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 FACIL: 50-397 WPPSS Nuclear Project, Unit 2, Washington Public Power 05000397
 AUTH. NAME: BOUCHEY, G.D. AUTHOR AFFILIATION: Washington Public Power Supply System
 RECIP. NAME: SCHWENCER, A. RECIPIENT AFFILIATION: Licensing Branch 2

SUBJECT: Responds to telephone request for info re analytical models used to predict forcing functions & response of drywell-to-wetwell vacuum breakers. Final rept to be provided following completion of vacuum breaker mod.

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1. The Commission has received information from the Government of the United States of America that the United States has provided military assistance to the Government of the United States of America.

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Washington Public Power Supply System

P.O. Box 968 3000 George Washington Way Richland, Washington 99352 (509) 372-5000
December 9, 1982
G02-82-977
Docket No. 50-397

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
CONTAINMENT VACUUM BREAKER MODELS

The following is provided in response to a telephone request for information by R. Auluck and F. Eltawila, concerning analytical models used to predict forcing functions and response of the WNP-2 drywell-to-wetwell vacuum breakers. The pressure transients due to chugging and pool swell, defined in General Electric Co. Report NEDE-22178-P and General Electric Co. letter MFN-098-82, respectively, are used as design basis forcing functions in the analysis of WNP-2 vacuum breaker response. The dual disc vacuum breaker model described in NEDE-22178-P is also used in this analysis with valve characteristics representative of the WNP-2 Anderson-Greenwood valve, and with the following modifications:

- (a) Damping of the valve discs due to shock absorbing devices added to the WNP-2 vacuum breakers is included in the dual disc model;
- (b) The hydrodynamic torque (as a function of valve opening angle) used in the dual disc model for WNP-2 is less conservative than the design value provided in NEDE-22178-P.

Following completion of the WNP-2 vacuum breaker modification, and testing to evaluate response of the modified valve, a final report will be provided to the NRC documenting the analysis and test results, and justifying the valve characteristics used to predict the WNP-2 vacuum breaker response.

Very truly yours,

G. D. Bouchey
for G. D. Bouchey

Manager, Nuclear Safety and Regulatory Programs

EAF:kjt

cc: R. Auluck - NRC
WS Chin - BPA
R. Feil - NRC Site
A. Billanin - Continuum Dynamics, Inc.
JJ Verderber - B&R NY

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