

**Proprietary Information Withhold from Public Disclosure Under 10 CFR 2.390(a)4.
This letter is decontrolled when separated from Enclosure 1.**



Tennessee Valley Authority, 1101 Market Street, Chattanooga, Tennessee 37402

CNL-15-126

September 11, 2015

10 CFR 50.90

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

Watts Bar Nuclear Plant, Unit 1
Facility Operating License No. NFP-90
NRC Docket No. 50-390

Subject: Notification of Revised Westinghouse Containment Integrity Analysis

- References:
1. NRC Letter to Westinghouse Electric Company, "Final Safety Evaluation for Westinghouse Electric Company (Westinghouse) Topical Report (TR) WCAP-17721-P, Revision 0, and WCAP-17721-NP, Revision 0, "Westinghouse Containment Analysis Methodology – PWR [Pressurized Water Reactor] LOCA [Loss-of-Coolant Accident] Mass and Energy Release Calculation Methodology,"" dated August 24, 2015 [ML15221A005]
 2. WCAP-17834-P, Revision 1, "Watts Bar Unit 1 WCOBRA/TRAC Long Term LOCA M&E and Containment Integrity Analysis," dated August 2015 [Westinghouse Electrical Company Proprietary Information]
 3. Letter from TVA to NRC, "Responses to NRC Acceptance Review Questions for Watts Bar Nuclear Plant Unit 1 Essential Raw Cooling Water and Component Cooling System License Amendment Request (TAC No. MF6376)," dated July 14, 2015 [ML15197A357]
 4. Letter from TVA to NRC, CNL-15-147), CNL-15-170, "Responses to NRC Audit Review Questions for Watts Bar Nuclear Plant Unit 1 Essential Raw Cooling Water and Component Cooling Water System License Amendment Request," dated August 28, 2015 [ML15243A044]

The purpose of this letter is to notify the NRC of the revised containment mass and energy (M&E) release data for Watts Bar Nuclear Plant (WBN) Unit 1. TVA has performed long-term Loss-of-Coolant-Accident (LOCA) Mass and Energy Release and Containment Integrity Analyses to support plant operation at Tennessee Valley Authority's (TVA's) WBN Unit 1. The M&E releases were calculated using the WCOBRA/TRAC LOCA M&E methodology as accepted by the Nuclear Regulatory Commission (NRC) in Reference 1. The revised containment M&E release data was provided to TVA by Westinghouse Electric Company (Westinghouse) in Reference 2 and includes an analysis of the containment response.

This submission is being made in response to a July 14, 2015 letter from TVA to NRC (Reference 3), stating that the WBN Unit 1 containment LOCA analysis is being analyzed using WCOBRA/TRAC to generate the M&E releases. The methodology used in Reference 2 has been reviewed and accepted for WBN Unit 1 in accordance with TVA's procedure for implementing the 10 CFR 50.59, "Changes, tests, and experiments," process. This revised data will be implemented for WBN Unit 1 in accordance with TVA's procedure for maintaining the Updated Final Safety Analysis Report (UFSAR).

The revised containment M&E release data uses current WBN Unit 1 specific information and more realistic models to support the containment integrity pressure response. The analyses used the WCAP-17721-P M&E release model (Reference 1) and yielded a maximum containment peak pressure of 9.36 pound per square inch gauge (psig) (relative to the containment internal design pressure of 13.5 psig) for the double ended pump suction break with a loss of offsite power and an assumed failure of an emergency diesel generator. The previously analyzed maximum containment peak pressure was 11.01 psig. The analysis assumed that the ice mass in containment was the analytical minimum ice mass of 2.26×10^6 pounds mass (lbm) used to support the current WBN U1 Technical Specifications (TS).

The WBN Unit 1 containment LOCA analysis was reanalyzed using WCOBRA/TRAC to generate the M&E releases. The containment response was calculated using LOTIC 1. The LOTIC 1 analysis incorporates the changes to heat exchanger heat removal based on the dual unit sharing of Component Cooling System Train B. The WCOBRA/TRAC analysis for WBN Unit 1 conforms to all the applicable limiting conditions described in the NRC Safety Evaluation Report (SER) for WCOBRA/TRAC. Two specific issues included in the WBN Unit 1 M&Es are: 1) the specific heat values for the Reactor Coolant System (RCS) metal mass are equal to or higher than the ASME values, and 2) PAD4 plus fuel thermal conductivity degradation are explicitly accounted for. Based on information contained in the WCOBRA/TRAC topical report, the current containment response in the WBN Unit 1 UFSAR is conservative and the current TS Surveillance Requirements 3.6.11.2 and 3.6.11.3 regarding total ice bed and per basket ice weights are acceptable and do not have to be increased. The revised WBN Unit 1 containment analysis addresses the Nuclear Safety Advisory Letters (NSALs), initial containment compartment temperature, RCS metal specific heat values, and heat exchanger performance. The analysis does not impact the seven responses provided in Reference 4, SCVB-RAI-1 through 7 to NRC questions regarding sublimation, ice basket weights, and a Tagami heat transfer correlation.

Enclosure 1 to this letter provides a copy of Reference 2. Enclosure 1 contains information that Westinghouse Electric Company considers to be proprietary in nature and subsequently, pursuant to 10 CFR 2.390, "Public inspections, exceptions, request for withholding," paragraph (a)4, it is requested that such information be withheld from public disclosure. TVA will provide a non-proprietary copy of Enclosure 1 and an affidavit supporting withholding of Enclosure 1 by October 2, 2015.

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Enclosure 2 contains the regulatory commitment discussed in this letter. Please contact Gordon Arent at 423-365-2004 regarding this submittal or to make arrangements to review Reference 2.

Respectfully,



J. W. Shea
Vice President, Nuclear Licensing

Enclosures:

1. WCAP-17834-P, Revision 1, "Watts Bar Unit 1 WCOBRA/TRAC Long Term LOCA M&E and Containment Integrity Analysis," dated August 2015, Westinghouse Electrical Company Proprietary Information
2. List of Commitments

cc (Enclosures):

NRC Regional Administrator – Region II
NRC Senior Resident Inspector – Watts Bar Nuclear Plant, Unit 1
NRC Senior Resident Inspector – Watts Bar Nuclear Plant, Unit 2
NRC Project Manager – Watts Bar Nuclear Plant, Unit 1
NRC Project Manager – Watts Bar Nuclear Plant, Unit 2

ENCLOSURE 2

List of Commitments

1. TVA will provide a non-proprietary copy of WCAP-17834-P, Revision 1 and an affidavit supporting withholding of WCAP-17834-P by October 2, 2015.