



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

June 25, 2012

CAL No. NRR-12-001

Mr. Joseph W. Shea  
Manager, Corporate Nuclear Licensing  
Tennessee Valley Authority  
6A Lookout Place  
1101 Market Street  
Chattanooga, TN 37402-2801

SUBJECT: CONFIRMATORY ACTION LETTER - WATTS BAR NUCLEAR PLANT, UNIT 1,  
AND SEQUOYAH NUCLEAR PLANT, UNITS 1 AND 2, COMMITMENTS TO  
ADDRESS EXTERNAL FLOODING CONCERNS (TAC NOS. ME8805, ME8806,  
AND ME8807)

Dear Mr. Shea:

The Tennessee Valley Authority (TVA, the licensee) presented information to the U.S. Nuclear Regulatory Commission (NRC) staff in public meetings dated March 29 and May 31, 2012, and previous TVA submittals regarding the hydrology and external flooding licensing basis at Watts Bar Nuclear Plant (WBN), Unit 1 and Sequoyah Nuclear Plant (SQN), Units 1 and 2. TVA began an update to its hydrology licensing basis for its operating reactors as part of broad corrective actions as a result of a 2008 NRC hydrology inspection for Bellefonte Nuclear Plant, Units 3 and 4. As TVA has re-evaluated its hydrology for both the WBN and SQN sites, the projected external flood levels have challenged the levels defined in the current licensing basis and challenged margins to equipment relied upon to mitigate a probable maximum flood event. At the May 31, 2012, meeting, TVA described compensatory measures to protect equipment and the actions that have been initiated to permanently resolve the issues.

On June 5, 2012, you had a conference call with Mr. Allen Howe and others from the NRC. During this call, you discussed actions that TVA has taken, or will take, by specific dates. Subsequently, in a letter from you to the NRC dated June 13, 2012, TVA made commitments to mitigate potential external flooding hazards at WBN, Unit 1 and SQN, Units 1 and 2 (Agencywide Documents Access and Management System Accession No. ML12171A053). This letter confirms those commitments TVA will implement at WBN, Unit 1 and SQN, Units 1 and 2, to mitigate potential external flooding hazards resulting from your recent flooding analyses that indicate an increase in the probable maximum flooding level at WBN and SQN. Compensatory measures, as described in your letter, shall remain in place until final approval by the NRC of the licensing basis for external flooding at WBN, Unit 1 and SQN, Units 1 and 2, or until permanent modifications for flood protection are implemented by TVA. The commitments and implementation dates are set forth in the enclosure to this letter. With regard to Commitment No. 6, please provide a summary of the results of TVA's analysis to the NRC within 60 days after its completion.

Pursuant to Section 182 of the Atomic Energy Act, 42 U.S.C. 2232, you are required to:

- 1) Notify me immediately if your understanding differs from that set forth above;
- 2) Notify me if for any reason you cannot complete the actions within the specified schedule and advise me in writing of your modified schedule in advance of the change; and
- 3) Notify me in writing when you have completed the actions addressed in this Confirmatory Action Letter.

Issuance of this Confirmatory Action Letter does not preclude issuance of an order formalizing the above commitments or requiring other actions on the part of the licensee; nor does it preclude the NRC from taking enforcement action for violations of NRC requirements that may have prompted the issuance of this letter.

In accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) Section 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (ADAMS), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>.

To the extent possible, your response should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the public without redaction. If personal privacy or proprietary information is necessary to provide an acceptable response, then please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such information. If you request withholding of such material, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim of withholding (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.390(b) to support a request for withholding confidential commercial or financial information).

J. Shea

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If safeguards information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21.

Sincerely,

A handwritten signature in black ink, appearing to read "Eric J. Leeds". The signature is fluid and cursive, with the first name "Eric" and last name "Leeds" clearly distinguishable.

Eric J. Leeds, Director  
Office of Nuclear Reactor Regulation

Docket Nos. 50-390, 50-327, and 50-328

cc: Distribution via ListServ

Enclosure:  
Commitments

**TVA COMMITMENTS FOR WBN, UNIT 1 AND SQN, UNITS 1 AND 2**

NUMBER	COMMITMENT	IMPLEMENTATION DATE
1	TVA will submit a License Amendment Request to update the WBN, Unit 1 Updated Final Safety Analysis Report to reflect the updated hydrologic analysis methods and results, including the analysis of the rim leakage paths discussed at the May 31, 2012, public meeting between TVA and NRC staff.	July 20, 2012
2	TVA will submit a License Amendment Request to update the SQN, Units 1 and 2, Updated Final Safety Analysis Report to reflect the updated hydrologic analysis methods and results, including the analysis of the rim leakage paths discussed at the May 31, 2012, public meeting between TVA and NRC staff.	August 10, 2012
3	<p>TVA will issue and initially perform a procedure for a semi-annual inspection of the compensatory measure for flood protection of the WBN, Unit 1 Thermal Barrier Booster pumps and motors. The inspection will verify:</p> <ul style="list-style-type: none"> <li>a. The condition of the permanent building attachments; and</li> <li>b. The inventory, storage, physical protection, and condition of the materials and consumables required for erection of the temporary flood protection panels during a postulated PMF [probable maximum flood] event.</li> </ul> <p>Inspections will continue until the compensatory measure is replaced by a permanent plant modification.</p>	August 31, 2012
4	TVA will issue and initially perform a procedure for a semi-annual inspection to verify the condition of the SQN, Units 1 and 2, Spent Fuel Pit Cooling Pump Enclosure caps. Inspections will continue until the design change is completed to document the SQN, Units 1 and 2, Spent Fuel Pit Cooling Pump Enclosure caps as a permanent plant feature.	August 31, 2012
5	TVA will issue and initially perform a procedure for a semi-annual inspection to verify the inventory, storage, physical protection, and condition of the materials and consumables required to implement the compensatory measure for the common SQN, Units 1 and 2, Diesel Generator Building. Inspections will continue until the compensatory measure is replaced by a permanent plant modification.	August 31, 2012

6	TVA will perform an analysis of the Design Basis Flood for SQN, Units 1 and 2, and WBN, Unit 1 that assumes a failure of a section of the HESCO flood barriers [sand baskets] and earthen embankments at Fort Loudon, Cherokee, Tellico, and Watts Bar dams.	August 31, 2012
7	<p>TVA's Nuclear Power Group will issue and initially perform procedures for semi-annual inspections of the temporary HESCO flood barriers installed at Cherokee, Fort Loudon, Tellico, and Watts Bar reservoirs. These inspections will:</p> <ul style="list-style-type: none"> <li>a. Ensure the temporary HESCO flood barriers remain in place and are not structurally degraded as specified by the manufacturer's written specifications and recommendations;</li> <li>b. Verify the inventory and staging of the material required to fill the gaps that exist; and</li> <li>c. Ensure that adequate physical security (e.g., fences and locks) is provided for the staged material against theft.</li> </ul> <p>These inspections will continue until a permanent modification is implemented to prevent overtopping the Cherokee, Fort Loudon, Tellico, and Watts Bar dams due to the Probable Maximum Flood.</p>	August 31, 2012
8	TVA will install a permanent plant modification to provide flood protection with respect to the Design Basis Flood level for WBN, Unit 1 Thermal Barrier Booster pumps and motors.	March 31, 2013
9	TVA will install a permanent plant modification to provide flood protection with respect to the Design Basis Flood level for WBN, Unit 1 Spent Fuel Pit Cooling pumps and motors.	March 31, 2013
10	TVA will install a permanent plant modification to provide flood protection with respect to the Design Basis Flood level for the common SQN, Units 1 and 2, Diesel Generator Building.	March 31, 2013
11	TVA will implement the design change to document the SQN, Units 1 and 2, Spent Fuel Pit Cooling Pump Enclosure caps as a permanent plant feature.	March 31, 2013
12	TVA will provide the results of the evaluation conducted in compliance with the National Environmental Policy Act (NEPA) Environmental Impact Statement (EIS) Status to define the permanent modifications to prevent overtopping the embankments of the Cherokee, Fort Loudon, Tellico, and Watts Bar dams.	April 30, 2013

13	TVA will implement permanent modifications to prevent overtopping of the embankments of the Cherokee Dam due to the Probable Maximum Flood. The final solution will be established in an evaluation conducted in compliance with the National Environmental Policy Act (NEPA) Environmental Impact Statement (EIS).	Based on the current NEPA EIS schedule, these permanent modifications are scheduled to be installed by October 31, 2015.
14	TVA will implement permanent modifications to prevent overtopping of the embankments of the Fort Loudon Dam due to the Probable Maximum Flood. The final solution will be established in an evaluation conducted in compliance with the National Environmental Policy Act (NEPA) Environmental Impact Statement (EIS).	Based on the current NEPA EIS schedule, these permanent modifications are scheduled to be installed by October 31, 2015.
15	TVA will implement permanent modifications to prevent overtopping of the embankments of the Tellico Dam due to the Probable Maximum Flood. The final solution will be established in an evaluation conducted in compliance with the National Environmental Policy Act (NEPA) Environmental Impact Statement (EIS).	Based on the current NEPA EIS schedule, these permanent modifications are scheduled to be installed by October 31, 2015.
16	TVA will implement permanent modifications to prevent overtopping of the embankments of the Watts Bar Dam due to the Probable Maximum Flood. The final solution will be established in an evaluation conducted in compliance with the National Environmental Policy Act (NEPA) Environmental Impact Statement (EIS).	Based on the current NEPA EIS schedule, these permanent modifications are scheduled to be installed by October 31, 2015.

J. Shea

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If safeguards information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21.

Sincerely,

Eric J. Leeds, Director  
Office of Nuclear Reactor Regulation

Docket Nos. 50-390, 50-327, and 50-328

cc: Distribution via ListServ

Enclosure:  
Commitments

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ADAMS ACCESSION NO: ML12165A527

\* via e-mail

OFFICE	NRR/LPL1-1/PM	NRR/LPL2-2/LA	NRR/LPL2-2/BC	Tech.Ed *	NRR/DE/D	NRR/DSS/D	NRR/DIRS/D
NAME	FLyon	BClayton	DBroaddus	CHsu	PHiland (MCheok for)	WRuland (JDavis for)	HNieh
DATE	06/21/2012	6/14/12	06/19/12	06/19/12	06/19/12	06/20/12	06/15/12
OFFICE	RII/DRP/D*	NRR Enf.Coord.	OGC	NRR/LPL1-1/BC	NRR/DORL/D	NRR/D	
NAME	RCroteau	MAshley	DRoth NLO	GWilson	MEvans	ELeeds	
DATE	06/19/12	06/19/12	06/20/12	06/21/12	06/21/12	06/25/12	

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