Westinghouse Electric Corporation
Water Reactor Divisions

PWR Systems Division
Box 355
Pittsburgh Pennsylvania 15230

NS-TMA-2023

January 12, 1979

Ref a: NS-TMA-1996 dated 12/1/78

Ref b: NS-CE-1737 dated 3/21/78

Mr. Olan Parr, Chief
Light Water Reactor Branch No. 3
Division of Project Management
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
7920 Norfolk Avenue
Bethesda, Maryland 20014

Dear Mr. Parr:

Please find enclosed:

1. One (1) copy of "Fuel Grid Impact Loads for Salem Unit No. 2" (Proprietary) as Attachment A.

2. One (1) copy of "Fuel Grid Impact Loads for Salem Unit No. 2" (Non-Proprietary) as Attachment B.

3. One (1) copy of a synopsis of WCAP 9283 (Non-Proprietary) as Attachment C.

Also enclosed are:

1. One (1) copy of Application for Withholding, AW-79-04.

2. One (1) copy of Application for Withholding, AW-77-27.

The purpose of this letter is to update and expand upon the information previously provided in the report, "Dynamic Analysis of the Reactor Coolant System for Loss-of-Coolant-Accidents: Salem Nuclear Generating Station I and II" which was transmitted by Reference (a). The information herein was discussed with representatives of Westinghouse and the NRC Core Performance Branch in a telecon on December 21, 1978.

Attachment A (proprietary) and Attachment B (non-proprietary) contain fuel grid load impact data which supplements the information previously provided in Reference (a). It should be recognized that grid impact loads are calculated using conservative analytical techniques and modeling assumptions. These conservatisms, which have been discussed in other dockets such as the North Anna FSAR (Appendix 5A, response to Question 5.71), include: (1) break opening time for postulated pipe ruptures is typically much longer (approximately 20 milliseconds) than the assumed 1 millisecond break opening time; (2) internal hydraulic loads inside the reactor vessel, which have a significant effect upon

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core grid impact loads are calculated using conservative hydro-elastic interaction methods; (3) break opening areas assumed in the analysis are much larger than the actual areas which the structure's rigidity will permit to develop; (4) structural models are based upon conservative modeling assumption; (5) the allowable grid impact value is the lower bound 95 x 95 value; etc. Considering these and other conservatisms, the calculated grid impact loads are higher than can be expected to occur. It is, therefore, unnecessary to apply arbitrary factors of safety to the loads resulting from the core evaluations.

The information provided in Table A-1 represents the grid impact loads for both seismic and blowdown forces calculated by the conservative methods described above. As demonstrated by analyses in WCAP-9283, "Integrity of the Primary Piping Systems of Westinghouse Nuclear Power Plants during Postulated Seismic Events," transmitted to the NRC by Reference (b), a seismic event will not cause a primary coolant system pipe rupture. Therefore, the impact loads presented in Table A-1 do not require combination to assure adequate conservatism in the plant design. For your information, a synopsis of WCAP-9283 is provided in Attachment C.

This submittal contains proprietary information of Westinghouse Electric Corporation. In conformance with the requirements of 10CFR2.790, as amended, of the Commission's regulations, we are enclosing with this submittal, an application for withholding from public disclosure and an affidavit. The affidavit sets forth the basis on which the information may be withheld from public disclosure by the Committee.

Correspondence with respect to the application for withholding should reference AW-79-04 and should be addressed to R. A. Weisemann, Manager, Regulatory and Legislative Affairs, Westinghouse Electric Corporation, P.O. Box 355, Pittsburgh Pennsylvania, 15230.

T. M. Anderson, Manager
Nuclear Safety Department

J. J. McInerney/W. T. Bogard
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Attachments

cc: R. J. Mattson, Chief
NRC Division of Systems Safety