WBN2Public Resource

From: Boyd, Desiree L [dlboyd@tva.gov]
Sent: Thursday, August 23, 2012 12:43 PM
To: Epperson, Dan; Wilson, George; Poole, Justin
Cc: Arent, Gordon; Hamill, Carol L; Boyd, Desiree L
Subject: TVA letter to NRC_2012-08-23_WBN U2 FSAR A109
Attachments: 2012-08-23_WBN U2 FSAR A109_Final.pdf

Please see attached TVA letter that was sent to the NRC today.

Thank You,

~*~*~*~*~*~*~*~*~*~*~*~

Désireé L. Boyd

WBN Unit 2 Licensing
dlboyd@tva.gov
423-365-8764

Hearing Identifier: Watts_Bar_2_Operating_LA_Public
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From: Boyd, Desiree L

Created By: dlboyd@tva.gov

Recipients:
"Arent, Gordon" <garent@tva.gov>
Tracking Status: None
"Hamill, Carol L" <clhamill@tva.gov>
Tracking Status: None
"Boyd, Desiree L" <dlboyd@tva.gov>
Tracking Status: None
"Epperson, Dan" <>
Tracking Status: None
"Wilson, George" <George.Wilson@nrc.gov>
Tracking Status: None
"Poole, Justin" <Justin.Poole@nrc.gov>
Tracking Status: None

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Options
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Attachment 1 to be withheld from Public Disclosure Under 10 CFR 2.390. When separated from this Enclosure, this letter is decontrolled.

Tennessee Valley Authority, Post Office Box 2000, Spring City, Tennessee 37381-2000

August 23, 2012

10 CFR 50.4(b)(6)
10 CFR 50.34(b)
10 CFR 2.390(d)(1)

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555-0001

Watts Bar Nuclear Plant, Unit 2
Docket No. 50-391

Subject: **WATTS BAR NUCLEAR PLANT (WBN) – UNIT 2 – FINAL SAFETY ANALYSIS REPORT (FSAR), AMENDMENT 109**

References:
1. TVA letter to NRC dated March 5, 2012, "Watts Bar Nuclear Plant (WBN) - Unit 2 - Final Safety Analysis Report (FSAR), Amendment 108"
2. TVA letter to NRC dated February 25, 2011, "Watts Bar Nuclear Plant (WBN) - Unit 2 - Final Safety Analysis Report (FSAR) - Response to Chapters 11 and 12 Request for Additional Information"
3. TVA letter to NRC dated June 3, 2010, "Watts Bar Nuclear Plant (WBN) - Unit 2 - Final Safety Analysis Report (FSAR) - Response to Preliminary Requests for Additional Information"

This letter transmits WBN Unit 2 FSAR Amendment 109 (A109), which reflects changes made since the issuance of Amendment 108 on March 5, 2012 (Reference 1).

Enclosure 1 contains a summary listing of FSAR sections and corresponding Unit 2 change package numbers associated with the A109 FSAR changes.

FSAR A109 is contained on the enclosed Optical Storage Media (OSM #1) (Attachment 1). The FSAR contains security-related information identified by the designation "Security-Related Information - Withhold Under 10 CFR 2.390." TVA hereby requests this information be withheld from public disclosure in accordance with the provisions of 10 CFR 2.390. A redacted version of the FSAR is contained on OSM #2 (Attachment 2), which is suitable for public disclosure.

Enclosure 2 contains a listing of the FSAR pages that have been redacted. Enclosure 3 lists the files and file sizes on the security-related OSM (OSM #1), and Enclosure 4 lists the files and file sizes on the publicly available OSM (OSM #2).

A109 addresses Supplemental Safety Evaluation Report (SSER), Appendix HH open items 115, 117, 138, and 139.

For Item No. 115, FSAR A109, Section 12.4 has been updated to reflect the design changes implemented to lower radiation levels as provided in TVA's letter dated June 3, 2010 (Reference 3).

For Item No. 117, FSAR A109, Section 12.3 has been updated to reflect the calculational basis for access to vital areas as provided in TVA's letter dated February 25, 2011 (Reference 2). The additional analyses cases were made using the Iodine spike source term in conformance with Commitment 9 made in Enclosure 4 of Reference 2. The results provided represent the limiting results and are well below the regulatory limits. The commitment is considered closed.

Item No. 138 regarding an updated Offsite Dose Calculation Manual (ODCM) to reflect annual average χ/Q and D/Q values has been addressed by Revision 20 of the current station ODCM. A copy of the current ODCM has been provided via CD to the NRR Project Manager for NRC review.

Item No. 139 regarding the results of the cost-benefit analysis required by 10 CFR Part 50, Appendix I, subsection II.D, has been addressed by revisions to Sections 11.2.9.2 and 11.3.10.2 within A109.

During a review of the SSER for Unit 2 FSAR Section 2.3, "Meteorology," it was noted that the reference to Regulatory Guide (RG) 1.76, R1 had been previously made within FSAR Section 2.3.1.3, "Severe Weather," on page 2.3-5. This statement is in error since the plant was designed to meet Revision 0 of this RG, not Revision 1. This condition has been entered into TVA's corrective action program as Service Request 599025.

There are no new commitments made in this letter. This letter does not close any "Generic Communications." If you have any questions, please contact Gordon Arent at (423) 365-2004.

I declare under the penalty of perjury that the foregoing is true and correct. Executed on the 23rd day of August, 2012.

Respectfully,

R. A. Hruby, Jr.

Raymond A. Hruby, Jr.
General Manager, Technical Services
Watts Bar Unit 2

Enclosures:

1. WBN Unit 2 FSAR A109, "Summary Listing of A109 FSAR Changes"
2. WBN Unit 2 FSAR A109, "Summary of Redacted Pages"
3. WBN Unit 2 FSAR A109, "List of files and file sizes on the security-related OSM (OSM #1)"
4. WBN Unit 2 FSAR A109, "List of files and file sizes on the publicly available OSM (OSM #2)"

Attachments:

1. OSM #1: WBN Unit 2 FSAR Amendment 109 - Security-Related Information - Withhold Under 10 CFR 2.390
2. OSM #2: WBN Unit 2 FSAR Amendment 109 - Publicly Available Version

cc: See Page 4

cc (Enclosures):

U. S. Nuclear Regulatory Commission
Region II
Marquis One Tower
245 Peachtree Center Ave., NE Suite 1200
Atlanta, Georgia 30303-1257

NRC Resident Inspector Unit 2
Watts Bar Nuclear Plant
1260 Nuclear Plant Road
Spring City, Tennessee 37381

bcc (Enclosures):

George Wilson
U.S. Nuclear Regulatory Commission
MS 8 B1A
One White Flint North
11555 Rockville Pike
Rockville, Maryland 20852-2738

Fred Brown, Deputy Regional Administrator for Construction
U. S. Nuclear Regulatory Commission
Region II
Marquis One Tower
245 Peachtree Center Ave., NE Suite 1200
Atlanta, Georgia 30303-1257

ENCLOSURE 1

WBN Unit 2 FSAR A109

"Summary Listing of A109 FSAR Changes"

Item No.	Change Area	Change Description	Change Package Number
1.	Sections 11.2.9.2 11.3.10.2	1. For Section 11.2.9.2, perform the following: a. Insert the following as the second paragraph of the section: "Based on the requirements of Section II.D of Appendix I of 10 CFR Part 50 with respect to meeting the "as low as reasonably achievable" criterion, the potential effectiveness of augmenting the liquid radwaste treatment management systems using items of reasonably demonstrated technology has determined that further effluent treatment will not affect reductions in the cumulative population dose reasonably expected with a 50 mile radius of the reactor at a cost of less than $1000 per man-rem or man-thyroid-rem." b. Add as a Reference 2, the following letter: "(2) TVA letter to NRC date July 28, 2011, "Results from Cost-Benefit Analysis of Radwaste System Enhancements"" 2. For Section 11.3.10.2, perform the following: a. Insert the following as the second paragraph of the section: "Based on the requirements of Section II.D of Appendix I of 10 CFR Part 50 with respect to meeting the "as low as reasonably achievable" criterion, the potential effectiveness of augmenting the gaseous radwaste treatment management systems using items of reasonably demonstrated technology has determined that further effluent treatment will not affect reductions in the cumulative population dose reasonably expected with a 50 mile radius of the reactor at a cost of less than $1000 per man-rem or man-thyroid-rem." b. Add as a Reference, the following letter: "TVA letter to NRC date July 28, 2011, "Results from Cost-Benefit Analysis of Radwaste System Enhancements""	2-109-01

ENCLOSURE 1

WBN Unit 2 FSAR A109

"Summary Listing of A109 FSAR Changes"

Item No.	Change Area	Change Description	Change Package Number
2.	15.2.4.1	For Section 15.2.4.1, 1. A108- Page 15.2-14 - Change Item 4 under Item e from "Source range neutron flux - alarm on increase of 1.3 times in base count rate" to "Source range neutron flux - alarm of increase in base count rate above variable setpoint." 2. A108- Page 15.2-15 - Change the next to last sentence of the last paragraph from "The actual setpoint is maintained at 1.3 times background rather than at five times background as currently described in the FSAR." to "The actual setpoint is maintained at approximately three times background rather than at one-half decade above background as currently described in the FSAR."	2-109-02
3.	Change Package No. 2-109-03 was not used.		
4.	14.2	1. In the first paragraph of Section 14.2.2, replace "Unit 2 Vice President" with "General Manager, Watts Bar Unit 2 Technical Services," 2. In the first paragraph of Section 14.2.2, replace "Executive Vice President, Nuclear Generation Development and Construction (NGDC)" with "Senior Vice President, Nuclear Construction (NC)." 3. In the second paragraph of Section 14.2.2, delete "test" from the phrase "Preoperational Startup Test Manager." 4. In the third paragraph of Section 14.2.2, capitalize the word "Unit." 5. In the first paragraph of Section 14.2.2.1, insert (PSE) after phrase of "Preoperational Startup Engineering." 6. In the first paragraph of Section 14.2.2.1, replace the phrase, "system test engineers," with "Startup Test Engineers." 7. In the second paragraph of Section 14.2.2.1, replace "Unit 2 Vice President" with "General Manager, Watts Bar Unit 2 Technical Services," 8. In the second paragraph of Section 14.2.2.1, replace "Preoperational Startup organization" with "PSE Organization." 9. In the third paragraph of Section 14.2.2.1, replace the phrase, "system test engineers," with "Startup Test Engineers."	2-109-04

ENCLOSURE 1

WBN Unit 2 FSAR A109

"Summary Listing of A109 FSAR Changes"

Item No.	Change Area	Change Description	Change Package Number
4. (cont.)	14.2	10. In Item No. 10 of Section 14.2.2.1.1, replace the phrase, "system test engineers," with "Startup Test Engineers." 11. For Section 14.2.2.1.2, replace "Section deleted by Amendment 84" with "Startup Test Engineers." 12. Delete title "14.2.2.1.3 System Test Engineers." 13. In the first paragraph of new renumber Section 14.2.2.1.2 for Startup Test Engineers, replace the phrase, "system test engineers," with "Startup Test Engineers." 14. Insert the new Sections 14.2.2.1.3 and 14.2.2.1.4: "14.2.2.1.3 Unit 2 Operations During Preoperational Testing Phase The Operations Manager is responsible for proper operation of all equipment and ensuring that the conduct of test program does not place the plant in an unsafe condition. This manager will provide personnel from the operating organization as required supporting the conduct of testing activities. The Unit Supervisor/Senior Reactor Operator (US/SRO) report to the Operations Manager and are responsible for the safe operation of the plant during assigned shifts. They also are responsible for the implementation of appropriate clearance procedures and have the authority to disallow or terminate testing due to conditions which could endanger personnel or equipment. 14.2.2.1.4 Unit 2 Quality Assurance Unit 2 Quality Assurance will conduct activities in accordance with Chapter 17 of the FSAR." 15. Insert into the first sentence of Section 14.2.2.2 between the word "The" and "Plant" the words, "Nuclear Power Group (NPG)" 16. Delete the second sentence of Section 14.2.2.2 which reads, "With regard to the preoperational test program, the Unit 2 Vice President functionally reports to the Executive VP, NGDC and has responsibility for component acceptance and preoperational testing 17. In the second paragraph of Section 14.2.2.2, replace the "Engineering" with "Manager."	2-109-04

ENCLOSURE 1

WBN Unit 2 FSAR A109

"Summary Listing of A109 FSAR Changes"

Item No.	Change Area	Change Description	Change Package Number
4. (cont.)	14.2	18. For Section 14.2.2.2.3, replace the "Managers will be" with "Manager is" in the first sentence of the section. 18a. Replace "Shift Operations Supervisor" with "US/SRO" in the second paragraph of Section 14.2.2.2.3. 19. Delete Section 14.2.2.2.4, "Maintenance Manager (under VP, Unit 2). 20. For Section 14.2.2.3, replace "Nuclear" with "Site Quality" in the section title. 21. For Section 14.2.2.3, replace sentence which reads, "A system of planned and periodic management audits will be conducted by WBN2 Project Nuclear Assurance (NA)" with a sentence that reads, "Site Quality Assurance will conduct activities in accordance with Chapter 17 of the FSAR." 22. Delete the word, "Plant" from "Unit 1 Plant Operations" and Unit 2 Plant Operations" within the list contained in Section 14.2.2.5.1. 23. In the last paragraph of Section 14.2.2.5, replace "Unit 2 Vice President" with "General Manager, Watts Bar Unit 2 Technical Services," 24. Delete the word, "Plant" from "Plant Operations" within the list contained in Section 14.2.2.6.1. 25. Delete the sentence that reads, "The plant staff retains the responsibility for performing actual equipment operations and maintenance" in section 14.2.4.3. 26. Replace "Process Computer" with: "Integrated Computer System" in Table 14.2-2 (Sheet 2 of 39). 27. Delete the phrase, "analog RPI detector output voltage from the second sentence under the heading, "Test Method," in Table 14.2-2 (Sheet 8 of 39). 28. Delete the phrase, "pulse-to-analog converter chassis" from the last sentence of the first paragraph of the Test Method section of Table 14.2-2 (Sheet 8 of 39). 29. Delete Item c) from the list of alarms of the Test Method section of Table 14.2-2 (Sheet 8 of 39).	2-109-04

ENCLOSURE 1

WBN Unit 2 FSAR A109

"Summary Listing of A109 FSAR Changes"

Item No.	Change Area	Change Description	Change Package Number
4. (cont.)	14.2	30. Replace the word, "Test" with "Trouble" in Item d) of the Test Method section of Table 14.2-2 (Sheet 8 of 39). 31. Re-label Item "d)" as "c)" in the list of alarms of the Test Method section of Table 14.2-2 (Sheet 8 of 39). 32. Re-label Item "e)" as "d)" in the list of alarms of the Test Method section of Table 14.2-2 (Sheet 8 of 39). 33. Replace the sentence in Item 2 of the Acceptance Criteria which reads, "Each rod operates over its entire range of travel within the limits of RPI detector DC output voltage versus rod position calibration curve" with one that reads as follows: "Each RPI agrees within 12 steps of the group demand position for the full range of rod travel." 34. Replace the word, "primary" with the word, "secondary" in the second sentence under the heading of Test Method of Table 14.2-2 (Sheet 9 of 39). 33. Replace the phrase, "hot. full-flow,conditions," with "hot full flow conditions." from the fifth sentence of Test Method of Table 14.2-2 (Sheet 9 of 39).	2-109-04
5.	6.2.6-3, 6.2.6-4, Table 6.2.4-1	1. On FSAR Table 6.2.4-1, Sheet 55 of 69, change the position of valves 90-114 and 90-115 for penetration X-95C from open to closed during the ILRT. 2. On FSAR Table 6.2.4-1, Sheet 57 of 69, change the position of valves 43-202 and 43-434 for penetration X-99 from open to closed during the ILRT. 3. On FSAR Table 6.2.4-1, Sheet 57 of 69, change the position of valves 43-201 and 43-433 for penetration X-100 from open to closed during the ILRT. 4. On FSAR Table 6.2.6-3, Page 3 of 6, delete the two references to Note 12 included, between penetrations X-24 and X-27A. 5. On FSAR Table 6.2.6-4, add penetrations X-23, X-28, X-84A, X-86A, X-86B, X-86C, X-92C and X-96C with the corresponding description and status.	

ENCLOSURE 1

WBN Unit 2 FSAR A109

"Summary Listing of A109 FSAR Changes"

Item No.	Change Area	Change Description	Change Package Number
5. (cont.)	6.2.6-3, 6.2.6-4, Table 6.2.4-1	6. On FSAR Table 6.2.6-4, change the status for penetrations X-25B, X-92A, X-92B, X-97 and X-105 from "Vented" to "Vented (See Note 1)." 7. On FSAR Table 6.2.6-4, change the status for penetrations X-26C, X-57B, X-60B and X-102 from "Vented" to "Normal Lineup." 8. On FSAR Table 6.2.6-4, change the status for penetrations X-85A and X-106 from "See Note 3" to "Vented (See Note 1)." 9. On FSAR Table 6.2.6-4, change the description for penetration X-120 from "Electrical Penetration" to "(see Note 4.)." 10. On FSAR Table 6.2.6-4, change penetration X-171F to penetration X-171E. 11. On FSAR Table 6.2.6-4, page 7 of 8, add penetrations X-20A and X-20B with the corresponding description and status. 12. On FSAR Table 6.2.6-4, page 8 of 8, change the description for penetration' "X-118" to "(See Note 4)." 13. Renumber the pages for FSAR Table 6.2.6-4.	2-109-05
6.	Table 6.2.4-1	On FSAR Table 6.2.4-1, Sheet 44 of 69 (A108), revise the sketch for penetration X-80 to remove the second test connection valve and label valve number 30-556.	2-109-06
7.	Table 7.5-2	In Table 7.5-2 on Page 7.5-21 (A108), change Item 22, Reactor Vessel Level, Type/Category from "B1 C1 D2" to "A1 B1 C1 D2"	2-109-07
8.	11.2	1. Revise Section 11.2.6.5.1, "Expected Normal Plant Operation," by changing the value for Steam Blowdown concentration from 3.65 E-5 uCi/cc to 8.446 E-6 uCi/cc (in three places - twice in second paragraph and once in the third paragraph). 2. Insert "20" between "CFR" and "limits" in the last sentence of the second paragraph of Section 11.2.6.5.2. 3. In Table 11.2-1, replace Item 3.0.j.1 which reads, "1) SGBD blowdown = 3E4 lb/hr (86330.93 gal/day) @ 1 PCA (of-SSC)" with "1) SGB blowdown = 1.75E+5 #/hr =504,000 gal/day @ 1 PCA (of SSC) 4. Replace the following tables with supplied data from engineering calculation. 11.2-4 11.2-5 11.2-5a 11.2-5b 11.2-5d	2-109-08

ENCLOSURE 1

WBN Unit 2 FSAR A109

"Summary Listing of A109 FSAR Changes"

Item No.	Change Area	Change Description	Change Package Number
9.	12.3	For Section 12.3.2.2 perform the following: 1. Replace Item 1 on pages 12.3-15 and 12.3-16 (A108) under the heading "Shielding for Accident Conditions" with the following: "(1) It must restrict the exposure at the site boundary from activity in the containment to a small fraction of 10 CFR 100 limits and (2) it must attenuate exposure rates at interior and other onsite locations from activity in the containment to levels which will allow required access. Continuous occupancy of the main control room and the Technical Support Center (TSC) is required during accident conditions. Infrequent access is required for the Operational Support Center (OSC), radio-chem lab, and other plant area's identified below during accident conditions. Analyses have been done to ensure the following post accident activities can be accomplished with dose to workers remaining below 5 rem gamma, 30 rem beta and 30 rem thyroid as required by NUREG-0737, II.B.2. Each mission is performed from two separate start and return locations: The OSC located on Service Building Elevation 713' and the TSC located on Control Building Elevation 755'. The TSC is located within the Main Control Room Habitability Zone. (1) Continuous Main Control Room and Technical Support Center occupancy is required. (2) Control or verification functions in the MG Set Room (Aux. Building EI. 782') and/or 480 Shutdown Board Room (Aux. Building EI. 757'). (3) Install CCS/ERCW spool piece near the CCS Surge Tank on Aux Building elevation 757'. (4) Refill RWST following a LOCA from 1) The CVCS Hold up tank (valves on Aux. Building EI. 676' & 692' and 2) from the Spent Fuel Pool (valves on Aux. Building EI. 692' & 713'). (5) Since a single crew cannot remain in the Main Control Room for the duration of the accident, it must be possible to make the trip from the site boundary to the main control room sometime after 24 hours without receiving an excessive dose.	2-109-09

ENCLOSURE 1

WBN Unit 2 FSAR A109

"Summary Listing of A109 FSAR Changes"

Item No.	Change Area	Change Description	Change Package Number
9. (cont.)	12.3	(6) Sampling of gaseous effluents per the requirements of NUREG-0737at the Shield Building vent monitor location (Aux. Building El 729'). (7) Sampling of the reactor coolant per NUREG-0737 requirements in the Hot Sample Room, Aux Building El. 713'. (8) Sampling of the containment atmosphere per NUREG-0737 requirements utilizing radiation monitors RE-90-106 & 112 located on Aux. Building El 737'. (9) Realignment of component cooling water to the spent fuel pool cooling system (valves on Aux Building floor El. 737'). (10)Mission to the Intake Pumping Station to place ERCW backwash screens in service. (11)Survey of the Auxiliary Building El. 676', 692', 713', & 737' for leaks. (12)Survey of the main steam lines and the steam generator blowdown in the Main Steam Valve Vault (Aux. building El.729') and the Hot Sample Room (Aux. building El.713') during a steam generator tube rupture accident. (13)Control and verification functions in the switchyard, Diesel Generator Building, and Turbine Building. (14)Obtain a Steam generator blowdown sample from the Hot Sample Room on Aux. Building El 713' (15)Mission to operate Control Air System (CAS), Auxiliary Control Air System (ACAS), ERCW, & CCS valves on Aux. Building elevations 737', 729', 713' &692' and CAS breakers on Aux. Building elevations 757' &729' post LOCA.	2-109-09

ENCLOSURE 1

WBN Unit 2 FSAR A109

"Summary Listing of A109 FSAR Changes"

Item No.	Change Area	Change Description	Change Package Number
9. (cont.)	12.3	2. Replace the last paragraph starting on Page 12.3-16 (A108) and continuing to the top of Page 12.3-17 (A108) with the following paragraph: "The Main Control Room and the Technical Support Center (TSC) are shielded so that the integrated dose from external sources (activity inside the primary containment, in the passing cloud, and in surrounding rooms) obtained during occupancy following a loss-of-coolant accident would be a very small fraction of 5.0 rem gamma, 30 rem beta, and 30 rem thyroid dose. The major portion of the dose will then come from the airborne activity within the Main Control Room. The dose from this airborne activity, which is more difficult to limit than that from the external sources, is discussed in Chapter 15. Chapter 15 considers integrated exposures in the Main Control Room under accident conditions from all sources."	2-109-09
10.	5.2	1. Add new FSAR Section 5.2.2.3.1 heading entitled, "Pressure Transient Analyses." 2. Renumber FSAR Section 5.2.2.4.2.1 as FSAR Section 5.2.2.3.1.1 and move below new FSAR Section 5.2.2.3.1. 3. Renumber FSAR Section 5.2.2.4.2.2 as FSAR Section 5.2.2.4.2.1. 4. Renumber FSAR Section 5.2.2.4.2.3 as FSAR Section 5.2.2.4.2.2.	2-109-10
11.	9.2	For Section 9.2.1.5.3, "Flow Instrumentation," perform the following: 1. Delete the phrase "and component cooling" from the second sentence of this section. 2. Insert new sentence between the second and third sentences of this section which reads as follows: "The ERCW flow rate through each component cooling heat exchanger is also available in the main control room."	2-109-11

ENCLOSURE 1

WBN Unit 2 FSAR A109

"Summary Listing of A109 FSAR Changes"

Item No.	Change Area	Change Description	Change Package Number
12.	2.4	1. Revise the elevation value for the maximum flood elevation from "738.8" to "739.2" 2. Revise the elevation values for the following locations: a. Diesel Generator Building (from "741.2" to "741.6") b. Intake Pumping Station (from "741.0" to "741.7") c. Auxiliary, Control and Shield Buildings(from "740.6" to "741.0") 3. Revise the average daily streamflow value from "27,100" to "27,000" and the maximum dally discharge from "211,000" to "208,400" in the second paragraph from the top of Page 2.4-5 (A108). 4. Insert the word, "tailwater" between the words "maximum" and "elevation" of the last sentence of the first paragraph at the top of Page 2.4-6 (A108). 5. Revise the discharge value for the May 8, 1984 entry from "214,100" to "208,400" in the listing at the bottom of Page 2.4-6 (A108). 6. Revise the maximum PMF value from "Elevation 738.8" to "Elevation 739.2" in the fourth paragraph from the top of Page 2.4-7 (A108). 7. Revise the phrase for wind wave run up during the PMF at the Diesel Generator Building from "Elevation 741.2 which is 0.8 feet," to "Elevation 741.6 ft. which is 0.4 ft." 8. Revise the water levels for Auxiliary, Control, and Shield Building from 740.6 to 741.0 in the next to last sentence of the fourth paragraph from the top of Page 2.4-8 (A108). 9. Revise the design basis flood level for Diesel Generator Building from 741.2 to 741.6 in the last sentence of the fourth paragraph from the top of Page 2.4-8 (A108). 10. Add footnote "[35]" to the document "Hydrometeorological Report No. 56 at the end of the third paragraph under Section 2.4.2.3 on Page 2.4-8 (A108)	2-109-12

ENCLOSURE 1

WBN Unit 2 FSAR A109

"Summary Listing of A109 FSAR Changes"

Item No.	Change Area	Change Description	Change Package Number
12. (cont.)	2.4	11. Revise the second paragraph from the top of Page 2.4-12 (A108) to read as follows: "In both storms, the West Saddle Dike at Watts Bar Dam would be overtopped and breached. No other failure would occur. Maximum discharge at the plant is 1,003,363 cfs from Watts Bar Dam with an additional 97,990 cfs from Watts Creek and 243,782 cfs from Yellow Creek for the 21,400-square-mile storm. The resulting PMF elevation at the plant would be 739.2 ft excluding wind wave effects." 12. Revise the first paragraph of Section 2.4.3.1 on Page 2.4-12 (A108) to read as follows: "Probable maximum precipitation (PMP) for the watershed above Chickamauga and Watts Bar Dams for determining PMF has been defined for TVA by the Hydrometeorological Report No. 41.[4] This report defines depth-area-duration characteristics, seasonal variations, and antecedent storm potentials and incorporates orographic effects of the Tennessee River Valley. Due to the temperate climate of the watershed and relatively light snowfall, snowmelt is not a factor in generating maximum floods for the Tennessee River at the site."	2-109-12

ENCLOSURE 1

WBN Unit 2 FSAR A109

"Summary Listing of A109 FSAR Changes"

Item No.	Change Area	Change Description	Change Package Number
12. (cont.)	2.4	13. Revise the fifth paragraph from the top of Page 2.4-14 to read as follows: "Discharge rating curves are provided in Figure 2.4-11 (13 Sheets) for the reservoirs in the watershed at and above Chickamauga. The discharge rating curve for Chickamauga Dam is for the current lock configuration with all 18 spillway bays available. Above Watts Bar Nuclear Plant, temporary flood barriers have been installed at four reservoirs (Watts Bar, Fort Loudoun, Tellico and Cherokee Reservoirs) to increase the height of embankments and are included in the discharge rating curves for these four dams. Increasing the height of embankments at these four dams prevents embankment overflow and failure of the embankment. The vendor supplied temporary flood barriers were shown to be stable for the most severe PMF headwater/tailwater conditions using vendor recommended base friction values. A single postulated Fort Loudoun Reservoir rim leak north of the Marina Saddle Dam which discharges into the Tennessee River at Tennessee River Mile (TRM) 602.3 was added as an additional discharge component to the Fort Loudoun Dam discharge rating curve. Seven Watts Bar Reservoir rim leaks were added as additional discharge components to the Watts Bar Dam discharge rating curve. Three of the rim leak locations discharge to Yellow Creek, entering the Tennessee River three miles downstream of Watts Bar Dam. The remaining four rim leak locations discharge to Watts Creek, which enters Chickamauga Reservoir just below Watts Bar Dam." 14. Replace the phrase, "steady state HEC RAS flow" with the phrase, "steady-state SOCH," in the first sentence of the last paragraph on Page 2.4-15 (A108). 15. Replace the phrase, "HEC RAS steady state model" with the phrase, "SOCH steady state model," in the first sentence of the last paragraph on Page 2.4-15 (A108). 16. Replace the PMF discharge value of "1,065,000 cfs" with "1,088,625 cfs," in the first sentence of the first paragraph of Section 2.4.3.4.	2-109-12

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WBN Unit 2 FSAR A109

"Summary Listing of A109 FSAR Changes"

Item No.	Change Area	Change Description	Change Package Number
12. (cont.)	2.4	19. Replace the word, "will," with "is postulated to," in the second line of the first paragraph at the top of Page 2.4-18 (A108). 20. Insert the word, "likely" between the words, "will," and "be" which are in the fifth line of the first paragraph at the top of Page 2.4-18 (A108). 21. Revise the second paragraph from the top of the Page 2.4-18 (A108) to read as follows: "Should the barge approach the spillway portion broadside, two and possibly three bridge bents may fail. For this condition the bridge would likely collapse on the barge and the barge would be grounded on the tops of the spillway piers. For this condition the barge would likely ground before striking the spillway gates because the gates are about 20 ft downstream from the leg of the upstream bridge bents." 22. Revise the paragraph under the heading, "Lock Gates," on Page 2.4-18 (A108) to read as follows: "The lock gates at Fort Loudoun, Watts Bar, and Chickamauga were examined for possible failure with the conclusion that no potential for failure exists. The lock gate structural elements may experience localized yielding and may not function normally following the most severe headwater/tailwater conditions." 23. Replace the controlling PMF elevation value of "738.8" with "739.2," contained in the first sentence of the first paragraph of Section 2.4.3.5 on Page 2.4-18 (A108). 24. Revise the listed elevation values (Diesel Generator Building earth embankment runup, Intake Pumping Station, west wall, and Auxiliary, Control and Reactor Building walls) contained within the fourth paragraph on Page 2.4-20 (A108) as follows: From To 741.2 741.6 741.0 741.7 740.6 741.0	2-109-12

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WBN Unit 2 FSAR A109

"Summary Listing of A109 FSAR Changes"

Item No.	Change Area	Change Description	Change Package Number
12. (cont.)	2.4	25. Revise the last paragraph under the heading, "Embankment," on Page 2.4-23 to read as follows: "As discussed in Section 2.4.3, temporary flood barriers are installed on embankments at Cherokee, Watts Bar, Fort Loudoun and Tellico Reservoirs. However, the temporary flood barriers are not required to be stable following an OBE or SSE and are not assumed to increase the height of the embankments for these loading conditions." 26. Revise the Watts Bar Dam headwater value from "763.42 ft., 6.58 ft." below top of dam to "762.96 ft., 6.54 ft below top of dam" in the third paragraph of Page 2.4-29. 27. Revise the Chickamauga headwater value that would be reached from "701.48 ft., 4.52 ft. below top of dam" to "701.05 ft, 4.95 ft below top of dam," in the third paragraph of Page 2.4-29 (A108). 28. Revise the fourth paragraph on Page 2.4-29 (A108) from "The peak discharge at the Watts Bar Nuclear Plant site produced by the OBE failure of Norris and Tellico dams coincident with the one-half PMF is 910,994 cfs. The peak elevation is 728.84 ft., 0.84 feet above 728 plant grade" to read as follows: "The peak discharge at the Watts Bar Nuclear Plant site produced by the OBE failure of Norris and Tellico Dams coincident with the one-half PMF is 917,284 cfs. The peak elevation is 728.67 ft, 0.67 ft above 728.0 ft plant grade."	2-109-12

ENCLOSURE 1

WBN Unit 2 FSAR A109

"Summary Listing of A109 FSAR Changes"

Item No.	Change Area	Change Description	Change Package Number
12. (cont.)	2.4	29. Revise the last paragraph on Page 2.4-31 (A108) and continues onto Page 2.4-32 (A108) from "As discussed in Section 2.4.3, sand baskets are installed on embankments at Fort Loudoun. The sand baskets are assumed to fail in the SSE and are thus not credited for increasing the height of the Fort Loudoun embankments. The flood for this postulated failure combination would overtop and breach the south embankment and marina saddle dam at Fort Loudoun. At Watts Bar Dam the headwater would reach Elevation 765.54, 4.46 feet below the top of the earth embankment of the main dam. However, the West Saddle Dike with top at elevation 757 would be overtopped and breached. The headwater at Chickamauga Dam would reach elevation 701.14, 4.86 ft. below top of dam. The embankments at Nickajack Dam would be overtopped but was conservatively postulated not to breach." to read as follows: "As discussed in Section 2.4.3, temporary flood barriers are installed on embankments at Fort Loudoun and Tellico Reservoirs. The temporary flood barriers are assumed to fail in the SSE and are thus not credited for increasing the height of the Fort Loudoun or Tellico Reservoirs embankments. The flood for this postulated failure combination would overtop and breach the south embankment and Marina Saddle Dam at Fort Loudoun. At Watts Bar Dam, the headwater would reach elevation 765.54 ft, 4.46 ft below the top of the earth embankment of the main dam. However, the West Saddle Dike with top at elevation 757.0 ft would be overtopped and breached. The headwater at Chickamauga Dam would reach elevation 701.14 ft, 4.86 ft below top of dam. The embankments at Nickajack Dam would be overtopped but was conservatively postulated not to breach."	2-109-12

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WBN Unit 2 FSAR A109

"Summary Listing of A109 FSAR Changes"

<table>
<tr><th>Item No.</th><th>Change Area</th><th>Change Description</th><th>Change Package Number</th></tr>
<tr><td>12.
(cont.)</td><td>2.4</td><td>30. Revise Design Basis Flood Values as follows:

<table><tr><th>Value</th><th>from</th><th>to</th></tr><tr><td>Probable Maximum Flood (still reservoir)</td><td>738.8</td><td>739.2 ft.</td></tr><tr><td>DBF Runup on 4:1 Sloped Surfaces</td><td>741.2</td><td>741.6 ft.</td></tr><tr><td>DBF Runup on critical vertical wall of the Intake Pumping Station</td><td>741.0</td><td>741.7 ft.</td></tr><tr><td>DBF Surge level within flooded structures</td><td>739.3</td><td>739.7 ft.</td></tr></table>
31. Revise the time range from "1 to 4" days to "1 to 5 days" in the last sentence of Section 2.4.14.1.3 on Page 2.6-46 (A108).

32. Revise one of the three critical event times from "28" to "27" in the second paragraph from top of Page 2.4-57 (A108).

33. Delete Reference 37 and renumber current Reference 38 as Reference 37 on Page 2.4-60 (A108)

34. Perform a number of editorial type changes throughout the section. Some examples are provided below:

a. Insert/abbreviate the foot (ft.) after each elevation value throughout the section.

b. Insert/abbreviate the word "dam(s)" after each name of dam.

c. Replace the term "Intake Pumping Structure," with the term "Intake Pumping Station"

d. Replace single number values with the word form (i.e. "1" with "one", etc.).</td><td>2-109-12</td></tr>
<tr><td>13.</td><td>10.2.1</td><td>In FSAR Section 10.2.1, revise the third sentence of the second paragraph to identify the zonal back pressure for the valves wide open condition as 1.92/2.70/3.75 inches of Hg absolute.</td><td>2-109-13</td></tr>
<tr><td>14</td><td>12.4</td><td>Add the list of design changes that will be implemented for WBN Unit 2 before power operations to FSAR Section 12.4.</td><td>2-109-14</td></tr>
</table>

ENCLOSURE 1

WBN Unit 2 FSAR A109

"Summary Listing of A109 FSAR Changes"

Item No.	Change Area	Change Description	Change Package Number
15.	Table 3.9-25	1. Delete the duplicate entry for valve FCV-32-81 on FSAR Table 3.9-25, Sheet 9 of 23. 2. Correct the listing of valve 2-CKV-32-323 on FSAR Table 3.9-25, Sheet 10 of 23.	2-109-15
16.	14.2	1. In the first paragraph of Section 14.2.2, replace "Unit 2 Vice President" with "General Manager, Watts Bar Unit 2 Engineering and Construction" 2. In the second paragraph of Section 14.2.2.1, replace "Unit 2 Vice President" with "Completions and Startup Manager," 3. In the last paragraph of Section 14.2.2.5, replace "Unit 2 Vice President" with "Completions and Startup Manager," 4. Re-title Item No. 6 to read, "Performance" rather than "Instructions" on Page 14.2-11 (A108) 5. Replace the word, "instruction" with the word "performance," in the first sentence in Item No. 6 on Page 14.2-11 (A108) 6. Insert a period after the word, "bypasses" in the first sentence of Item No. 6 on Page 14.2-11 (A108). In addition, for the same sentence as described above, delete the remaining phrase, "and restoration of the system to normal status following test." 7. Insert new second sentence for Item no. 6 on Page 14.2-11 (A108) to read as follows: "Provisions will be made for recording all pertinent test data regarding system conditions and performance." 8. Re-title Item No. 7 to read, "Post Performance Activities" rather than "Data Collection/Test Results" on Page 14.2-11 (A108)	2-109-16

ENCLOSURE 1

WBN Unit 2 FSAR A109

"Summary Listing of A109 FSAR Changes"

Item No.	Change Area	Change Description	Change Package Number
16. (cont.)	14.2	9. Replace the existing text of Item No. 7 with the following text: "Post-Performance Activities include notification of field completion testing to the responsible Operations personnel, restoration of the plan/system normal status including removal of jumpers, special test instrumentation and restoration of instrument settings. Also, post test accuracy test checks on plant instrumentation and M&TE used to gather quantitative Acceptance Criteria data is performed." 10. Add new Item No. 8 to be entitled, "Records," and insert the following text: "Provisions are made to determine if the completed test package is a quality related or non-quality record."	2-109-16
17.	2.1 2.2 2.3	1. Delete the phrase, "the Watts Bar Steam Plant, in the second sentence of the second paragraph of Section 2.1.1.1 on Page 2.1-1 (A108). 2. Replace the second sentence of the first paragraph of Section 2.2.1 on Page 2.2-1 (A108) from "The only significant nearby industrial facility is the Watts Bar Steam Plant," to "There are no significant industrial facilities near WBN." 3. Delete the phrase, "Watts Bar Steam Plant and," from the second sentence of the third paragraph of Section 2.2.1 on Page 2.2-1 .(A108) 4 Delete the first paragraph of Section 2.2.2.1 on Page 2.2-1 (A108) 5. Delete the last sentence of the first paragraph of Section 2.2.2.2 on page 2.2-1. 6. Delete the third paragraph from top of Page 2.3-5 (A108).	2-109-17

ENCLOSURE 1

WBN Unit 2 FSAR A109

“Summary Listing of A109 FSAR Changes"

Item No.	Change Area	Change Description	Change Package Number
18.	Table 6.2.4-1	1. On FSAR Table 6.2.4-1, Page 8 of 69, change the "N" in the "Pos Ind in MCR" column for valves 2-FCV-1-15 and 2-FCV-1-147 in penetration X-13A to a "Y." 2. On FSAR Table 6.2.4-1, Page 11 of 69, change the "Y" in the "Pos Ind in MCR" column for relief valve 62-662 in penetration X-15 to an "N." 3. On FSAR Table 6.2.4-1, Page 55 of 69, change the "O" in the "ILRT" column for valves 90-114 and 90-115 in penetration X-95C to a "C." 4. On FSAR Table 6.2.4-1, page 57 of 69, change the "O" in the "ILRT" column for valves 43-202 and 43-434 in penetration X-99 to a "C”. 5. On FSAR Table 6.2.4-1, page 57 of 69, change the "O" in the "ILRT" column for valves 43-201 and 43-433 in penetration X-100 to a "C."	2-109-18
19.	Table 7.5-2 15.2.4	1. For Table 7.5-2, Page 10 of 41, correct the spelling of Reactor in Item No. 76. 2. For Item 3 of Section 15.2.4.2.6, delete the word “to” between “a” and “critical.”	2-109-19
20.	14.2	1. Delete the phrase, “(other load group completely deenergized)” in Item No. 1 under the heading, “Test Method” on Page 14.2-63. 2. Delete the phrase, “(other load group completely deenergized)” in Item No. 1 under the heading, “Acceptance Criteria” on Page 14.2-64. 3. On Page 2.4-115, insert a new Item No. 3 in the heading, “Test Method,” as follows: "3. Perform isothermal cross-calibration of Reactor Coolant Loop Resistance Temperature Detectors and Thermocouples." 4. On Page 2.4-115, renumber Items “3 through 13” through “4 through 14”. 5. For Item No. 4 under the heading “RCS Heatup,” on Page 2.4-167, replace “Deleted,” with "RCS Loop RTD and Thermocouple Cross Calibration. 6. For Item No. 9 under the heading “Integrated Hot Functional Testing,” on Page 2.4-168, replace “Deleted,” with "RCS Loop RTD and Thermocouple Cross Calibration.	2-109-20

ENCLOSURE 2

WBN Unit 2 FSAR A109
"Summary of Redacted Pages"

Chapter	Page(S)	Section No.	Figure No.	Basis For Redaction
1	1.2-15	1.2	1.2-1	Security Related, 10CFR2.390(d)(1)
1	1.2-16	1.2	1.2-2	Security Related, 10CFR2.390(d)(1)
1	1.2-17	1.2	1.2-3	Security Related, 10CFR2.390(d)(1)
1	1.2-18	1.2	1.2-4	Security Related, 10CFR2.390(d)(1)
1	1.2-19	1.2	1.2-5	Security Related, 10CFR2.390(d)(1)
1	1.2-20	1.2	1.2-6	Security Related, 10CFR2.390(d)(1)
1	1.2-21	1.2	1.2-7	Security Related, 10CFR2.390(d)(1)
1	1.2-22	1.2	1.2-8	Security Related, 10CFR2.390(d)(1)
1	1.2-23	1.2	1.2-9	Security Related, 10CFR2.390(d)(1)
1	1.2-24	1.2	1.2-10	Security Related, 10CFR2.390(d)(1)
1	1.2-25	1.2	1.2-11	Security Related, 10CFR2.390(d)(1)
1	1.2-26	1.2	1.2-12	Security Related, 10CFR2.390(d)(1)
1	1.2-27	1.2	1.2-13	Security Related, 10CFR2.390(d)(1)
1	1.2-28	1.2	1.2-14	Security Related, 10CFR2.390(d)(1)
1	1.2-29	1.2	1.2-15	Security Related, 10CFR2.390(d)(1)
2	2.2-7	2.2	2.2-1	Security Related, 10CFR2.390(d)(1)
2	2.2-8	2.2	2.2-2	Security Related, 10CFR2.390(d)(1)
2	2.4-89	2.4	2.4-2	Security Related, 10CFR2.390(d)(1)
2	2.4-159	2.4	2.4-24	Security Related, 10CFR2.390(d)(1)
2	2.4-162	2.4	2.4-27	Security Related, 10CFR2.390(d)(1)
2	2.4-163	2.4	2.4-28	Security Related, 10CFR2.390(d)(1)
2	2.4-168	2.4	2.4-40a Sheet 1	Security Related, 10CFR2.390(d)(1)
2	2.4-171	2.4	2.4-40b	Security Related, 10CFR2.390(d)(1)
2	2.4-172	2.4	2.4-40c	Security Related, 10CFR2.390(d)(1)
2	2.4-173	2.4	2.4-40d Sheet 1	Security Related, 10CFR2.390(d)(1)
2	2.4-178	2.4	2.4-40f Sheet 1	Security Related, 10CFR2.390(d)(1)
2	2.4-181	2.4	2.4-40g Sheet 1	Security Related, 10CFR2.390(d)(1)
2	2.4-206	2.4	2.4-76	Security Related, 10CFR2.390(d)(1)
2	2.4-209	2.4	2.4-79	Security Related, 10CFR2.390(d)(1)
2	2.4-212	2.4	2.4-82	Security Related, 10CFR2.390(d)(1)
2	2.4-213	2.4	2.4-83	Security Related, 10CFR2.390(d)(1)
2	2.4-218	2.4	2.4-88	Security Related, 10CFR2.390(d)(1)
2	2.4-219	2.4	2.4-89	Security Related, 10CFR2.390(d)(1)
2	2.4-220	2.4	2.4-90	Security Related, 10CFR2.390(d)(1)
2	2.5-471	2.5	2.5-185	Security Related, 10CFR2.390(d)(1)
2	2.5-472	2.5	2.5-185a	Security Related, 10CFR2.390(d)(1)
2	2.5-513	2.5	2.5-225	Security Related, 10CFR2.390(d)(1)
2	2.5-514	2.5	2.5-226	Security Related, 10CFR2.390(d)(1)
2	2.5-515	2.5	2.5-226a	Security Related, 10CFR2.390(d)(1)
2	2.5-575	2.5	2.5-273	Security Related, 10CFR2.390(d)(1)
2	2.5-690	2.5	2.5-358	Security Related, 10CFR2.390(d)(1)

ENCLOSURE 2

WBN Unit 2 FSAR A109
"Summary of Redacted Pages"

Chapter	Page(S)	Section No.	Figure No.	Basis For Redaction
2	2.5-934	2.5	2.5-592	Security Related, 10CFR2.390(d)(1)
3	3.5-53	3.5	3.5-3	Security Related, 10CFR2.390(d)(1)
3	3.5-54	3.5	3.5-4	Security Related, 10CFR2.390(d)(1)
3	3.6-73	3.6	3.6-21	Security Related, 10CFR2.390(d)(1)
3	3.6-74	3.6	3.6-22	Security Related, 10CFR2.390(d)(1)
3	3.6-75	3.6	3.6-23	Security Related, 10CFR2.390(d)(1)
3	3.6-76	3.6	3.6-24	Security Related, 10CFR2.390(d)(1)
3	3.7-217	3.7	3.7-39	Security Related, 10CFR2.390(d)(1)
3	3.7-218	3.7	3.7-40	Security Related, 10CFR2.390(d)(1)
3	3.7-219	3.7	3.7-41	Security Related, 10CFR2.390(d)(1)
3	3.7-222	3.7	3.7-44	Security Related, 10CFR2.390(d)(1)
3	3.8.3-60	3.8.3	3.8.3-6	Security Related, 10CFR2.390(d)(1)
3	3.8.3-61	3.8.3	3.8.3-7	Security Related, 10CFR2.390(d)(1)
3	3.8.4-94	3.8.4	3.8.4-2	Security Related, 10CFR2.390(d)(1)
3	3.8.4-95	3.8.4	3.8.4-3	Security Related, 10CFR2.390(d)(1)
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3	3.8.4-109	3.8.4	3.8.4-17	Security Related, 10CFR2.390(d)(1)
3	3.8.4-110	3.8.4	3.8.4-18	Security Related, 10CFR2.390(d)(1)
3	3.8.4-111	3.8.4	3.8.4-19	Security Related, 10CFR2.390(d)(1)
3	3.8.4-112	3.8.4	3.8.4-20	Security Related, 10CFR2.390(d)(1)
3	3.8.4-116	3.8.4	3.8.4-24	Security Related, 10CFR2.390(d)(1)
3	3.8.4-120	3.8.4	3.8.4-28	Security Related, 10CFR2.390(d)(1)
3	3.8.4-127	3.8.4	3.8.4-35	Security Related, 10CFR2.390(d)(1)
3	3.8.4-128	3.8.4	3.8.4-36	Security Related, 10CFR2.390(d)(1)
3	3.8.4-129	3.8.4	3.8.4-36a	Security Related, 10CFR2.390(d)(1)
3	3.8.4-132	3.8.4	3.8.4-37	Security Related, 10CFR2.390(d)(1)
3	3.8.4-149	3.8.4	3.8.4-50	Security Related, 10CFR2.390(d)(1)
3	3.8.4-150	3.8.4	3.8.4-51	Security Related, 10CFR2.390(d)(1)
3	3.8.6-19	3.8.6	3.8.6-7	Security Related, 10CFR2.390(d)(1)
6	6.2.2-24	6.2.2	6.2.2-4	Security Related, 10CFR2.390(d)(1)
6	6.2.3-76	6.2.3	6.2.3-4	Security Related, 10CFR2.390(d)(1)
6	6.2.3-77	6.2.3	6.2.3-5	Security Related, 10CFR2.390(d)(1)
6	6.2.3-78	6.2.3	6.2.3-6	Security Related, 10CFR2.390(d)(1)
6	6.2.3-79	6.2.3	6.2.3-7	Security Related, 10CFR2.390(d)(1)
6	6.2.3-80	6.2.3	6.2.3-8	Security Related, 10CFR2.390(d)(1)
6	6.2.3-81	6.2.3	6.2.3-9	Security Related, 10CFR2.390(d)(1)
6	6.2.3-82	6.2.3	6.2.3-10	Security Related, 10CFR2.390(d)(1)
6	6.2.3-92	6.2.3	6.2.3-18	Security Related, 10CFR2.390(d)(1)
6	6.2.3-93	6.2.3	6.2.3-19	Security Related, 10CFR2.390(d)(1)
8	8.1-21	8.1	8.1-1	Security Related, 10CFR2.390(d)(1)
8	8.2-15	8.2	Text only	Security Related, 10CFR2.390(d)(1)
8	8.2-30	8.2	8.2-3	Security Related, 10CFR2.390(d)(1)

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WBN Unit 2 FSAR A109
"Summary of Redacted Pages"

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8	8.2-31	8.2	8.2-4	Security Related, 10CFR2.390(d)(1)
8	8.2-44	8.2	8.2-11	Security Related, 10CFR2.390(d)(1)
8	8.3-97	8.3	8.3-1	Security Related, 10CFR2.390(d)(1)
8	8.3-99	8.3	8.3-2	Security Related, 10CFR2.390(d)(1)
8	8.3-100	8.3	8.3-3	Security Related, 10CFR2.390(d)(1)
8	8.3-102	8.3	8.3-4b	Security Related, 10CFR2.390(d)(1)
8	8.3-205	8.3	8.3-46	Security Related, 10CFR2.390(d)(1)
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9	9.2-211	9.2	9.2-40	Security Related, 10CFR2.390(d)(1)
9	9.4-276	9.4	9.4-21	Security Related, 10CFR2.390(d)(1)
9	9.4-280	9.4	9.4-22c	Security Related, 10CFR2.390(d)(1)
9	9.4-281	9.4	9.4-23	Security Related, 10CFR2.390(d)(1)
9	9.4-282	9.4	9.4-24	Security Related, 10CFR2.390(d)(1)
12	12.3-39	12.3	12.3-1	Security Related, 10CFR2.390(d)(1)
12	12.3-40	12.3	12.3-2	Security Related, 10CFR2.390(d)(1)
12	12.3-41	12.3	12.3-3	Security Related, 10CFR2.390(d)(1)
12	12.3-42	12.3	12.3-4	Security Related, 10CFR2.390(d)(1)
12	12.3-43	12.3	12.3-5	Security Related, 10CFR2.390(d)(1)
12	12.3-44	12.3	12.3-6	Security Related, 10CFR2.390(d)(1)
12	12.3-45	12.3	12.3-7	Security Related, 10CFR2.390(d)(1)
12	12.3-46	12.3	12.3-8	Security Related, 10CFR2.390(d)(1)
12	12.3-47	12.3	12.3-9	Security Related, 10CFR2.390(d)(1)
12	12.3-48	12.3	12.3-10	Security Related, 10CFR2.390(d)(1)
12	12.3-49	12.3	12.3-11	Security Related, 10CFR2.390(d)(1)
12	12.3-50	12.3	12.3-12	Security Related, 10CFR2.390(d)(1)
12	12.3-51	12.3	12.3-13	Security Related, 10CFR2.390(d)(1)
12	12.3-52	12.3	12.3-14	Security Related, 10CFR2.390(d)(1)
12	12.3-53	12.3	12.3-15	Security Related, 10CFR2.390(d)(1)
12	12.3-54	12.3	12.3-16	Security Related, 10CFR2.390(d)(1)
12	12.3-55	12.3	12.3-17	Security Related, 10CFR2.390(d)(1)
12	12.4-7	12.4	12.4-1	Security Related, 10CFR2.390(d)(1)

ENCLOSURE 3

WBN Unit 2 FSAR A109
"List Of Files And File Sizes
On The Security-Related OSM (OSM #1)"

ENCLOSURE 3
TVA Watts Bar Nuclear Plant Unit 2
FSAR Amendment 109 - List of Files on *Security-Related OSM*

File Name	File Size - Bytes
TVA_WBN-2_FSAR_Files	
001_TVA_WB_FSAR_TOC.pdf	362,572
002_TVA_WB_FSAR_LRP.pdf	92,718
003_TVA_WB_FSAR_Section_1.pdf	4,646,447
004_TVA_WB_FSAR_Section_2_A.pdf	19,883,491
005_TVA_WB_FSAR_Section_2_B_Part_1_of_2.pdf	44,211,640
005_TVA_WB_FSAR_Section_2_B_Part_2_of_2.pdf	42,591,488
006_TVA_WB_FSAR_Section_2_C.pdf	2,106,765
007_TVA_WB_FSAR_Section_2_D.pdf	31,323,884
008_TVA_WB_FSAR_Section_2_E.pdf	47,312,507
009_TVA_WB_FSAR_Section_3_A.pdf	2,625,195
010_TVA_WB_FSAR_Section_3_B.pdf	7,062,998
011_TVA_WB_FSAR_Section_3_C.pdf	30,016,093
012_TVA_WB_FSAR_Section_3_D.pdf	11,764,974
013_TVA_WB_FSAR_Section_4.pdf	24,486,322
014_TVA_WB_FSAR_Section_5.pdf	9,920,972
015_TVA_WB_FSAR_Section_6_A.pdf	26,045,220
016_TVA_WB_FSAR_Section_6_B.pdf	9,335,707
017_TVA_WB_FSAR_Section_7.pdf	14,022,462
018_TVA_WB_FSAR_Section_8.pdf	29,729,338
019_TVA_WB_FSAR_Section_9_A.pdf	24,541,210
020_TVA_WB_FSAR_Section_9_B.pdf	16,493,418
021_TVA_WB_FSAR_Section_10.pdf	14,163,516
022_TVA_WB_FSAR_Section_11.pdf	4,072,904
023_TVA_WB_FSAR_Section_12.pdf	5,990,097
024_TVA_WB_FSAR_Section_13.pdf	3,238,697
025_TVA_WB_FSAR_Section_14.pdf	1,185,393

ENCLOSURE 3
TVA Watts Bar Nuclear Plant Unit 2
FSAR Amendment 109 - List of Files on *Security-Related OSM*

File Name	File Size - Bytes
026_TVA_WB_FSAR_Section_15.pdf	46,630,176
027_TVA_WB_FSAR_Section_16.pdf	148,062
028_TVA_WB_FSAR_Section_17.pdf	144,876
Total	**474,149,142**
TVA_WBN-2_Oversized_FSAR_Figures	
001_TVA_WB_FSAR_Figure_2.5_3.pdf	1,757,743
002_TVA_WB_FSAR_Figure_2.5_11.pdf	1,689,538
003_TVA_WB_FSAR_Figure_2.5_71.pdf	2,263,087
004_TVA_WB_FSAR_Figure_2.5_222.pdf	909,429
005_TVA_WB_FSAR_Figure_2.5_281_1.pdf	2,155,627
006_TVA_WB_FSAR_Figure_2.5_281_2.pdf	2,117,562
007_TVA_WB_FSAR_Figure_2.5_549_1.pdf	3,600,807
008_TVA_WB_FSAR_Figure_2.5_549_2.pdf	3,989,180
009_TVA_WB_FSAR_Figure_2.5_549_3.pdf	2,863,719
010_TVA_WB_FSAR_Figure_2.5_549_4.pdf	2,809,599
011_TVA_WB_FSAR_Figure_2.5_550.pdf	1,803,985
012_TVA_WB_FSAR_Figure_2.5_551.pdf	1,996,869
013_TVA_WB_FSAR_Figure_2.5_554_1.pdf	3,081,060
014_TVA_WB_FSAR_Figure_2.5_554_2.pdf	1,996,707
015_TVA_WB_FSAR_Figure_2.5_555.pdf	1,993,312
016_TVA_WB_FSAR_Figure_2.5_556.pdf	2,998,087
017_TVA_WB_FSAR_Figure_2.5_571_1.pdf	844,484
018_TVA_WB_FSAR_Figure_2.5_571_2.pdf	3,128,329
019_TVA_WB_FSAR_Figure_2.5_571_3.pdf	3,284,555
020_TVA_WB_FSAR_Figure_2.5_571_4.pdf	2,142,316
021_TVA_WB_FSAR_Figure_2.5_572.pdf	2,196,945

ENCLOSURE 3
TVA Watts Bar Nuclear Plant Unit 2
FSAR Amendment 109 - List of Files on *Security-Related OSM*

File Name	File Size - Bytes
022_TVA_WB_FSAR_Figure_2.5_573.pdf	2,013,286
023_TVA_WB_FSAR_Figure_2.5_576_1.pdf	3,238,525
024_TVA_WB_FSAR_Figure_2.5_576_2.pdf	2,151,750
025_TVA_WB_FSAR_Figure_2.5_577.pdf	2,207,622
026_TVA_WB_FSAR_Figure_2.5_578.pdf	2,080,032
027_TVA_WB_FSAR_Figure_2.5_579.pdf	2,308,985
028_TVA_WB_FSAR_Figure_2.5_583.pdf	2,487,346
029_TVA_WB_FSAR_Figure_2.5_588.pdf	2,528,515
030_TVA_WB_FSAR_Figure_2.5_589.pdf	2,480,438
031_TVA_WB_FSAR_Figure_2.5_594.pdf	13,054,127
032_TVA_WB_FSAR_Figure_2.5_595.pdf	2,323,267
033_TVA_WB_FSAR_Figure_2.5_596.pdf	5,732,107
034_TVA_WB_FSAR_Figure_2.5_597.pdf	1,287,336
035_TVA_WB_FSAR_Figure_2.5_602.pdf	5,549,537
036_TVA_WB_FSAR_Figure_2.5_603.pdf	4,830,835
037_TVA_WB_FSAR_Figure_2.5_604.pdf	6,392,279
038_TVA_WB_FSAR_Figure_2.5_605.pdf	20,823,108
Total	**131,112,035**
TVA_WBN-2_Oversized_FSAR_Table	
001_TVA_WB_FSAR_Table_6.2.4-1.pdf	1,220,825
Total	**1,220,825**

ENCLOSURE 4

WBN Unit 2 FSAR A109
"List Of Files And File Sizes
On The Publicly Available OSM (OSM #2)"

ENCLOSURE 4
TVA Watts Bar Nuclear Plant Unit 2
FSAR Amendment 109 List of Files on *Publicly Available OSM*

File Name	File Size - Bytes
TVA_WBN-2_FSAR_Files	
001_TVA_WB_FSAR_TOC.pdf	362,572
002_TVA_WB_FSAR_LRP.pdf	92,718
003_TVA_WB_FSAR_Section_1.pdf	839,789
004_TVA_WB_FSAR_Section_2_A.pdf	19,554,223
005_TVA_WB_FSAR_Section_2_B_Part_1_of_2.pdf	33,946,265
005_TVA_WB_FSAR_Section_2_B_Part_2_of_2.pdf	36,333,391
006_TVA_WB_FSAR_Section_2_C.pdf	2,106,765
007_TVA_WB_FSAR_Section_2_D.pdf	31,323,884
008_TVA_WB_FSAR_Section_2_E.pdf	45,933,118
009_TVA_WB_FSAR_Section_3_A.pdf	2,333,760
010_TVA_WB_FSAR_Section_3_B.pdf	5,661,228
011_TVA_WB_FSAR_Section_3_C.pdf	25,183,642
012_TVA_WB_FSAR_Section_3_D.pdf	11,496,271
013_TVA_WB_FSAR_Section_4.pdf	24,486,322
014_TVA_WB_FSAR_Section_5.pdf	9,920,972
015_TVA_WB_FSAR_Section_6_A.pdf	23,164,754
016_TVA_WB_FSAR_Section_6_B.pdf	9,335,707
017_TVA_WB_FSAR_Section_7.pdf	14,022,462
018_TVA_WB_FSAR_Section_8.pdf	26,768,931
019_TVA_WB_FSAR_Section_9_A.pdf	24,280,149
020_TVA_WB_FSAR_Section_9_B.pdf	15,278,899
021_TVA_WB_FSAR_Section_10.pdf	14,163,516
022_TVA_WB_FSAR_Section_11.pdf	4,072,904
023_TVA_WB_FSAR_Section_12.pdf	1,728,081
024_TVA_WB_FSAR_Section_13.pdf	3,238,697
025_TVA_WB_FSAR_Section_14.pdf	1,185,393

Note: Byte amounts in italics are redacted files.

ENCLOSURE 4
TVA Watts Bar Nuclear Plant Unit 2
FSAR Amendment 109 List of Files on *Publicly Available OSM*

File Name	File Size - Bytes
026_TVA_WB_FSAR_Section_15.pdf	46,630,176
027_TVA_WB_FSAR_Section_16.pdf	148,062
028_TVA_WB_FSAR_Section_17.pdf	144,876
Total	**433,737,527**
TVA_WBN-2_Oversized_FSAR_Figures	
001_TVA_WB_FSAR_Figure_2.5_3.pdf	1,757,743
002_TVA_WB_FSAR_Figure_2.5_11.pdf	1,689,538
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004_TVA_WB_FSAR_Figure_2.5_222.pdf	909,429
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006_TVA_WB_FSAR_Figure_2.5_281_2.pdf	2,117,562
007_TVA_WB_FSAR_Figure_2.5_549_1.pdf	3,600,807
008_TVA_WB_FSAR_Figure_2.5_549_2.pdf	3,989,180
009_TVA_WB_FSAR_Figure_2.5_549_3.pdf	2,863,719
010_TVA_WB_FSAR_Figure_2.5_549_4.pdf	2,809,599
011_TVA_WB_FSAR_Figure_2.5_550.pdf	1,803,985
012_TVA_WB_FSAR_Figure_2.5_551.pdf	1,996,869
013_TVA_WB_FSAR_Figure_2.5_554_1.pdf	3,081,060
014_TVA_WB_FSAR_Figure_2.5_554_2.pdf	1,996,707
015_TVA_WB_FSAR_Figure_2.5_555.pdf	1,993,312
016_TVA_WB_FSAR_Figure_2.5_556.pdf	2,998,087
017_TVA_WB_FSAR_Figure_2.5_571_1.pdf	844,484
018_TVA_WB_FSAR_Figure_2.5_571_2.pdf	3,128,329
019_TVA_WB_FSAR_Figure_2.5_571_3.pdf	3,284,555
020_TVA_WB_FSAR_Figure_2.5_571_4.pdf	2,142,316
021_TVA_WB_FSAR_Figure_2.5_572.pdf	2,196,945

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ENCLOSURE 4
TVA Watts Bar Nuclear Plant Unit 2
FSAR Amendment 109 List of Files on *Publicly Available OSM*

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024_TVA_WB_FSAR_Figure_2.5_576_2.pdf	2,151,750
025_TVA_WB_FSAR_Figure_2.5_577.pdf	2,207,622
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027_TVA_WB_FSAR_Figure_2.5_579.pdf	2,308,985
028_TVA_WB_FSAR_Figure_2.5_583.pdf	2,487,346
029_TVA_WB_FSAR_Figure_2.5_588.pdf	2,528,515
030_TVA_WB_FSAR_Figure_2.5_589.pdf	2,480,438
031_TVA_WB_FSAR_Figure_2.5_594.pdf	13,054,127
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033_TVA_WB_FSAR_Figure_2.5_596.pdf	5,732,107
034_TVA_WB_FSAR_Figure_2.5_597.pdf	1,287,336
035_TVA_WB_FSAR_Figure_2.5_602.pdf	5,549,537
036_TVA_WB_FSAR_Figure_2.5_603.pdf	4,830,835
037_TVA_WB_FSAR_Figure_2.5_604.pdf	6,392,279
038_TVA_WB_FSAR_Figure_2.5_605.pdf	20,823,108
Total	**131,112,035**
TVA_WBN-2_Oversized_FSAR_Table	
001_TVA_WB_FSAR_Table_6.2.4-1.pdf	122,825
Total	122,825

Note: Byte amounts in italics are redacted files.