2_.pdf		248658

Options
Priority: Standard
Return Notification: No
Reply Requested: No

Sensitivity: Normal
Expiration Date:
Recipients Received:

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

July 03, 2008

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 – CODE COMPLIANCE

Reference: Letter from Joseph M. Sebrosky (NRC) to Andrea L. Sterdis (TVA), Request for Additional Information Letter No. 024 Related to SRP Section 05.02.01 for the Bellefonte Units 3 and 4 Combined License Application, dated May 22, 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 each 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 Phillip Ray at 1101 Market Street, LP5A, Chattanooga, Tennessee 37402-2801, by telephone at (423) 751-7030, or via email at pmray@tva.gov.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on this 3rd day of July, 2008.

Jack A. Bailey
Nuclear Generation Development

Enclosure
cc: See Page 2

cc: (Enclosure)
J. P. Berger, EDF
J. M. Sebrosky, NRC/HQ
E. Cummins, Westinghouse
S. P Frantz, Morgan Lewis
M W. Gettler, FP&L
R . Grumbir, NuStart
P. S. Hastings, NuStart
P. Hinnenkamp, Entergy
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. G. Joshi, 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

Enclosure
TVA letter dated July 03 2008
RAI Responses

Responses to NRC Request for Additional Information letter No. 024 dated May 22, 2008

(3 pages, including this list)

Subject: Quality Assurance

RAI Number	Date of TVA Response
05.02.01.01-01	This letter – see following pages

Attachments / Enclosures Included	Pages
None	

NRC Letter Dated: May 22, 2008

NRC Review of Final Safety Analysis Report

NRC RAI NUMBER: 05.02.01.01-01

AP1000 DCD Section 5.2.6.1 states, "The Combined License applicant will address consistency of the design with the construction practices (including inspection and examination methods) of the later ASME Code edition and addenda added as part of the Combined License application. The Combined License applicant will address the addition of ASME code cases approved subsequent to design certification." ASME Code Section III, NCA-1140, "Use of Code Editions, Addenda, and Cases," provides criteria applicable to design and construction activities. It states that specific provisions within an Edition or Addenda later than those established in the design specifications may be used, provided that all the related requirements are met. Discuss whether the methodology discussed under STD COL 5.2-1, including supplemental information (Bellefonte FSAR section 5.2.1.1), is applicable or appropriate for ASME Section III design/construction activities. Clarify whether TVA intends to use portions of ASME Code, Section III Editions and Addenda approved subsequent to those specified in the certified AP1000 design and, if so, address how TVA will ensure consistency of the design and construction practices when using such later Section III Code Editions and Addenda. Please revise STD COL 5.2-1 of TVA's supplemental information (following the second sentence in the second paragraph of DCD Subsection 5.2.1.1) to ensure consistency with the criteria in the ASME Code Section III, paragraph NCA-1140, "Use of Code Editions, Addenda, and Cases."

BLN RAI ID: 0390

BLN RESPONSE:

The provisions in DCD Subsections 5.1.2.2 and 5.2.6.1 and FSAR Subsection 5.2.1.1 provide a means to use but do not require use of an updated Edition and Addenda of the ASME Code, Section III. ASME Code, Section III components are being designed using the baseline ASME Code defined in DCD Subsection 5.2.1.1. Design specifications for component and material procurement will specify the ASME Code to be used for design and construction to be that identified in the DCD. There is no intent to specify portions of ASME Code, Section III Editions and Addenda, approved subsequent to those identified in the certified AP1000 design. In addition, the reference in the FSAR Subsection 5.2.1.1 to the ASME Section XI reconciliation process for repair and replacement is an inappropriate reference for the original design and construction. Therefore, this reference will be corrected as identified in the Applications Revisions section below to reference ASME Section III criteria for evaluations of differences in ASME Code edition/addenda that may be used in design and construction activities, for example by material or component suppliers.

Additionally, we understand that an ASME Code Case is being prepared to address the inconsistency between the rules in the ASME Code Section III, paragraph NCA-1140 and the Design Certification. The new code case, if approved, would also be adopted for addressing use of later code editions and addenda.

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

ASSOCIATED BLN COL APPLICATION REVISIONS:

COLA Part 2, FSAR Chapter 5, Section 5.2.1.1, will be revised from:

If a later Code year/addenda than the Design Certification Code year/addenda is used by the material and/or component supplier, then a code reconciliation is performed. The reconciliation is performed using the methodology set forth in ASME Section XI for the repair and replacement of components.

To read:

If a later Code edition/addenda than the Design Certification Code edition/addenda is used by the material and/or component supplier, then a code reconciliation to determine acceptability is performed as required by the ASME Code, Section III, NCA-1140.

ATTACHMENTS/ENCLOSURES:

None

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

June 11, 2008

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 – INITIAL PLANT TEST PROGRAM

Reference: Letter from Brian C. Anderson (NRC) to Andrea L. Sterdis (TVA), Request for Additional Information Letter No. 019 Related to SRP Section 14.02 for the Bellefonte Units 3 and 4 Combined License Application, dated May 13, 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 each NRC request in the subject letter is addressed in the enclosure and also identifies no changes that will be made in a future revision of the BLN application.

If you should have any questions, please contact Phillip Ray at 1101 market Street, LP5A, Chattanooga, Tennessee 37402-2801, by telephone at (423) 751-7030, or via email at pmray@tva.gov.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on this 11th day of June, 2008

Jack A. Bailey
Vice President, Nuclear Generation Development

Enclosure
cc: See Page 2

cc: (Enclosures)
B.C. Anderson, NRC/HQ
E. Cummins, Westinghouse
S. P. Frantz, Morgan Lewis
M.W Gettler, FP&L
R.C. Grumbir, NuStart
P. S. Hastings, NuStart
P. Hinnenkamp, Entergy
M.C. Kray, NuStart
D. Lindgren, Westinghouse
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M.C. Nolan, Westinghouse
N.T. Simms, Westinghouse
G.A. Zinke, NuStart

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C. R.Pierce, SNC
R. Register, DOE/PM
L. Reyes, NRC/RII
J.M. Sebrosky, NRC/HQ

Enclosure
TVA letter dated June 11, 2008
RAI Responses

Responses to NRC Request for Additional Information letter No. 019 dated May 13, 2008
(2 pages Including this one)

Subject: Initial Plant Test Program

RAI Number	Date of TVA Response
14.02-03	This letter – see following pages

Attachments / Enclosures	Pages Included
None	

NRC Letter Dated: May 13, 2008

NRC Review of Final Safety Analysis Report

NRC RAI NUMBER: 14.02-03

Regulatory Guide 1.68, Section C.1, "Criteria for Selection of Plant Features to be Tested," provides the criteria for the selection of plant features to be tested during the conduct of the initial test program. Standard COL information item 14.4.5 of the Westinghouse DCD states that the COL applicant is responsible for testing that may be required of structures and systems which are outside of the design certification. Section 14.2 of the Bellefonte COL application addresses COL information item 14.4.5 and provides test abstracts for the following interfacing systems:

- Storm drains
- Site-specific seismic sensors
- Offsite AC power systems
- Raw Water System
- Sanitary Drainage System
- Fire Brigade Support Equipment
- Portable Personnel Monitors and Radiation Survey Instruments
- Cooling Tower(s)

Please confirm that the test abstracts included in Section 14.2 of the Bellefonte COL application to address COL information item 14.4.5 are applicable to Bellefonte Units 3 and 4. In addition, please confirm that there are no additional site-specific structures, systems, and/or design features that meet the criteria of Regulatory Position C.1 of RG 1.68 and for which testing should be addressed in Section 14.2 of the Bellefonte COL application.

BLN RAI ID: 0361

BLN RESPONSE:

It is hereby confirmed that the test abstracts included in Section 14.2 of the COL application to address COL information item 14.4.5 are applicable to the plant addressed by the COL application in which they are included. In addition, it is confirmed that there are no additional site-specific structures, systems, and/or design features that meet the criteria of Regulatory Position C.1 of Regulatory Guide 1.68 and for which testing should be addressed in Section 14.2 of the COL application.

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

ASSOCIATED BLN COL APPLICATION REVISIONS:

No COLA revisions have been identified associated with this response.

ATTACHMENTS/ENCLOSURES:

None

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

June 26, 2008

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 – PRESSURE-TEMPERATURE LIMITS

References:

1) Letter from Ravindra G. Joshi (NRC) to Andrea L. Sterdis (TVA), Request for Additional Information Letter No. 005 Related to SRP Section 05.03.02 for the Bellefonte Units 3 and 4 Combined License Application, dated April 23, 2008.

2) Letter from Andrea L. Sterdis (TVA) to Nuclear Regulatory Commission, Bellefonte Combined License Application – Response to Request for Additional Information – Pressure-Temperature Limits, dated June 5, 2008.

3) Letter from Robert Sisk (WEC) to Nuclear Regulatory Commission, AP1000 Submittal of APP-RXS-ZOR-001, Revision 1, dated May 30, 2008.

This letter provides a Tennessee Valley Authority's (TVA) supplemental response to the Nuclear Regulatory Commission's (NRC) request for additional information (RAI) items included in the Reference 1 letter. Reference 2 indicated that a supplemental response would be provided within 30 days of the Reference 3 submittal.

A response to each NRC request in the subject letter is addressed in the enclosure and 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 Phillip Ray at 1101 Market Street, LP5A, Chattanooga, Tennessee 37402-2801, by telephone at (423) 751-7030, or via email at pmray@tva.gov.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on this 26th day of June, 2008.

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

Enclosure
See page 3

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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

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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
J.M. Sebrosky, NRC/HQ

Enclosure
TVA letter dated June 26, 2008
RAI Responses

Responses to NRC Request for Additional Information letter No. 005 dated April 23, 2008
(3 Pages, including this list)

Subject: Pressure-temperature limits in the Final Safety Analysis Report

RAI Number	Date of TVA Response
05.03.02-01	June 5, 2008 This letter – see following pages

Attachments / Enclosures	Pages Included
None	

NRC Letter Dated: April 23, 2008

NRC Review of Final Safety Analysis Report

NRC RAI NUMBER: 05.03.02-01

The NRC staff's understanding is that a) Westinghouse intends to submit for NRC staff review and approval a generic Pressure Temperature Limit Report (PTLR) for the AP1000 reactor vessel using the bounding properties and b) Westinghouse intends to seek NRC approval to update the AP1000 DCD to include the use of the generic AP1000 PTLR by all COL applicants. In light of these assumptions, please explain whether TVA will revise the proposed license condition in the Bellefonte Nuclear Plant, Units 3 and 4 Application, Part 10, Section 2, COL Holder Items, COL Item # 5.3-1, as follows: "The COL Holder shall update the P/T limits using the PTLR methodologies approved in the AP1000 DCD, and using the plant-specific material properties. The COL Holder will inform the NRC of the updated P/T limits." This approach would be consistent with that used for all operating reactors (see NRC Generic Letter 96-03), under which licensees using PTLRs inform the NRC staff of any subsequent change in P/T limits, without the need for prior NRC approval, as long as there are no changes to the approved PTLR methodology.

BLN RAI ID: 0103

BLN RESPONSE:

The proposed license condition in the COL Application, Part 10, Section 2, COL Holder Items, COL Item 5.3-1, will be revised as requested with the additional allowance to use the Westinghouse generic PTLR curves without further evaluation if the reactor vessel material properties meet specifications.

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

ASSOCIATED BLN COL APPLICATION REVISIONS:

COLA Part 10, Proposed Combined License Conditions, Section 2, COL Holder Items, COL Item 5.3-1, will be revised from:

5.3-1	Reactor Vessel Pressure – Temperature Limit Curves	5.3.6.1	Prior to initial fuel load
The pressure-temp. curves shown in Figures 5.3-2 and 5.3-3 are generic curves for AP1000 reactor vessel design, and they are the limiting curves based on copper and nickel material composition. However, for a specific AP1000, these curves will be plotted based on material composition of copper and nickel. Use of plant-specific curves will be addressed by the Combined License holder during procurement and fabrication of the reactor vessel. As noted in the bases to Technical Specification 3.4.14, use of plant-specific curves requires evaluation of the LTOP system. This includes an evaluation of the setpoint pressure for the RNS relief valve by the Combined License holder to determine if the setpoint pressure needs to be changed based on the plant-specific pressure-temperature curves. The development of the plant-specific curves and evaluation of the setpoint pressure are required prior to fuel load.			

To read:

5.3-1	Reactor Vessel Pressure – Temperature Limit Curves	5.3.6.1	Prior to initial fuel load
The COL Holder shall update the P/T limits using the PTLR methodologies approved in the AP1000 DCD using the plant-specific material properties or confirm that the reactor vessel material properties meet the specifications and use the Westinghouse generic PTLR curves.			

ATTACHMENTS/ENCLOSURES:

None

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

July 03, 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 – PRESERVICE INSPECTION

Reference: Letter from Joseph M. Sebrosky (NRC) to Andrea L. Sterdis (TVA), Request for Additional Information Letter No. 023 Related to SRP Section 05.02.04 for the Bellefonte Units 3 and 4 Combined License Application, dated May 21, 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 each NRC request in the subject letter is addressed in the enclosure which does not identify any associated changes to be made in a future revision of the BLN application.

If you should have any questions, please contact Phillip Ray at 1101 Market Street, LP5A, Chattanooga, Tennessee 37402-2801, by telephone at (423) 751-7030, or via email at pmray@tva.gov.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on this 3rd day of July, 2008.

Jack A. Bailey

Jack A. Bailey
Vice President, Nuclear Generation Development

Enclosure
cc: See Page 2

cc: (w/Enclosure)
J.P. Berger, EDF
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P Hinnenkamp, Entergy
M.C. Kray, NuStart
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M.C. Nolan, Duke Energy
N. T. Simms, Duke Energy
G. A. Zinke, NuStart

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R. G. Joshi, NRC/HQ
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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

Enclosure
TVA letter dated July 03, 2008
RAI Responses

Responses to NRC Request for Additional Information letter No. 023 dated May 21, 2008
(6 pages, including this list)

Subject: Preservice Inspection

RAI Number	Date of TVA Response
05.02.04-01	This letter – see following pages
05.02.04-02	This letter – see following pages
05.02.04-03	This letter – see following pages
05.02.04-04	This letter – see following pages

Attachments / Enclosures	Pages Included
None	

NRC Letter Dated: May 21, 2008

NRC Review of Final Safety Analysis Report

NRC RAI NUMBER: 05.02.04-01

The AP1000 DCD, Section 5.2.6.2, assigned a COL Information Item, providing a commitment that the COL applicant's preservice inspection program will include specific preservice examinations of the reactor vessel closure head equivalent to those outlined in AP 1000 DCD Tier 2, Section 5.3.4.7. The Bellefonte FSAR adds supplemental information to the end of Subsection 5.2.4.3.1 describing the design of the RPV as it pertains to meeting the preservice inspection requirements for the RPV. Pursuant to Section 5.2.6.2 of the DCD, please discuss TVA's plans with respect to preservice inspection of the RPV closure head consistent with the examinations outlined in Section 5.3.4.7 of the DCD.

BLN RAI ID: 0386

BLN RESPONSE:

The preservice inspection related to reactor vessel head and penetrations as discussed in DCD Subsection 5.3.4.7 includes the regions identified in the NRC First Revised Order EA-03-009 dated February 20, 2004, related to the inspection of reactor vessel head penetrations. These inspections use methods consistent with those to be applied for inservice inspection discussed in FSAR Subsection 5.2.4.3.1. The design specification includes a requirement for preservice inspections consistent with the NRC First Revised Order. As part of the reactor vessel and integrated head package design finalization, the reactor vessel head design and the design of components connected to and in the region of the reactor vessel head have been reviewed, and it has been determined that required preservice and inservice inspections can be performed as required by ASME Section III and Section XI. DCD Subsection 5.3.4.7 is incorporated into the FSAR by reference as indicated in FSAR Section 5.3; no exceptions or departures are taken in the COLA with regard to the description of the preservice inspections for the reactor vessel head in DCD Subsection 5.3.4.7; therefore, conduct of the inspections will be consistent with, and as described in, DCD Subsection 5.3.4.7.

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

ASSOCIATED BLN COL APPLICATION REVISIONS:

No COLA revisions have been identified associated with this response.

ATTACHMENTS/ENCLOSURES:

None

NRC Letter Dated: May 21, 2008

NRC Review of Final Safety Analysis Report

NRC RAI NUMBER: 05.02.04-02

The AP1000 DCD, Section 5.2.4 and 10 CFR 50.55a(g)(4) require that components be designed to enable the performance of ASME Code-required preservice and inservice examinations. Bellefonte FSAR Section 5.2.4.8 states, "[t]he specific areas where the applicable ASME Code requirements cannot be met are identified after the initial examinations are performed." In addition, Section 5.2.4.3.1 (page 5.2-4) states that a relief request will be submitted for NRC approval if accessibility is limited for nozzle-to-shell welds. Because it is the staff's understanding that the previously learned lessons are incorporated into the design and will enable the performance of inservice examinations required by the ASME Code, please explain why there would be areas on the reactor vessel nozzle-to-shell welds where inservice examinations would be impractical and necessitate relief. In this discussion, please address whether any RV nozzle-to-shell weld access issues are present at this time when using the latest edition and addenda of the ASME Code, Section XI that is incorporated by reference in 10 CFR 50.55a (i.e., the 2001 Edition up to and including the 2003 Addenda). If so, address whether TVA considers access from inside the pressure vessel to be an option.

BLN RAI ID: 0387

BLN RESPONSE:

As part of the design-for-inspectability process, the capability of examining the reactor vessel welds was assessed. The result of that assessment is that with ISI tooling design and the AP1000 reactor vessel design, examinations from the inside of the AP1000 pressure vessel can be completed without a need for relief requests. Specifically, the AP1000 reactor vessel design includes a location of the outlet nozzle-to-shell weld farther away from the nozzle boss than for some previous designs. The weld centerline has a larger radius from the nozzle centerline than previous designs thus putting the weld farther away from the outlet nozzle protrusion/boss. This addresses a scan limitation in some previous designs. This change did not change the outline or interface dimensions of the reactor vessel. The AP1000 design has effectively removed the only known accessibility limitation in the nozzle-to-shell welds when using the edition and addenda of the ASME Code Section XI referenced in 10 CFR 50.55a (i.e., the 2001 Edition with Addenda through 2003). Plans are to examine these nozzle-to-shell welds from the inside surface of the vessel utilizing an underwater ultrasonic inspection tool, which is the accepted industry standard.

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

ASSOCIATED BLN COL APPLICATION REVISIONS:
No COLA revisions have been identified associated with this response.

ATTACHMENTS/ENCLOSURES:

None

NRC Letter Dated: May 21, 2008

NRC Review of Final Safety Analysis Report

NRC RAI NUMBER: 05.02.04-03

Discuss the details of TVA's program regarding preservice and inservice inspection (ISI) of Class 1 austenitic and dissimilar-metal welds, including with respect to monitoring for primary water stress-corrosion cracking. Specifically address the method and type of nondestructive examination, number and type of welds projected and two-sided access provisions. If two-sided access cannot be obtained to perform the same type of nondestructive examination method during inservice examination as performed during preservice examination, discuss how NRC regulations and the ASME Code ISI requirements will be met. Note that the Staff assumes that any relief from ISI of these susceptible welds on the basis of design, geometry, or materials of construction will not be necessary, since these factors can be rectified at the design stage before the plant is constructed.

BLN RAI ID: 0388

BLN RESPONSE:

As part of the design-for-inspectability process, the ASME Class 1 portion of the reactor coolant system is designed for two-sided access for austenitic stainless steel piping welds wherever possible. This is consistent with currently-qualified ultrasonic inspection procedures which comply with ASME Section XI. In some locations, such as at branch connections, two-sided access for examination for circumferential degradation is not possible. In these cases, the weld crowns are required to be flush such that one-sided ultrasonic examination techniques similar to that applied to dissimilar-metal welds can be applied. For dissimilar-metal welds, the welds are designed for one-sided access as a minimum. This is consistent with currently-qualified ultrasonic inspection procedures which comply with ASME Section XI. The exact number of welds is still under development at this time, but for each type of weld, the accessibility requirements of ASME Code Section XI are being applied to the design of these welds. At this time, the same NDE methods and techniques that are utilized for the preservice inspection are also planned for subsequent inservice inspections. Therefore, accessibility, geometry, and material of construction during inservice inspection should not be a concern, and no relief from inservice inspection requirements is expected at this time. Since the AP1000 reactor vessel design, fabrication, and installation does not include the use of nickel-chromium-iron Alloy 600, the examination methods and procedures do not need to address examination of Alloy 600.

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

ASSOCIATED BLN COL APPLICATION REVISIONS:
No COLA revisions have been identified associated with this response.

ATTACHMENTS/ENCLOSURES:

None

NRC Letter Dated: May 21, 2008

NRC Review of Final Safety Analysis Report

NRC RAI NUMBER: 05.02.04-04

Regulatory Guide 1.206, Section C.III.1, Chapter 5, Section C.I.5.2.4.2 defines the Preservice Inspection (PSI) Program as an operational program, as described in SECY-05-0197, such that the program and its implementation milestones should be fully described in terms of the scope and level of detail to allow for a reasonable assurance finding of acceptability. Bellefonte FSAR Section 5.2.4.9 states that preservice examinations required by design and documentation are in accordance with ASME Section III, NB-5281, and that volumetric and surface examinations are performed as specified in ASME Section III, NB-5282. It also states that components described in ASME Section III, NB-5283 are exempt from preservice examination. Please provide a more detailed description, including the scope of TVA's Preservice Inspection Program for ASME Code Class 1 components.

BLN RAI ID: 0389

BLN RESPONSE:

The design specifications for ASME Section III components include requirements for preservice inspection requirements. This requirement is part of the design specification checklist. The preservice inspection requirements in the design specifications include compliance with ASME Code Section XI requirements, as a minimum. The final design specification will include a listing of Class 1 welds subject to preservice inspection.

FSAR Subsection 5.2.4.1 provides a discussion of the scope of the preservice and inservice inspection programs, by system; FSAR Subsection 5.2.4.3.1 describes the methods for examination for both preservice and inservice inspections; FSAR Subsection 5.2.4.3.1 describes the qualification requirements of personnel performing ultrasonic examinations (for both preservice and inservice examinations programs); FSAR Subsection 5.2.4.5 provides that Class 1 components preservice inspection requirements are provided in the design specifications, and provides further discussion of the scope of the preservice examinations (exempt components); FSAR Subsection 5.2.4.9 again discusses the requirements for ASME Class 1 component preservice inspection as required by ASME Section III; DCD Subsection 6.6.5, incorporated by reference in the COLA FSAR, indicates that preservice examinations are done in accordance with IWC-2200 (Class 2) and IWD-2100 (Class 3); and FSAR Section 13.4 provides the milestones for implementation of the preservice inspection program.

In addition, DCD Subsection 5.2.4.5, incorporated by reference in the COLA FSAR, indicates preservice inspections of Class 1 components will meet the requirements of IWB-2200, and as indicated in the response to NRC RAI No. 05.02.04-01, reactor vessel head preservice examinations are described in DCD Subsection 5.3.4.7, also incorporated by reference in the COLA FSAR. These FSAR sections, combined with the DCD sections provide a full description of the preservice inspection program as required by SECY-05-0197.

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

ASSOCIATED BLN COL APPLICATION REVISIONS:

No COLA revisions have been identified associated with this response.

ATTACHMENTS/ENCLOSURES:

None

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

June 24, 2008

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 – ELECTRICAL POWER

Reference: Letter from Tanya Simms (NRC) to Andrea L. Sterdis (TVA), Request for Additional Information Letter No. 025 Related to SRP Section 08.01 for the Bellefonte Units 3 and 4 Combined License Application, dated May 23, 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 each NRC request in the subject letter is addressed in the enclosure and 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 Phillip Ray at 1101 market Street, LP5A, Chattanooga, Tennessee 37402-2801, by telephone at (423) 751-7030, or via email at pmray@tva.gov.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on this 24th day of June, 2008

Andrea L. Sterdis

Manager, New Nuclear Licensing and Industry Affairs

Enclosure

cc: See Page 2

cc: (Enclosure)
M P. Cazaubon, NuStart
R. B. Clary, SCE&G
E. Cummins, Westinghouse
S. P. Frantz, Morgan Lewis
M.W Gettler, FP&L
R. C. Grumbir, NuStart
P. S. Hastings, NuStart
P. Hinnenkamp, Entergy
D. Lindgren, Westinghouse
G. D. Miller, PG&N
M.C. Nolan, Duke Energy
N.T. Simms, Duke Energy
T. Simms, NRC, HQ
G. A. Zinke, NuStart

cc: (w/o Enclosure)
M.M. Comar, NRC/HQ
B. Hughes, NRC/HQ
R.G. Joshi, NRC/HQ
R. H. Kitchen, PGN
M.C Kray, NuStart
A. M. Monroe, SCE&G
C. R. Pierce, SNC
L. Register, DOE/PM
L. Reyes, NRC/RII
J. M. Sebrosky, NRC/HQ

Enclosure
TVA letter dated June 24, 2008
RAI Responses

Responses to NRC Request for Additional Information letter No. 025 dated May 23, 2008

(5 pages, including this list)

Subject: Electrical Power in the Final Safety Analysis Report

RAI Number	Date of Response
08.01-01	This letter – see following pages
08.01-02	This letter – see following pages

Attachments / Enclosures	Pages Included
None	

Enclosure
TVA letter dated June 24, 2008
RAI Responses

NRC Letter Dated: May 23, 2008

NRC Review of Final Safety Analysis Report

NRC RAI NUMBER: 08.01-01

Please explain why the Bellefonte FSAR (including Table 8.1-201) does not reference the latest revisions of RG 1.128 and RG 1.180 with respect to the installation of large lead storage batteries and evaluation of electromagnetic and radio frequency interference in safety related instrumentation and controls. If the guidance in those RGs was not followed, please justify the approach taken.

BLN RAI ID: 0391

BLN RESPONSE:

Table 8.1-201 does not identify a revision of the listed Regulatory Guides. To determine the appropriate revision, the conformance assessments in FSAR Chapter 1, Appendix 1AA, must be consulted. The FSAR Chapter 1, Appendix 1AA, addresses the latest versions of each of these Regulatory Guides, i.e., Regulatory Guide 1.128, Revision 2, dated February 2007, and Regulatory Guide 1.180, Revision 1, dated October 2003.

For Regulatory Guide 1.128, Rev. 2, 2/07, "Installation Design and Installation of Vented Lead-Acid Storage Batteries for Nuclear Power Plants," the FSAR (Appendix 1AA) indicates "Conformance with Revision 1 of the Regulatory Guide is documented in the DCD." It is appropriate to reference the DCD for this Regulatory Guide since the information contained therein is only for design and installation, which is entirely within the scope of the DCD.

For Regulatory Guide 1.180, Rev. 1, 10/03, "Guidelines for Evaluating Electromagnetic and Radio-Frequency Interference in Safety-Related Instrumentation and Control Systems," the FSAR (Appendix 1AA) indicates "Conformance with Revision 0 of the Regulatory Guide is documented in the DCD." It was initially considered appropriate to reference the DCD for this Regulatory Guide since the information contained therein was considered as only for design and installation which is entirely within the scope of the DCD. However, upon re-review of the document, it has been determined that the guidance also indicates that "Exclusion zones should be established through administrative controls to prohibit the activation of portable EMI/RFI emitters (e.g., welders and transceivers) in areas where safety-related I&C systems have been installed." Thus, the FSAR will be revised as indicated below to indicate conformance with the guidance on establishment of these administrative controls.

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

ASSOCIATED BLN COL APPLICATION REVISIONS:

COLA Part 2, FSAR Chapter 1, Appendix 1AA, conformance statement for RG 1.180 will be revised from:

Conformance with Revision 0 of the Regulatory Guide is documented in the DCD.

To read:

Conformance with Revision 0 of the Regulatory Guide is documented in the DCD. Conformance of the design aspects is as stated in the DCD. Conformance with Revision 1 of this Regulatory Guide for programmatic and/or operational aspects is documented below.

General	Conforms	Exclusion zones are established through administrative controls to prohibit the activation of portable EMI/RFI emitters (e.g., welders and transceivers) in areas where safety-related I&C systems are installed.

ATTACHMENTS/ENCLOSURES:

None

Enclosure
TVA letter dated June 24, 2008
RAI Responses

NRC Letter Dated: May 23, 2008

NRC Review of Final Safety Analysis Report

NRC RAI NUMBER: 08.01-02

SRP 8.1-02 According to Tables 8.1-201 and 1.9-202 of the FSAR, station blackout (SBO) and the associated guidelines of RG 1.155 are not applicable to Bellefonte. Please explain why no description of the procedures that will be implemented for SBO should be submitted for staff review pursuant to 10 CFR 50.63, including with respect to procedures to restore offsite power and operator training necessary to cope with SBO and with respect to severe weather guidelines established for Bellefonte. In light of the guidance in RG 1.206, C.I.8.4.1, please explain why the Bellefonte FSAR does not identify local power sources and transmission paths that could be made available to resupply power to the plant following a loss of grid or SBO.

BLN RAI ID: 0392

BLN RESPONSE:

SBO is not applicable for the AP1000 design in accordance with certified design as shown in DCD Appendix 1A. The regulatory basis of SBO 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 SBO guidance is not applicable and no procedures are anticipated specifically for SBO purposes. However, the AP1000 design is in conformance with the SBO guidelines as discussed in DCD Subsection 1.9.5.1.5 and DCD Subsection 1.9.4.2.2, item A-44. Since the AP1000 does not rely on safety related AC power from either offsite sources or an onsite diesel backed source, the intent of the SBO requirement is accomplished. This was noted by the NRC staff in the FSER section 8.5.2.1 which states "the AP1000 design meets the requirements of 10 CFR 50.63 for 72 hours." A description of the procedures required beyond 72 hours is provided in DCD Subsection 1.9.5.4. This was also noted by the NRC staff in the FSER section 8.5.2.1. As indicated in DCD Subsection 1.9.5.4, the resupply of power can be provided using the ancillary diesel generators or a portable, engine-driven ac generator that connects to safety-related electrical connections. Restoration of offsite power via local power sources and transmission paths is not required.

Procedures and training for recovery from design basis accident events will overlap and encompass the activities that would normally be expected for SBO in a plant that does require AC power to support the availability of safety-related functions. Thus, no procedures or training specific to SBO or Regulatory Guide 1.155 are necessary, including severe weather guidelines. The procedures and training for recovery from design basis accident events will be available for NRC review on a schedule to be provided in accordance with proposed License Condition number 6 included in Part 10 of the COLA.

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

ASSOCIATED BLN COL APPLICATION REVISIONS:

No COLA revisions have been identified associated with this response.

ATTACHMENTS/ENCLOSURES:

None