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 SCHWENCER, A. Licensing Branch 2

SUBJECT: Informs of option selected to justify use of square root of sum of squares method for combining dynamic responses due to seismic & hydrodynamic loads, per NRC 820722 request. Generation of cumulative distribution functions chosen.

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Generation of cumulative distribution functions chosen.
 research & hydrodynamic loading of WRC 85055 request,
 sum of squares method for comparing dynamic responses due to
 SUBJECT: Inform of option selected to justify use of square root of

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Washington Public Power Supply System

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Docket 50-397

November 3, 1982
G02-82-886

Mr. A. Schwencer, Chief
Licensing Branch No. 2
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Schwencer:

Subject: NUCLEAR PROJECT NO. 2
SRSS COMBINATION OF DYNAMIC RESPONSES

References: (a) Letter G02-82-630, G. D. Bouchey (Supply System) to
A. Schwencer (NRC), dated July 22, 1982
(b) Letter from A. Schwencer (NRC) to R. L. Ferguson
(Supply System), dated September 16, 1982

Reference (b) advised the Washington Public Power Supply System that reference (a) did not provide sufficient justification to the NRC for the use of the SRSS method for combining dynamic responses due to seismic and hydrodynamic loads. Several options were proposed in reference (b) to provide a justification basis for the SRSS method which would be acceptable to the NRC. Of the options presented, we have chosen to generate cumulative distribution functions (CDF's) for SRV and seismic loadings and demonstrate that the Newmark-Kennedy Criterion 2 is satisfied (option 2 in reference (b)).

Confirming discussions with Dr. Hou of the Mechanical Engineering Branch, this study will be confined to response of the steel containment in the drywell region, because there the potential deviation between the SRSS method and absolute sum method for combining dynamic responses to SRV and seismic loading is greatest. Response of the RPV and internals will not be evaluated since the major structural support elements for the RPV (i.e., pedestal, and seismic stabilizer truss tied to biological shield wall) are similar to other Mark II plants evaluated in NEDE 24010-P. Also, drywell piping systems will not be separately evaluated since the study performed for the shell should demonstrate whether containment response to multiple dynamic loads (and hence, input motions to piping systems through supports and penetrations) will be significantly different in a steel containment than in a concrete containment.

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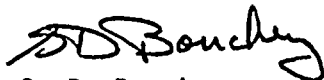
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Mr. A. Schwencer
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A final report summarizing results of these studies will be submitted to the NRC by February 15, 1983.

Very truly yours,



G. D. Bouchey
Manager, Nuclear Safety and Licensing

EAF:kjt

cc: R. Auluck - NRC
WS Chin - BPA
R. Feil - NRC Site
A. Toth - NRC Site

