

July 24, 2008

Mr. James A. Gresham, Manager
Regulatory Compliance and Plant Licensing
Westinghouse Electric Company
P.O. Box 355
Pittsburgh, PA 15230-0355

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION RE: WESTINGHOUSE
ELECTRIC COMPANY (WESTINGHOUSE) TOPICAL REPORT (TR)
WCAP-16747-P "POLCA-T: SYSTEM ANALYSIS CODE WITH THREE-
DIMENSIONAL CORE MODEL" (TAC NO. MD5258)

Dear Mr. Gresham:

By letter dated June 25, 2008 (Agencywide Documents Access and Management System Accession No. ML081890192), Westinghouse submitted for U.S. Nuclear Regulatory Commission (NRC) staff review TR WCAP-16747-P. Upon review of the information provided, the NRC staff has determined that a Request for Additional Information (RAI) is needed to complete the review. On July 17, 2008, Ms. Anne Leidich, Westinghouse Licensing Engineer, and I agreed that the NRC staff should receive your responses to the enclosed RAI questions by August 29, 2008. If you have any questions regarding the enclosed RAI questions, please contact me at 301-415-1970.

Sincerely,

/RA/

George C. Bacuta, Project Manager
Special Projects Branch
Division of Policy and Rulemaking
Office of Nuclear Reactor Regulation

Project No. 700

Enclosure: RAI 8-7 Supplemental Request 1

cc w/encl:
Mr. Gordon Bischoff, Manager
Owners Group Program Management Office
Westinghouse Electric Company
P.O. Box 355
Pittsburgh, PA 15230-0355
gordon.c.bischoff@us.westinghouse.com

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ADAMS ACCESSION NO. ML081980775 No major changes from input* NRR-106

OFFICE	PSPB/PM	PSPB/LA	PSPB/BC
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DATE	7/24 /08	7/24 /08	7/24 /08

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REQUEST FOR ADDITIONAL INFORMATION (RAI) 8-7 SUPPLEMENTAL REQUEST 1

BY THE OFFICE OF NUCLEAR REACTOR REGULATION

FOR WCAP-16747-P, "POLCA-T: SYSTEM ANALYSIS CODE

WITH THREE-DIMENSIONAL CORE MODEL" (TAC NO. MD5258)

WESTINGHOUSE ELECTRIC COMPANY (WESTINGHOUSE)

PROJECT NO. 700

RAI 8-7 Supplemental Request 1

The Westinghouse response to U.S. Nuclear Regulatory Commission (NRC) RAI 8-7 dated June 25, 2008, is insufficient for the NRC staff to complete its review. The original response requested an analysis using a complex model with features common in reactor modeling. It is acceptable to provide an analysis with a simple model so long as it includes the features the NRC staff has previously requested in RAI 8-6. The NRC staff notes that the current model includes elbows, but lacks other important features.

It is acceptable to provide an analysis that is similar to the analysis performed and documented in the response with the following additional features: (1) a tee junction, this tee junction should not be at a right angle with the main fluid path and should reconnect to the closed loop, (2) plena for parallel flow paths, (3) at least two parallel flow paths in the model with different pressure drop characteristics, and (4) a flow path that is axially slanted.

This revised model should assist in the resolution of issues that the NRC staff has regarding several features of the momentum equation described in RAI 8-6, including: flow splitting at tee junctions, flow distribution for parallel flow paths, and the gravitational term. To assist the NRC staff in understanding the results please provide a nodalization diagram and provide plots of the flow rate coast down for several nodes in the loop, particularly near fluid cell junctions for the features described in aforementioned items (1) through (4).

ENCLOSURE