From: Spink, Thomas E [tespink@tva.gov]
Sent: Monday, May 18, 2009 8:06 AM
To: Joseph Sebrosky
Cc: Sterdis, Andrea Lynn; Ryan, William T III; Eddie R Grant; Slays, Kim; Curtis, Gary W
Subject: RE: Courtesy Email Copy -PERIODIC UPDATE- HYDROLOGY
Attachments: May Update Final ASterdis 05 15 09 1400 _3_w_Signature.pdf

With the attachment this time

Thomas E. Spink
Licensing Project Manager
Nuclear Generation Development
1101 Market Street, LP 5A
Chattanooga, TN 37402
423-751-7062; FAX (423) 751-6509

From: Spink, Thomas E
Sent: Monday, May 18, 2009 8:05 AM
To: 'Joseph Sebrosky'
Cc: Sterdis, Andrea Lynn; Ryan, William T III; 'Eddie R Grant'; 'Slays, Kim'; Curtis, Gary W
Subject: Courtesy Email Copy -PERIODIC UPDATE– HYDROLOGY

Joe,

I have enclosed a PDF copy of our Hydrology Periodic Update 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 May 18, 2009.

If you have any questions, please do not hesitate to call me.

Thomas E. Spink
Licensing Project Manager
Nuclear Generation Development
1101 Market Street, LP 5A
Chattanooga, TN 37402
423-751-7062; FAX (423) 751-6509

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From: Spink, Thomas E

Created By: tespink@tva.gov

Recipients:
"Sterdis, Andrea Lynn" <alsterdis@tva.gov>
Tracking Status: None
"Ryan, William T III" <wtryan@tva.gov>
Tracking Status: None
"Eddie R Grant" <erg-xl@cox.net>
Tracking Status: None
"Slays, Kim" <kslays@duke-energy.com>
Tracking Status: None
"Curtis, Gary W" <gwcurtis2@tva.gov>
Tracking Status: None
"Joseph Sebrosky" <Joseph.Sebrosky@nrc.gov>
Tracking Status: None

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

May 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

BELLEFONTE COMBINED LICENSE APPLICATION – PERIODIC UPDATE–HYDROLOGY

References: (1) April 29, 2009 meeting summary from J. Sebrosky (NRC), "Summary of March 30, 2009, Public Meeting to Discuss Hydrology Review Associated with the Bellefonte combined License Application."

(2) Letter from Jack A. Bailey (TVA) to Document Control Desk (NRC), White Paper Hydrologic Analysis Description, dated July 25, 2008.

The enclosure to this letter provides Tennessee Valley Authority's (TVA's) update to the status information provided at the March 30, 2009 meeting for the BLN Units 3&4 Hydrology Probable Maximum Flood (PMF) Confirmation Project (Reference 1).

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.

Sincerely,

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

Enclosures
cc: See Page 2

cc: (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 Enclosures)
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 1
TVA Letter dated May 15, 2009

BLN Hydrology Project Status (05.11.2009)

On March 30, 2009, the NRC and TVA met to discuss TVA's ongoing efforts to confirm the hydrology probable maximum flood (PMF) level calculation utilized in the BLN 3&4 COL application (Reference 1). During that meeting, TVA presented the status of the confirmation project, including a listing of the input calculations that had been completed and approved by TVA, as well as the target schedule for the remaining calculations.

Consistent with the commitment made at the March 30, 2009 meeting, the updated status information is provided as Enclosure 2. The updated status utilizes the table provided at the March 30, 2009 meeting (refer to slide 10 from the presentation material included in the referenced meeting summary). Footnotes are provided to briefly describe the deliverables and to explain any changes from the status provided on March 30, 2009.

Consistent with commitments made at the March 30, 2009 meeting, TVA is providing the following discussion of an identified issue resulting from ongoing PMF confirmation work. TVA has decided to alter its approach to account for the tailwater effect and rating curve for the Guntersville Dam. TVA is adding the Wheeler Reservoir to the BLN PMF model to determine the Guntersville Dam tailwater effect. The original plan was to take a conservative approach to account for the tailwater effect at Guntersville. While this approach was expected to provide conservative results, modeling the Wheeler reservoir will provide a more defined tailwater effect at Guntersville. The change to include the Wheeler reservoir has added calculations to document 15 UHs, Wheeler dam rating curves, approximately 43 channel geometry cross sections, as well as revisions to precipitation data, reservoir storage tables, and operating guidelines. This scope increase is being factored into the project P3 schedule. TVA is proceeding with a plan that is expected to allow completion of these new calculations that will avoid delaying completion of the BLN PMF, sensitivity, and seismic dam failure confirmation.

BLN Hydrology Supplementary Status (05.11.2009)

In addition to the schedule status update, TVA is providing the following information to address the actions documented in the NRC meeting summary for March 30, 2009 (Reference 1):

1) Action for TVA to determine whether the Expert Panel Summary Report would be submitted on the BLN 3&4 docket.
   TVA Response - TVA will submit this report after it has gone through final review by the experts. TVA anticipates submittal on or about July 1, 2009.
2) Action for TVA to provide a list of RAIs that TVA intends to supplement with new information based on TVA's reanalysis effort.
   TVA Response: TVA anticipates supplementing the following RAIs upon completion of the PMF confirmation tasks:

RAI ID#	RAI Ltr #	ERAI #	Official NRC RAI #	RAI Topic / Subject
660	BLN-RAI-LTR-082	398	02.04.03-01	RHEB- Precipitation losses
661	BLN-RAI-LTR-082	398	02.04.03-02	RHEB- Goodrich method
662	BLN-RAI-LTR-082	398	02.04.03-03	RHEB- Chickamauga Dam mods
663	BLN-RAI-LTR-082	398	02.04.03-04	RHEB- Spillway gates assumptions
664	BLN-RAI-LTR-082	398	02.04.03-05	RHEB- Starting assumptions
667	BLN-RAI-LTR-064	422	02.04.02-01	RHEB- Cristafano method use
669	BLN-RAI-LTR-064	422	02.04.02-03	RHEB- Dam cross sections
672	BLN-RAI-LTR-064	422	02.04.02-07	RHEB- White paper update
673	BLN-RAI-LTR-064	422	02.04.02-08a	RHEB- Commitment 1
674	BLN-RAI-LTR-064	422	02.04.02-08b	RHEB- Commitment 2
675	BLN-RAI-LTR-064	422	02.04.02-08c	RHEB- Commitment 3
676	BLN-RAI-LTR-064	422	02.04.02-08d	RHEB- Commitment 4
677	BLN-RAI-LTR-064	422	02.04.02-08e	RHEB- Commitment 5
678	BLN-RAI-LTR-064	422	02.04.02-08f	RHEB- Commitment 6
679	BLN-RAI-LTR-064	422	02.04.02-08g	RHEB- Commitment 7
680	BLN-RAI-LTR-064	422	02.04.02-08h	RHEB- Commitment 8
681	BLN-RAI-LTR-064	422	02.04.02-08i	RHEB- Commitment 9
728	BLN-RAI-LTR-064	422	02.04.02-06	RHEB- Peaking sensitivity
3067	BLN-RAI-LTR-145	2046	02.04.02-09	RHEB- channel representations
3190	BLN-RAI-LTR-145 S	2046	02.04.02-09	RHEB- channel representations
1122	BLN-RAI-LTR-110	691	03.07.01-02	SEB1-seismic analysis of dams

3) Action for TVA to provide the staff with updates regarding its reanalysis effort every six weeks (note this timeframe is an approximation rather than committed frequency).

TVA Response - This letter is the first update. The next update is anticipated on or

about July 1, 2009. For efficiency, TVA suggests that the next update be combined with the technical meeting planned to discuss the content of those calculations and documents that have been submitted to NRC.

TVA's response to RAI 145 included a commitment to provide GIS Shape file formats for the five major reservoirs. This information, expected to be provided on or before June 1, 2009, is being extracted from the draft Channel Geometry calculations prior to the calculations being approved by TVA. As indicated in the status update table included in this letter, TVA approvals of the Channel Geometry calculations are targeted for mid-July, 2009. These GIS Shape files are input files which will have completed check and verification actions prior to NRC submittal. Therefore, no changes are anticipated for the GIS Shape files from TVA's final calculations review and approvals.

Enclosure 2
TVA Letter dated May 15, 2009

Deliverable	TVA Approved (05/11/09)	Completion Projection[h]
V&V Documents[a]	12 of 16 docs	May 2009
Unit Hydrograph (UH) Calculations - Rev 0[b]	16 of 17 calcs	May 2009
UH Calculations - rev 1[c]	0 of 5 calcs	July 2009
Dam Rating Curves Calculations	20 of 20 calcs	March 2009
Channel Geometry Calculations[d]	1 of 7 calcs	July 2009
SOCH Calibration Calculations[e]	0 of 6 calcs	July 2009
Precipitation Data Processing (1997-2008 NWS) - Rev 1	1of 1 set calcs	Feb 2009
Precipitation Data Processing (1973 Storm)	0 of 1 set calcs	June 2009
Reservoir Storage Tables	1 of 1 table calcs	April 2009
Rain Runoff Index[f]	0 of 1 index calcs	June 2009
Operating Guidelines[g]	0 of 1 guide calcs	June 2009

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[a] V&V Documents - The March 30, 2009 status projected that 16 V&V documents would be approved by TVA by the end of April. TVA has added test cases to demonstrate SOCH code features and capabilities beyond what had been originally considered. The decision to add these test cases resulted in a need for additional time to run them and proceed through TVA review and approval. The remaining 4 SOCH V&V documents are currently undergoing TVA final review and approval.
[b] UH Calculations - Revision 0 - Nine additional UH calculations have been reviewed and approved by TVA since the March 30, 2009 meeting. The 16 completed calculations include 45 of the 47 hydrographs. The remaining calculation has been modified to reflect a SOCH calibration run needed to confirm the UHs and is currently undergoing TVA final review and approval. This remaining calculation is not a critical path activity.
[c] UH Calculations - Revision 1 - Five of the approved UH calculations will be revised to confirm the UHs following SOCH calibrations.
[d] Channel Geometry Calculations - The March 30, 2009 status identified 9 total geometry calculations. Since the March meeting TVA has decided to combine some of the 9 calculation documents into 7 total calculations (the same number of cross sections documented in fewer calculation documents). TVA review and approval the remaining 6 calculations is expected to be completed by mid-July.
[e] SOCH Calibration Calculations - At the March 30, 2009 meeting, TVA incorrectly identified one calibration calculation as being approved. While one SOCH model calibration has been performed, current internal target schedules anticipate TVA approval of this calculation in May, with the remaining 5 calculations in July.
[f] Rain Runoff Index - This is a recently identified calculation. This calculation is not a critical path activity in the overall hydrology project. Resources have been diverted away from this work to focus on critical path activities.

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[g] Operating Guidelines - This is a recently identified calculation. This calculation is not a critical path activity in the overall hydrology project. Resources have been diverted away from this work to focus on critical path activities.

[h]Although the completion projection dates given may differ from the March 30, 2009 meeting target dates due to redistribution of resources, the critical path activities for project completion remain on schedule.

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