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

February 20, 2009

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 – LOCAL METEOROLOGY

References:
1) Letter from Joseph M. Sebrosky (NRC) to Andrea L. Sterdis (TVA), Request for Additional Information Letter No. 077 Related to SRP Section 2.3.2 for the Bellefonte Units 3 and 4 Combined License Application, dated July 16, 2008.
2) Letter from Andrea L. Sterdis (TVA) to Document Control Desk (NRC), Response to Request for Additional Information – Local Meteorology, dated August 14, 2008.
3) Letter from Andrea L. Sterdis (TVA) to Document Control Desk (NRC), Response to Request for Additional Information – Local Meteorology, dated January 15, 2009.

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

The supplemental response to RAI 2.03.02-04 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 20th day of Feb, 2009.

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

D085
NRO

Enclosure
cc: See Page 3

cc: (w/ Enclosures)
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
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P. Hinnenkamp, Entergy
M. C. Kray, NuStart
D. Lindgren, Westinghouse
G. D. Miller, PG&N
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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 February 20, 2009
RAI Responses

Responses to NRC Request for Additional Information letter No. 077 dated July 16, 2008
(3 pages, including this list)

Subject: Local meteorology in the Final Safety Analysis Report

RAI Number	Date of TVA Response
02.03.02-01	August 14, 2008
02.03.02-02	August 14, 2008
02.03.02-03	August 14, 2008
02.03.02-04	August 14, 2008; January 15, 2009; Supplemented by this letter – see following pages
02.03.02-05	August 14, 2008

Associated Additional Attachments / Enclosures	Pages Included
Attachment 02.03.02-04A (provided August 14, 2008)	
Attachment 02.03.02-04B (provided August 14, 2008)	
Attachment 02.03.02-04C (provided August 14, 2008)	
Attachment 02.03.02-04D (provided January 15, 2009)	
Attachment 02.03.02-04E (provided January 15, 2009)	

Enclosure
TVA letter dated February 20, 2009
RAI Responses

NRC Letter Dated: July 16, 2008

NRC Review of Final Safety Analysis Report

NRC RAI NUMBER: 02.03.02-04

Please revise FSAR Section 2.3.2.2.1 to discuss the effects of salt and moisture deposition due to cooling tower operation on electrical transmission lines and other electrical equipment, including transformers and the switchyard.

Please describe any quantitative analysis performed to evaluate these effects, including providing a copy of the SACTI input files (*e.g., PREP.USR, MULT.USR, TABLES.USR, PAGE.USR*) and assumptions so the staff may conduct a confirmatory analysis.

BLN RAI ID: 3171

BLN RESPONSE:

The following response to the above RAI was provided to the NRC on August 14, 2008.

A SACTI quantitative analysis was performed to determine plume characteristics of the cooling tower and the deposition rate of salt per area. It was determined that the towers do not deposit entrained moisture or salts within the first 6600 feet (~1.3 miles) due to high elevation of the discharge. This distance is well beyond the plants electrical substation and onsite transmission path. Attachment 02.03.04-04A indicates the direction of plume and the annual water deposition from the BLN Towers. As indicated, most deposition occurs to the S to SSW or NNE due to channeling of winds by the river valley (away from electrical equipment). The transmission lines are located northwest of the towers and enter the plant from the west and southwest. The substation is located almost due north of the towers and is outside the zone of influence of the plume. The assumptions used are included as Attachment 02.03.02-04B. An electronic copy of the SACTI input files are attached to this response as Attachment 02.03.02-04C.

Although the calculation referred to above was not intended to be relevant to an analysis of the effects of salt and moisture on electrical equipment, it did provide conclusions that show the results of plume behavior. The topic of electrical design and maintenance is the subject of FSAR Chapter 8, which provides for inspection of electrical equipment and necessary preventive and predictive maintenance tasks to prevent unanticipated failures.

The following supplemental response was provided to the NRC on January 15, 2009.

This supplement provides a calculation summary paper (i.e., white paper) as Attachment 02.03.02-04D per the NRC request. In addition, calculation output data such as plume length, plume frequency, salt deposition and water deposition are provided in electronic format (Bellefonte.xls) in Attachment 02.03.02-04E for NRC information and use.

This revision supplements the original response by inserting the information provided in the August 14, 2008, response in the BLN COLA as shown below in the Application Revisions section.

This response is PLANT SPECIFIC.

ASSOCIATED BLN COL APPLICATION REVISIONS:

COLA Part 2, FSAR Chapter 2, Subsection 2.3.2.2.1 will be revised to include the following new final paragraph:

The SACTI quantitative analysis determined that the towers do not deposit entrained moisture or salts within the first 6600 feet (~1.3 miles) due to high elevation of the discharge of the NDCTs. This distance is well beyond the plants electrical substation and onsite transmission path. Most deposition from the BLN towers occurs to the S to SSW or NNE due to channeling of winds by the river valley (away from electrical equipment). The transmission lines are located northwest of the towers and enter the plant from the west and southwest. The substation is located almost due north of the towers and is outside the zone of influence of the plume.

ASSOCIATED ATTACHMENTS/ENCLOSURES:

Attachment 02.03.02-04A (provided August 14, 2008)

Attachment 02.03.02-04B (provided August 14, 2008)

Attachment 02.03.02-04C (provided August 14, 2008)

Attachment 02.03.02-04D (provided January 15, 2009)

Attachment 02.03.02-04E (provided January 15, 2009)

Attachments
TVA letter dated February 20, 2009
RAI Responses

Attachment 02.03.02-04A (provided August 14, 2008)

Attachment 02.03.02-04B (provided August 14, 2008)

Attachment 02.03.02-04C (provided August 14, 2008)

Attachment 02.03.02-04D (provided January 15, 2009)

Attachment 02.03.02-04E (provided January 15, 2009)