

## **PMBelCOL PEmails**

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**From:** Ryan, William T III [wtryan@tva.gov]  
**Sent:** Monday, June 01, 2009 4:47 PM  
**To:** Joshi, Ravindra; Sebrosky, Joseph  
**Cc:** Eddie.Grant@excelservices.com; Spink, Thomas E; Sterdis, Andrea Lynn  
**Subject:** Courtesy Copy Email copy of BLN RAI Response to Letter 145 (06-01-09)  
**Attachments:** BLN RAI Response to RAI Letter 145 Final 20090601 final 1500.pdf

I have enclosed a PDF copy of our Response to RAI Letter 145 Supplement 1 with this email as a courtesy. As always, the official submittal has been submitted to the Document Control Desk via paper copy using Federal Express services. The paper copy should arrive on June 2, 2009.

[If you have any questions, please do not hesitate to call me](#)

**Tom Ryan**

w(423)751-2596  
alt(423)751-6518

**Hearing Identifier:** Bellefonte\_COL\_Public\_EX  
**Email Number:** 1536

**Mail Envelope Properties** (BB92FFE197756B4880158C9914E2DE8E06FFFAF6)

**Subject:** Courtesy Copy Email copy of BLN RAI Response to Letter 145 (06-01-09)  
**Sent Date:** 6/1/2009 4:46:48 PM  
**Received Date:** 6/1/2009 4:46:55 PM  
**From:** Ryan, William T III

**Created By:** wtryan@tva.gov

**Recipients:**

"Eddie.Grant@excelservices.com" <Eddie.Grant@excelservices.com>  
Tracking Status: None  
"Spink, Thomas E" <tespink@tva.gov>  
Tracking Status: None  
"Sterdis, Andrea Lynn" <alsterdis@tva.gov>  
Tracking Status: None  
"Joshi, Ravindra" <Ravindra.Joshi@nrc.gov>  
Tracking Status: None  
"Sebrosky, Joseph" <Joseph.Sebrosky@nrc.gov>  
Tracking Status: None

**Post Office:** TVACOCXVS1.main.tva.gov

<b>Files</b>	<b>Size</b>	<b>Date &amp; Time</b>	
MESSAGE	403	6/1/2009 4:46:55 PM	
BLN RAI Response to RAI Letter 145 Final 20090601 final 1500.pdf			200245

**Options**

**Priority:** Standard  
**Return Notification:** No  
**Reply Requested:** Yes  
**Sensitivity:** Normal  
**Expiration Date:**  
**Recipients Received:**



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

June 1, 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 – HYDROLOGY**

- Reference: (1) Letter from Joseph M. Sebrosky (NRC) to Andrea L. Sterdis (TVA), Request for Additional Information Letter No. 145 Related to SRP Section 2.4.2 for the Bellefonte Units 3 and 4 Combined License Application, dated February 2, 2009.
- (2) Letter from Andrea L. Sterdis to Document Control Desk (NRC), Bellefonte Combined License Application-Response to Request for Additional Information Hydrology, dated February 20, 2009.

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 Reference 1. This information supplements the response provided in Reference 2.


As discussed previously with NRC project management, the data provided on the enclosed DVD is of a nature that is not easily converted to PDF output files, and therefore may be inappropriate for inclusion on ADAMS. This information is necessary for the NRC to perform confirmatory analysis.

If you should have any questions, please contact Tom Ryan at 1101 Market Street, LP5A, Chattanooga, Tennessee 37402-2801, by telephone at (423) 751-2596, or via email at [wtryan@tva.gov](mailto:wtryan@tva.gov).

Document Control Desk  
TVA Letter Dated June 1, 2009  
RAI Response

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

Executed on this 1st day of June, 2009.



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

cc: See Page 3

Document Control Desk  
TVA letter dated June 1, 2009  
RAI Response

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  
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  
K. N. Slays, NuStart  
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  
L. Raghavan, NRC/HQ  
T. Boyce, NRC/HQ

Enclosure  
TVA letter dated June 1, 2009  
RAI Response

Responses to NRC Request for Additional Information letter No. 145 dated February 2,, 2009  
(3 pages, including this list)

<u>RAI Number</u>	<u>Date of TVA Response</u>
RAI 02.04.02-9	This letter see following pages

<u>Associated Additional Attachments / Enclosures</u>	<u>Pages Included</u>
Attachment 02.04.02-9A	5 Pages

Enclosure  
TVA letter dated June 1, 2009  
RAI Response

**NRC Letter Dated: February 2, 2009**

**NRC Review of Final Safety Analysis Report**

**NRC RAI NUMBER: 02.04.02-9**

During the June 23 Workshop held in Knoxville, TVA presented bathymetry and cross-section maps to be used in the updated simulated open channel hydraulics (SOCH) model for Chickamauga, Nickajack, and Guntersville reservoirs. It was the understanding of NRC staff that additional maps were being prepared for Watts Bar and Ft. Loudoun-Tellico reservoirs, but the data used to generate the maps were still under review. These maps (as electronic Geographic Information System (GIS) files) were requested during the Workshop. TVA stated that additional review was needed but that they would be provided when the review was complete. In the July 3, 2008 letter to TVA, NRC formally requested (RAI 02.04.02-02) the GIS files. TVA provided a response on August 1 (RAI Response Letter 64) to RAI 02.04.02-02, stating that the GIS data were provided in the electronic data package provided at the June 23 Workshop (see ML0821801181). However, after searching the data package provided by TVA, these files have not been found. On January 22, 2009, TVA and NRC staff discussed the RAI response and the requested datasets. NRC now understands that the recently-collected bathymetry data will not be available until May 2009.

NRC staff requests that TVA provide the processed bathymetric and near-shore topographic data for Guntersville, Nickajack, Chickamauga, Watts Bar, and Ft. Loudoun-Tellico reservoirs. As discussed on January 22, 2009, these data can be provided in ESRI GeoDatabase format. The GIS layers to include in the ESRI 9.x GeoDatabase are the original bathymetric point data and the processed bathymetric surface(s), in either raster or TIN format. GIS layers should represent the bathymetry, near-shore topography, and the SOCH cross-section locations.

**BLN RAI ID: 3190**

**BLN RESPONSE:**

TVA is providing BLN Hydrology DVD's with the data files listed in Attachment 02.04.02-9A. These data files will be documented in TVA calculations, when issued. The associated calculation number for each data file is provided for future reference to facilitate NRC review and TVA communications regarding these files.

The files are grouped by reservoir in separate folders. Refer to the tables contained in Attachment 02.04.02-9A for file descriptions. Note that some of the files are Adobe acrobat files that contain electronic attachments that must be extracted to obtain the native ESRI files. The data files have been checked and verified to ensure support for the TVA's SOCH model. Five of six associated geometry calculations for these reservoirs have not been approved for issue by TVA. The final calculations and associated data files are subjected to a final TVA owner's review prior to approval. This final TVA review has a potential to change the enclosed data files. However, TVA expects that changes, if any, would be minor. Any changes to the data files submitted under this letter will be identified to the NRC staff and resubmitted via letter from TVA.

This response is PLANT-SPECIFIC.

**ASSOCIATED BLN COL APPLICATION REVISIONS:**

None

Enclosure  
TVA letter dated June 1, 2009  
RAI Response

**ASSOCIATED ATTACHMENTS/ENCLOSURES:**

Attachment 02.04.02-9A: BLN Hydrology Project GIS File Data



Attachment 02.04.02-9A

Page 1

February 20, 2009

**ASSOCIATED ATTACHMENTS/ENCLOSURES:**

Attachment 02.04.02-9A:      BLN Hydrology Project GIS File Data

(5 Pages including Cover Sheet)

<b>TABLE 1 - Data on DVD-002</b>		
<b>No.</b>	<b>Data Requested</b>	<b>File</b>
<b>FOLDER: Chickamauga – Data for Chickamauga Reservoir - Documented in Calculation CDQ000020080030</b>		
1	Original Bathymetric Point Data	Att_08-10_Original_Bathymetric_Point_Data.zip
2	Processed Bathymetric Surface - TIN	Att_09-06_COE_linearized.pdf
3	Near-Shore Topographic Data - Raw DEM / DTM / DRG Data	1) CDQ000020080030_DTM1.zip 2) CDQ000020080030_SHP1.zip 3) CDQ000020080030_SHP2.zip 4) Hamilton 2 ft_Original_Data.zip
4	Processed Near-Shore Topographic Data - Selected Contours	Chickamauga_Surface_Contours_05152009_gdb.zip
5	Processed SOCH Cross-Section Locations - Line	Chickamauga_CrossSection_Locations_gdb_05222009_Rev1eek.gdb.zip
6	Processed Surface Area Map	CDQ000020080030_Surface_Area_Map_05192009.pdf
<b>FOLDER: Fort Loudoun – Data for Fort Loudoun Reservoir - Documented in Calculation CDQ000020080024</b>		
1	Original Bathymetric Point Data	USACE_Underwater_Elevations_11252008.gdb.zip
2	Processed Bathymetric Surface - TIN	processed_bathymetric_tin.zip
3	Near-Shore Topographic Data - Raw DEM / DTM / DRG Data	1) DRG_Original_Data.zip 2) RAW_DEM_Data.zip 3) DTM_Original_Data.zip
4	Processed Near-Shore Topographic Data - Selected Contours	FtLoudoun_Selected_Contours_gdb_05262009.zip
5	Processed SOCH Cross-Section Locations - Line	FtLoudoun_SOCH_CrossSection_Locations_gdb_05292009.zip
6	Processed Surface Area Map	CDQ000020080024_Surface_Area_Map1_05262009.pdf

<b>FOLDER: Guntersville – Data for Guntersville Reservoir - Documented in Calculation CDQ000020080032</b>		
1	Original Bathymetric Point Data	1-OriginalBathymetricPointData.zip
2	Processed Bathymetric Surface - TIN	2-ProcessedBathymetricSurface-TIN.zip
3	Near-Shore Topographic Data - Raw DEM / DRG Data	3a-Near-ShoreTopographicData - Raw DEM.zip 3b-Near-ShoreTopographicData - Raw DRG.zip
4	Processed Near-Shore Topographic Data - Selected Contours	4-Guntersville_Surface_Contours_gdb_02192009_Rev0pjn.zip
5	Processed SOCH Cross-Section Locations - Line	5-Processed SOCH Cross-Section Locations - Line.zip
6	Processed Surface Area Map	6-Guntersville_Surface_Areas 6 GIE 311 E 200801 R1 D.pdf

<b>TABLE 2 - Data on DVD-003</b>		
<b>No.</b>	<b>Data Requested</b>	<b>File</b>
<b>FOLDER: Nickajack – Data for Nickajack Reservoir - Documented in Calculation CDQ000020080031</b>		
1	Original Bathymetric Point Data	USACE_Underwater_Elevations_11072008_Rev0b.gdb.zip
2	Processed Bathymetric Surface - TIN	Att_15_09_Processed_Bathymetric_Surface.zip
3	Near-Shore Topographic Data - Raw DEM / DTM / DRG Data	1) DTM_Original_Data.zip 2) Hamilton 2 ft_Original_Data.zip 3) Hamilton 10ft_Original_Data.zip
4	Processed Near-Shore Topographic Data - Selected Contours	Nickajack_Surface_Contours_05272009.gdb.zip
5	Processed SOCH Cross-Section Locations - Line	Nickajack_CrossSections_Locations_05272009.gdb.zip
6	Processed Surface Area Map	CDQ000020080031_Surface Area Map_05272009.pdf
<b>FOLDER: Tellico – Data for Tellico Reservoir and Canal - Documented in Calculation CDQ000020080025</b>		
1	Original Bathymetric Point Data	USACE_Underwater_Elevation_11252008.gdb.zip
2	Processed Bathymetric Surface - TIN	bathymetric_tin.zip
3	Near-Shore Topographic Data - Raw DEM / DTM / DRG Data	1) DRG_Original_Data.zip 2) DTM_Original_Data.zip 3) DTM_Original_Data_Additional_Files.zip 4) RAW_DEM_Data.zip
4	Processed Near-Shore Topographic Data - Selected Contours	Tellico_Selected_Contours_gdb.zip
5	Processed SOCH Cross-Section Locations - Line	1) Tellico_SOCH_CrossSection_Locations_gdb.zip 2) Canal_CrossSections_Rev0sch.gdb.zip

6	Processed Surface Area Map	CDQ000020080025_Surface Area Map_0523009.pdf
<b>FOLDER: Watts Bar – Data for Watts Bar Reservoir - Documented in Calculation CDQ000020080026</b>		
1	Original Bathymetric Point Data	WattsBar Original Bathymetric Point Data.zip
2	Processed Bathymetric Surface - TIN	bathymetric_TIN.zip
3	Near-Shore Topographic Data - Raw DEM / DTM / DRG Data	1) County_DTM.zip 2) Raw DEM DATA.zip
4	Processed Near-Shore Topographic Data - Selected Contours	WattsBar_Selected_Contours_gdb.zip
5	Processed SOCH Cross-Section Locations - Line	SOCH_CrossSection_Locations_gdb.zip
6	Processed Surface Area Map	CDQ000020080026_SurfaceArea Map_05212009