



Westinghouse
Electric Corporation

Energy Systems

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DCP/NRC1340
NSD-NRC-98-5664
Docket No.: 52-003

April 7, 1998

Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, DC 20555

ATTENTION: T. R. QUAY

SUBJECT: HYDRODYNAMIC LOADS IN THE AP600 IRWST

Dear Mr. Quay:

Enclosed (Enclosure 1) is Revision 1 of AP600 Document MT03-S3C-025, "Hydrodynamic Loads on Vessel Head Support Column and ADS Piping Induced by ADS Blowdown." In response to an NRC request this calculation describes the methodology and provides forcing functions for the hydrodynamic loads on the columns in the IRWST due to the blowdown of the automatic depressurization system through the spargers in the IRWST. The evaluation of the loads on the support columns is documented in a separate calculation.

This calculation supersedes the assumed uniform load of 7 psi used in a screening calculation to evaluate the support columns. The loads on the support columns using the hydrodynamic forcing functions are calculated for each of ten elements over the length of the columns. At each of the elements the force and moment of the column is smaller than the uniform load of 7 psi in the earlier calculation. Enclosure 2 is the conclusion portion of the load evaluation. These results show the loads on the columns for each of the forcing functions and provides a comparison with the loads based on uniform pressure assumptions. A nonproprietary version of Enclosure 1 is provided as Enclosure 3.

The Westinghouse Electric Company, a division of CBS Corporation ("Westinghouse"), copyright notice, proprietary information notice, application for withholding and affidavit are also attached.

This submittal contains Westinghouse proprietary information consisting of trade secrets, commercial information or financial information which we consider privileged or confidential pursuant to 10CFR2.790. Therefore, it is requested that the Westinghouse proprietary information attached hereto be handled on a confidential basis and be withheld from public disclosures.

This material is for your internal use only and may be used for the purpose for which it is submitted. It should not be otherwise used, disclosed, duplicated, or disseminated, in whole or in part, to any other person or organization outside the Commission, the Office of Nuclear Reactor Regulation, the Office of Nuclear Regulatory Research and the necessary subcontractors that have signed a proprietary non-disclosure agreement with Westinghouse without the express written approval of Westinghouse. Correspondence with respect to the application for withholding should reference AW-98-1229, and

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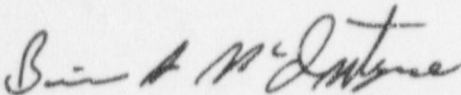
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April 7, 1998

should be addressed to Brian A. McIntyre, Manager of Advanced Plant Safety and Licensing, Westinghouse Electric Company, a division of CBS Corporation ("Westinghouse"), P.O. Box 355, Pittsburgh, Pennsylvania, 15230-0355.

Please contact Donald A. Lindgren on (412) 374-4856 if you have any questions concerning this transmittal.



Brian A. McIntyre, Manager
Advanced Plant Safety and Licensing

jml

Enclosure

cc: W. C. Huffman, NRC (3E)
L. Lois, NRC (w/Enclosure)
N. J. Liparulo, Westinghouse (w/o Enclosure)

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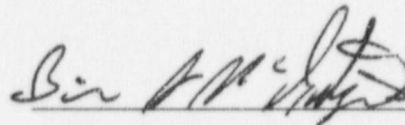
AFFIDAVIT

COMMONWEALTH OF PENNSYLVANIA:

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COUNTY OF ALLEGHENY:

Before me, the undersigned authority, personally appeared Brian A. McIntyre, who being by me duly sworn according to law, deposes and says that he is authorized to execute this Affidavit on behalf of Westinghouse Electric Company, a division of CBS Corporation ("Westinghouse"), and that the averments of fact set forth in this Affidavit are true and correct to the best of his knowledge, information, and belief:



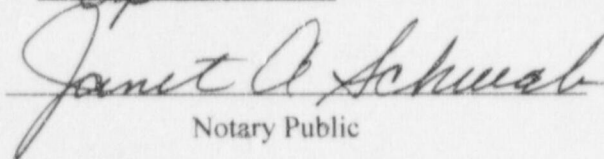
Brian A. McIntyre, Manager

Advanced Plant Safety and Licensing

Sworn to and subscribed

before me this 7th day

of April, 1998


Notary Public

