

September 4, 2014

Mr. James A. Gresham, Manager  
Regulatory Compliance and Plant Licensing  
Westinghouse Electric Company  
1000 Westinghouse Drive  
Cranberry Township, PA 16066

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION (RAI)  
RE: WESTINGHOUSE ELECTRIC COMPANY TOPICAL REPORT  
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," - SET 1 (CONFIRMATORY ANALYSIS)  
(TAC NO. MF1797)

Dear Mr. Gresham:

By letter dated May 3, 2013 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML13133A066), Westinghouse Electric Company (Westinghouse) submitted for U.S. Nuclear Regulatory Commission (NRC) staff review Topical Report WCAP-17721-P, Revision 0, and WCAP-17721-NP, Revision 0, "Westinghouse Containment Analysis Methodology - PWR LOCA Mass and Energy Release Calculation Methodology." Upon review of the information provided, the NRC staff has determined that additional information is needed to complete the review. The RAI questions (Set 1) of Confirmatory Analysis on WCAP-17721-P, Revision 0, and WCAP-17721-NP, Revision 0. On August 6, 2014, Debbie Sommer, Westinghouse, Project Manager, Software & Systems Technology, and I agreed that NRC staff will receive your response to the enclosed RAI questions by September 26, 2014.

If you have any questions regarding the enclosed RAI questions, please contact me at 301-415-3151.

Sincerely,

/RA/

Ekaterina Lenning, Project Manager  
Licensing Processes Branch  
Division of Policy and Rulemaking  
Office of Nuclear Reactor Regulation

Project No. 700

Enclosure: RAI Questions

Mr. James A. Gresham, Manager

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Westinghouse Electric Company  
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Enclosure: RAI Questions

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ADAMS Accession No.: ML14240A017 (Cover Letter with Enclosure Non-Prop); \*concurred via e-mail NRR-106

OFFICE	PLPB/PM	PLPB/LA	SNPB/BC*	PLPB/BC	PLPB/PM
NAME	ELenning	DBaxley	JDean	AMendiola	ELenning
DATE	09/01/2014	09/2/2014	09/04/2014	09/04/2014	09/04/2014

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**U. S. NUCLEAR REGULATORY COMMISSION (NRC) REQUEST FOR ADDITIONAL**

**INFORMATION (RAI) REGARDING THE REVIEW OF THE WESTINGHOUSE**  
**ELECTRIC COMPANY TOPICAL REPORT WCAP-17721-P,**  
**REVISION 0 AND WCAP-17721-NP, REVISION 0, “WESTINGHOUSE**  
**CONTAINMENT ANALYSIS METHODOLOGY - PRESSURIZED WATER**  
**REACTOR LOSS-OF-COOLANT ACCIDENT MASS AND ENERGY**  
**RELEASE CALCULATION METHODOLOGY” – SET 1**  
**(CONFIRMATORY ANALYSIS)**

Standard Review Plan Chapter 6.2.1.3 Section III, states the following:

The reviewer may perform confirmatory analyses of the mass and energy profiles. The purpose of the analysis is to confirm the predictions of the mass and energy release rates appearing in the safety analysis report, and to confirm that an appropriate break location has been considered in these analyses.

The NRC staff is performing such a confirmatory analysis and has the following RAI questions in support of that analysis:

For the cold leg and pump suction leg break simulations, provide the following:

1. Specify if the broken loop safety injection (SI) water goes directly to the sump pool, or mixes with the containment atmosphere and condenses vapor. If it mixes provide details on the mixing such as what percentage mixes and the basis for that value.
2. The initial SI reactor water storage tank (RWST) and accumulator water temperature. (2 values)
3. Specify the water volume held in the RWST at the beginning of the event. (1 value)
4. During switchover, is any period of no injection assumed? If so, how long is that period of no injection?
5. Provide plots of the liquid and vapor mass flow rates and liquid and vapor temperatures from both sides of the break as a function of time. (8 plots)
6. Provide a plot of the steam generator (SG) tube heat transfer power to the primary system for the broken and intact loops, include decay heat. (5 plots)
7. Provide plots of the SG pressure for the broken and intact loops. (4 plots)
8. Provide plots of the SG wall temperatures at 1, 4 and 10 foot elevations for the broken and intact loops as a function of time. (12 plots)

ENCLOSURE