



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

April 15, 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

BELLEVILLE COMBINED LICENSE APPLICATION – RESPONSE TO REQUEST FOR
ADDITIONAL INFORMATION – ELECTRIC POWER

References: 1) 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
Belleville Units 3 and 4 Combined License Application, dated May 23, 2008.

2) Letter from Andrea L. Sterdis (TVA) to NRC Document Control Desk,
Belleville Combined License Application – Response to Request for Additional
Information – Electric Power, dated June 24, 2008.

This letter provides the 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 and originally responded to in the reference 2 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 Tom 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 15th day of April, 2009.

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

DOBS
NRC

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Enclosure
cc: See Page 3

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cc: (Enclosures)

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S. P. Frantz, Morgan Lewis
M. W. Gettler, FP&L
R. C. Grumbir, NuStart
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P. Hinnenkamp, Entergy
M. C. Kray, NuStart
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cc: (w/o Enclosure)

B. Anderson, NRC/HQ
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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. Register, DOE/PM
L. Reyes, NRC/RII
J. M. Sebrosky, NRC/HQ

Enclosure
TVA letter dated April 15, 2009
RAI Responses

Responses to NRC Request for Additional Information letter No. 025 dated May 23, 2008
(3 pages, including this list)

Subject: Electric Power in the Final Safety Analysis Report

<u>RAI Number</u>	<u>Date of TVA Response</u>
08.01-01	June 24, 2008
08.01-02	June 24, 2008; supplemented by this letter – see following pages

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

Enclosure
TVA letter dated April 15, 2009
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: 3625

BLN RESPONSE:

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 of the AP1000 design, the guidance is not applicable.

The AP1000 design, however, is in conformance with the requirements of 10 CFR 50.63 as discussed in DCD Subsections 1.9.5.1.5 and 1.9.4.2.2, item A-44. This was noted by the NRC staff in the FSER, Subsection 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, Subsection 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.

Training and procedures to support mitigation of a 10 CFR 50.63 "loss of all alternating current power" (or station blackout (SBO)) event are implemented in accordance with Sections 13.2 and 13.5, respectively. As recommended by NUMARC 87-00, the loss of all alternating current power event mitigation procedures address response (e.g., restoration of onsite power sources), ac power restoration (e.g., coordination with transmission system load dispatcher), and severe weather guidance (e.g., identification of actions to prepare for the onset of severe weather such as an impending tornado), as applicable. The AP1000 is a passive design and does not rely on offsite or onsite ac sources of power for at least 72 hours after an SBO event, as described above. In addition, there are no nearby large power sources, such as a gas turbine or black start fossil fuel plant, that can directly connect to the station to mitigate the event.

As indicated in FSAR Section 13.5, procedures are issued prior to fuel load to allow sufficient time for plant staff familiarization and to develop operator licensing examinations. As indicated in item 12 of FSAR Section 13.4, Table 13.4-201, the training program is initiated no later than 18 months prior to the scheduled date for initial fuel loading.

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

ASSOCIATED BLN COL APPLICATION REVISIONS:

1. COLA Part 2, FSAR Chapter 1, will be revised to include the following new Subsection 1.9.5.1.5 (with an LMA of STD SUP 1.9-3):

1.9.5.1.5 Station Blackout

Add the following text to the end of DCD Subsection 1.9.5.1.5.

Training and procedures to mitigate a 10 CFR 50.63 "loss of all alternating current power" (or station blackout (SBO)) event are implemented in accordance with Sections 13.2 and 13.5, respectively. As recommended by NUMARC 87-00 (Reference 201), the SBO event mitigation procedures address response (e.g., restoration of onsite power sources), ac power restoration (e.g., coordination with transmission system load dispatcher), and severe weather guidance (e.g., identification of actions to prepare for the onset of severe weather such as an impending tornado), as applicable. The AP1000 is a passive design and does not rely on offsite or onsite ac sources of power for at least 72 hours after an SBO event, as described above. In addition, there are no nearby large power sources, such as a gas turbine or black start fossil fuel plant, that can directly connect to the station to mitigate the event.

Restoration from an SBO event will be contingent upon ac power being made available from any one of the transmission lines described in Section 8.2 or any one of the standby diesel generators.

2. COLA Part 2, FSAR Chapter 1, will be revised to include the following new Subsection 1.9.6 (with no LMA):

1.9.6 References

Add the following text to the end of DCD Subsection 1.9.6.

201. NUMARC 87-00, Guidelines and Technical Bases for NUMARC Initiatives Addressing Station Blackout at Light Water Reactors, Revision 1, August 1991.

ATTACHMENTS/ENCLOSURES:

None