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September 12, 2017

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

SUBJECT: REVISED FINAL SAFETY EVALUATION FOR WESTINGHOUSE ELECTRIC COMPANY TOPICAL REPORT WCAP-16996-P/WCAP-16996-NP, VOLUMES I, II, AND III, REVISION 1, "REALISTIC LOSS-OF-COOLANT ACCIDENT EVALUATION METHODOLOGY APPLIED TO THE FULL SPECTRUM OF BREAK SIZES" (TAC NO. ME5244)

Dear Mr. Gresham:

By letter dated November 23, 2010 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML103610186), Westinghouse Electric Company (Westinghouse) submitted for U. S. Nuclear Regulatory Commission (NRC) staff review Topical Report (TR) WCAP-16996-P/WCAP-16996-NP, Volumes I, II, and III, Revision 1, "Realistic Loss-Of-Coolant Accident [(LOCA)] Evaluation Methodology Applied to the Full Spectrum of Break Sizes (FULL SPECTRUM™ LOCA (FSLOCA™) Methodology)." As a result of the NRC staff requests for additional information, Westinghouse submitted Revision 1 of Volumes I, II, and III, by letters dated April 14, June 29, and October 1, 2015 (ADAMS Accession Nos. ML15112A365, ML15202A078, and ML15292A351), that supersedes TR WCAP-16996-P/WCAP-16996-NP, Volumes I, II, and III, Revision 0, "Realistic Loss-Of-Coolant Accident Evaluation Methodology Applied to the Full Spectrum of Break Sizes (FULL SPECTRUM™ LOCA (FSLOCA) Methodology)," for NRC review and approval. By letter dated March 14, 2016, an NRC draft safety evaluation (SE) regarding our approval of TR WCAP-16996-P/WCAP-16996-NP, Volumes I, II, and III, Revision 1, was provided for your review and comments. By letter dated April 5, 2016 (ADAMS Accession No. ML16131A660), Westinghouse commented on the draft SE. By letter dated October 16, 2016, NRC final safety evaluation (SE) regarding our approval of TR WCAP-16996-P/WCAP-16996-NP, Volumes I, II, and III, Revision 1, was issued. By letter dated November 30, 2016 (ADAMS Accession No. ML16343A232), Westinghouse submitted –A version of WCAP-16996-P/WCAP-16996-NP, Volumes I, II, and III, Revision 1. During the NRC staff's verification review of the Westinghouse –A version of WCAP-16996-P/WCAP-16996-NP, Volumes I, II, and III, Revision 1, Westinghouse contacted the NRC staff to request a closed meeting (held on February 27, 2017) to discuss an error identified by Westinghouse in the statistical treatment of Region II analysis in Westinghouse TR WCAP-16996-P/WCAP-16996-NP, Volumes I, II, and III, Revision 1. Following the meeting, the NRC staff reviewed supplemental information submitted by Westinghouse in the letter LTR-NRC-17-47 dated May 31, 2017 (ADAMS Accession No. ML17157B405). The results of the NRC staff's review are contained within the Appendix A added to the revised final SE. The revised final SE package includes the updated final SE based on the NRC staff's review of the Westinghouse supplemental information and updated NRC staff's disposition of Westinghouse's comments on the draft and revised final SE.

**NOTICE: Enclosure 2 and Attachment 2 transmitted herewith contains proprietary information. When separated from Enclosure 2 and Attachment 2, this document is decontrolled.**

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The NRC staff has found that TR WCAP-16996-P/WCAP-16996-NP, Volumes I, II, and III, Revision 1, is acceptable for referencing in licensing applications for use of the FSLOCA™ evaluation methodology described in WCAP-16996-P/WCAP-16996-NP, Volumes I, II, and III, Revision 1, for performing best-estimate analyses for the entire spectrum of LOCAs including small break LOCA, intermediate break LOCA, and large break LOCA scenarios in Westinghouse designed three- and four-loop pressurized-water reactor plants with cold leg injection only provided that the limitations and conditions stipulated in the Section 5.0 and applicability defined in Sections 1.3.3, 6.0, and Appendix A of the enclosed NRC revised final SE are met along with the proper documentation.

Our acceptance applies only to material provided in the subject TR. In accordance with the guidance provided on the NRC website, we request that Westinghouse publish accepted proprietary and non-proprietary versions of this TR within three months of receipt of this letter. The accepted versions shall incorporate this letter and the enclosed final SE after the title page. Also, they must contain historical review information, including NRC requests for additional information (RAIs) and your responses. The accepted versions shall include an "-A" (designating accepted) following the TR identification symbol.

As an alternative to including the RAIs and RAI responses behind the title page, if changes to the TR were provided to the NRC staff to support the resolution of RAI responses, and the NRC staff reviewed and approved those changes as described in the RAI responses, there are two ways that the accepted version can capture the RAIs:

1. The RAIs and RAI responses can be included as an Appendix to the accepted version.
2. The RAIs and RAI responses can be captured in the form of a table (inserted after the final SE) which summarizes the changes as shown in the approved version of the TR. The table should reference the specific RAIs and RAI responses which resulted in any changes, as shown in the accepted version of the TR.

If future changes to the NRC's regulatory requirements affect the acceptability of this TR, Westinghouse will be expected to revise the TR appropriately or justify its continued applicability for subsequent referencing. Licensees referencing this TR would be expected to justify its continued applicability or evaluate their plant using the revised TR.

Sincerely,

*/RA/*

Dennis C. Morey  
Chief Licensing Process Branch  
Division of Policy and Rulemaking Office  
of Nuclear Reactor Regulation

Project No. 700

Enclosures:

1. Final SE (Non-proprietary version)
2. Final SE (Proprietary version)

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**DISTRIBUTION:**

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NON-PUBLIC (Enclosure 2 and Attachment 2)

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**ADAMS Accession Nos.: Package: ML17207A124 ; Cover letter: ML17226A225;**

**Enc. 1: ML17226A309; Enc. 2: ML17213A252; Att. 1: ML17226A216; Att. 2: ML17226A218**

**\* via email NRR-106**

<b>OFFICE</b>	NRR/DPR/PLPB	NRR/DPR/PLPB*	DSS/SNPB	NRR/DPR/PLPB
<b>NAME</b>	ELenning	DHarrison	RLukes	DMorey
<b>DATE</b>	9/5/2017	8/31/2017	9/5/2017	9/12/2017

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