



Washington Public Power Supply System
A JOINT OPERATING AGENCY



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Docket Nos. 50-508 and 50-509

June 12, 1979
G03-79-1083

TIC

Mr. R. H. Engelken, Director
U.S. Nuclear Regulatory Commission
Region V
Suite 202, Walnut Creek Plaza
1990 N. California Boulevard
Walnut Creek, CA 94596

Subject: WPPSS NUCLEAR PROJECTS NOS. 3 & 5
IE BULLETIN 79-07

Reference: Letter, R. H. Engelken to N. O. Stand, April 14, 1979.

Dear Mr. Engelken:

WPPSS has reviewed the subject IE Bulletin and submits the following as a partial response for the BOP portion of its Nuclear Projects Nos. 3 and 5.

Item (1): Identify which, if any of the methods specified below were employed or were used in computer codes for the seismic analysis of safety-related piping in your plant and provide a list of safety systems (or portions thereof) affected:

Response Spectrum Model Analysis:

- a. Algebraic (considering signs) summation of the codirectional spatial components (i.e., algebraic responses caused by each of the components of earthquake motion at a particular point in the mathematical model).
- b. Algebraic (considering signs) summation of the codirectional intermodal responses (i.e., for the number of modes considered, the maximum values of response for each mode summed algebraically).

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Time History Analysis:

- a. Algebraic summation of the codirectional maximum responses or the time dependent responses due to each of the components of earthquake motion acting simultaneously when the earthquake directional motions are not statistically independent.

Response (1): None of the above methods were used, or will be used, for WNP-3/5.

Item (2): Provide complete computer program listings for the dynamic response analysis portions for the codes which employed the techniques identified in Item (1) above.

Response (2): Since none of the methods identified in Item (1) were used, this item is not applicable to WNP-3/5.

Item (3): Verify that all piping computer programs were checked against either piping benchmark problems or compared to other piping computer programs. You are requested to identify the benchmark problems and/or the computer programs that were used for such verifications or describe in detail how it was determined that these programs yielded appropriate results (i.e., gave results which corresponded to the correct performance of their intended methodology).

Response (3): The current version of PIPESTRESS 2010 computer code, which is being used for analysis of the WNP-3/5 safety-related piping systems in Ebasco scope, has been compared with solutions to sample programs generated by similar, independently written programs in the public domain, i.e., ANSYS and PIPESD. This comparison, which is documented in the WNP-3 PSAR Appendix 3.9.C, shows the PIPESTRESS 2010 results to be essentially the same as results generated by the above programs and by hand calculations.

Item (4): If any of the methods listed in Item (1) are identified, submit a plan of action and an estimated schedule for the re-evaluation of the safety-related piping, supports, and equipment affected by these analysis techniques. Also provide an estimate of the degree to which the capability of the plant to safely withstand a seismic event in the interim is impacted.

Response (4): Since none of the methods listed in Item (1) were identified, Item (4) is not applicable to WNP-3/5.

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WPPSS respectfully requests an extension of the response required date to June 30, 1979 for the balance of the NSSS response.

Should you have any questions with regard to this response, please contact me.

Very truly yours,

D L Renberger

D. L. RENBERGER
Assistant Director -
Technology

DLR:ADCK:ct

cc: D. Smithpeter, BPA
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