



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

November 13, 2009

10 CFR 52.79

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
One White Flint North
11555 Rockville Pike
Rockville, MD 20852-2738

In the Matter of)
Tennessee Valley Authority)

Docket No. 52-014 and 52-015

BELLEFONTE UNITS 3 AND 4, COMBINED LICENSE APPLICATION - RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION - HYDROLOGY PROBABLE MAXIMUM FLOOD LEVEL CALCULATIONS

References: (1) Letter from Joseph Sebrosky (NRC) to Andrea Sterdis (TVA), Request for Additional Information Letter No. 160 Related to SRP Section 2.4.3 for the Bellefonte Units 3 and 4 Combined License Application, dated May 29, 2009.

(2) Letter from Andrea L. Sterdis (TVA) to Document Control Desk (NRC) Bellefonte Units 3 and 4, COLA-Response to Request for Additional Information (RAI) - Hydrology Probable Maximum Flood Level Calculations, dated August October 27, 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 response supplements TVA's previous response provided in Reference 2.

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.

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

Executed on this 13th day of Nov, 2009.


Jack A. Bailey,
Vice President, Nuclear Generation Development

Enclosure
cc: See Page 2

1085
NRW

Document Control Desk

Page 2

November 13, 2009

cc: (w/ Enclosures)

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Enclosure
Page 1
November 13, 2009

Responses to NRC Request for Additional Information letter No. 160 dated May 29, 2009
(3 pages, including this list)

Subject: Request for Additional Information Letter No. 160 Related to SRP Section 2.4.3 for the
Bellefonte Units 3 and 4 Combined License Application

<u>RAI Number</u>	<u>Date of TVA Response</u>
02.04.03-09	June 29, 2009; Supplemented by this letter– see following pages.

<u>Associated Additional Attachments / Enclosures</u>	<u>Pages Included</u>
Attachment 02.04.03-09A: BLN Hydrology Project Calc DVD data files	4
Attachment 02.04.03-09B: Initial Dam Rating Curve - Wheeler	278
Attachment 02.04.03-09C: Dam Rating Curve - Tims Ford	179
Attachment 02.04.03-09D: SOCH Geometry Calculation - Wheeler	403

NRC Letter Dated: May 12, 2009

NRC Review of Final Safety Analysis Report

TVA presents calculations of the probable maximum flood (PMF) height at the Bellefonte COL Site in Section 2.4.3 of the FSAR. These calculations address regulatory requirements associated with General Design Criterion 2 and 10 CFR 100.20(c). This question is a follow-on question to RAI 2.4.3-8, which was issued on 5/12/09. In RAI 2.4.3-8 the staff requested that TVA provide calculation packages/documents associated with TVA's computation of the probable maximum flood height (PMF). The information that was requested in this RAI was based on a TVA presentation at a public meeting on March 30, 2009. The calculation packages that the staff requested were for the watershed that TVA was modeling above the Guntersville Dam on the Tennessee River.

In a May 15, 2009, letter updating the status of TVA's hydrology review (ADAMS accession number ML091390057) TVA informed the staff that it had altered its approach to account for the tailwater effect and rating curve for the Guntersville Dam. To do this TVA is adding the Wheeler Reservoir to the Bellefonte 3 and 4 probable maximum flood model to determine the Guntersville Dam tailwater effect. The NRC requests that TVA provide the input files used to model the Wheeler Reservoir. This request includes unit hydrographs, dam -rating curves, and other input calculations that TVA is developing for this reservoir. The staff requests this information in order to develop its confirmatory model of the Tennessee River.

BLN RAI ID: 2936

BLN RESPONSE:

TVA will provide the following input information associated with adding the Wheeler Reservoir to the BLN 3&4 PMF model by the dates defined below:

- Unit Hydrographs 11/20/09
- Channel Geometry Cross Sections 10/23/09
- Dam Rating Curves 09/30/09
- SOCH Calibration 11/30/09
- Other Input Calcs* 09/30/09

* Other Input Calcs include calculation revisions for: Precipitation Data Processing (1973 Storm); NEXRAD Data Rainfall Data; Reservoir Storage Tables; and Operating Guidelines.

This response is PLANT-SPECIFIC.

In support of the information requested, TVA is providing the enclosed copies of requested calculations and a BLN Hydrology data DVD. All calculations submitted under this letter are revisions of previously submitted calculations, which have been revised to support the Wheeler Reservoir extension of the project.

The actual calculation Data Files being submitted on DVD media are shown in Attachment 02.04.03-09A.

The following provides an updated status reflecting the cumulative list of documents and calculations submitted to date.

- Unit Hydrographs 11/20/09
- Channel Geometry Cross Sections Complete
- Dam Rating Curves Complete**
- SOCH Calibration 11/30/09
- Other Input Calcs* Complete

**Dam Rating Curves included in this submittal are the Tims Ford and Wheeler.

ASSOCIATED BLN COL APPLICATION REVISIONS:

None

ASSOCIATED ATTACHMENTS/ENCLOSURES:

Attachment 02.04.03-09A: BLN Hydrology Project Calculation DVD calculation data files

Attachment 02.04.03-09B: Initial Dam Rating Curve - Wheeler

Attachment 02.04.03-09C: Dam Rating Curve - Tims Ford

Attachment 02.04.03-09D: SOCH Geometry Calculation - Wheeler

ASSOCIATED ATTACHMENTS/ENCLOSURES:

Attachment 02.04.03-09A: BLN Hydrology Project Calculation DVD calculation data files

(4 Pages including Cover Sheet)

RAI 02.04.03-9
RAI 160 Supplement 2
SOCH Software Documentation

TABLE - Data on DVD-009

Calculation **CDQ000020080021, Rev. 0**

Title **Initial Dam Rating Curve - Wheeler**

EDMS Number:

Summary Total Electronic Files on DVD: 2

Wheeler TW.xls	xls	File
Wheeler.xls	xls	File

Calculation **CDQ000020080022, Rev. 0**

Title **Dam Rating Curve - Tims Ford**

EDMS Number:

Summary Total Electronic Files on DVD: 2

Tims Ford_Rev 0.xls		
Tims Ford_Rev 0.xls	Tims Ford model.xls	xls File
		xls File

Calculation **CDQ000020080033, Rev. 0**

Title **SOCH Geometry Calculation - Wheeler**

EDMS Number:

Summary	Total Electronic Files on DVD:	<u>166</u>
Wheeler 1 Wwidth20090929.dat	dat	File
Wheeler 1 Wwidth20090929.out	out	File
Wheeler 2 Wwidth20090929.dat	dat	File
Wheeler 2 Wwidth20090929.out	out	File
Wheeler CONVEY20090929.dat	dat	File
Wheeler CONVEY20090929.out	out	File
Wheeler CONVEY20090929.prt	prt	File
Wheeler CONVEY20090929.xls	xls	File
Wheeler Merge 20090929.xls	xls	File
Wheeler Wwidth20090929.xls	xls	File
Wheeler20090928.g01	g01	File
Wheeler20090929.geo	geo	File
Wheeler_Master.xls	xls	File
Wheeler20090928.g01	g01	File
Wheeler20090929.geo	geo	File
Wheeler_AppC_SiltRanges_rev0.xls	xls	File
Topographic Data Files (10-total files) on DVD	mis	10 Files
Topographic Data Files (10-total files) on DVD	c	10 Files
Topographic Data Files (10-total files) on DVD	mis	10 Files
Topographic Data Files (10-total files) on DVD	c	10 Files
Wheeler_AppD_USACE_rev0.xls	xls	File
Wheeler-AppE_Overbanks_rev0.xls	xls	File
Geodatabase Files (32-total files) on DVD	mis	32 Files
readme.txt	c	File
Wheeler_AppF_Adjustments_rev0.xls	txt	File
Wheeler_AppH_Final_Composite_rev0.xls	xls	File
Geodatabase Files (63-total files) on DVD	xls	63 Files
Att_I-02_Wheeler_Surface_Areas_rev0.xls	mis	File
readme.txt	c	File
	xls	File
	txt	File

Wheeler.f01		f01	File
Wheeler.g01		g01	File
Wheeler.p01		p01	File
Wheeler.prj		prj	File
Att_02-04_Wheeler_Reservoir_Envelope_Profile_Rev0.xls		xls	File
TM_USACE_Data.msg		msg	File
Att_02-			
04_Wheeler_Reservoir_Envelope_Profile_Rev0.x			
ls	convasci.exe~	exe~	File
	vertcone.94	94	File