



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

July 21, 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

BELLEVILLE COMBINED LICENSE APPLICATION – RESPONSE TO REQUEST FOR
ADDITIONAL INFORMATION – MAIN STEAM SUPPLY SYSTEM

Reference: Letter from Brian C. Anderson (NRC) to Andrea L. Sterdis (TVA), Request for
Additional Information Letter No. 037 Related to SRP Section 10.03 for the
Belleville Units 3 and 4 Combined License Application, dated June 10, 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 21st day of July, 2008.

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

Enclosure
cc: See Page 2

DOSS
NRO

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cc: (Enclosure)

B. C. Anderson, NRC/HQ
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
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)

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. Register, DOE/PM
L. Reyes, NRC/RII
T. Simms, NRC/HQ
J. M. Sebrosky, NRC/HQ

Enclosure
TVA letter dated July 21, 2008
RAI Response

Response to NRC Request for Additional Information letter No. 037 dated June 10, 2008.
(3 pages, including this list)

Subject: Use and development of operating and maintenance procedures to reduce the potential
for water (steam) hammer and relief valve loads in the Final Safety Analysis Report

<u>RAI Number</u>	<u>Date of TVA Response</u>
10.03-01	This letter – see following pages

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

Enclosure
TVA letter dated July 21, 2008
RAI Response

NRC Letter Dated: Jun 10, 2008

NRC Review of Final Safety Analysis Report

NRC RAI NUMBER: 10.03-01

In Bellefonte FSAR Section 10.3, "MAIN STEAM SUPPLY SYSTEM," the applicant provided additional information in its standard supplement, "STD SUP 10.3-1," as part of the FSAR regarding operations and maintenance procedures. Specifically, the applicant supplemented Section 10.3.2.2.1 of the AP1000 DCD, Revision 16, to address steam hammer and relief valve discharge reaction loads. SRP Section 10.3, Item II, states that the main steam system should adequately consider water (steam) hammer and relief valve discharge loads to assure that system safety functions can be performed and should assure that operations and maintenance procedures include adequate precautions to prevent water (steam) hammer and relief valve loads.

With respect to the additional information in FSAR Section 10.3.2.2.1, please provide a more detailed statement concerning TVA's use of such operations and maintenance procedures, including information on the specific essential elements of these procedures that will prevent water (steam) hammer and relief valve loads. Please update the FSAR to include this information, or justify its exclusion.

BLN RAI ID: 0367

BLN RESPONSE:

Good operating practice, operating experience including, but not limited to, INPO SERs, SOERs, NRC Information Notices and NRC Bulletins, as well as other industry operating experience information are programmatically integrated into the AP1000 Operations Procedure development. Specific operating experience to preclude or mitigate water hammer is included in this population of operating experience. In addition, the AP1000 has been designed to prevent or minimize steam and water hammer. FSAR Subsection 10.3.2.2.1 will be revised to include additional precautions, when appropriate, to minimize the potential for steam and water hammer, as shown in the Application Revisions section below.

The AP1000 DCD, Subsection 10.3.2.2.2 addresses relief valve loading for Main Steam Safety valves. As described in NUREG-0927, Revision 1, Evaluation of Water Hammer Occurrence in Nuclear Power Plants, preventive measures for relief valve loading are addressed by design; therefore, FSAR Subsection 10.3.2.2.1 will be revised to remove the associated procedure precautions, as shown in the Application Revisions section below.

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

ASSOCIATED BLN COL APPLICATION REVISIONS:

COLA Part 2, FSAR. Chapter 10, Subsection 10.3.2.2.1 will be revised from:

STD SUP 10.3-1 Operations and maintenance procedures include adequate precautions to avoid steam hammer and relief valve discharge reaction load occurrences.

To read:

Enclosure
TVA letter dated July 21, 2008
RAI Response

- STD SUP 10.3-1 Operations and maintenance procedures include precautions, when appropriate, to minimize the potential for steam and water hammer, including:
- Prevention of rapid valve motion
 - Process for avoiding introduction of voids into water-filled lines and components
 - Proper filling and venting of water-filled lines and components
 - Process for avoiding introduction of steam or heated water that can flash into water-filled lines and components
 - Cautions for introduction of water into steam-filled lines or components
 - Proper warmup of steam-filled lines
 - Proper drainage of steam-filled lines
 - The effects of valve alignments on line conditions

ATTACHMENTS/ENCLOSURES:

None