

Babcock & Wilcox

a McDermott company

Nuclear Power Generation Division

3315 Old Forest Road
P.O. Box 1260
Lynchburg, Virginia 24505
(804) 384-5111

March 12, 1981

Mr. John S. Berggren
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dear Mr. Berggren:

Enclosed are 22 copies of B&W Generic Report BAW-1511P, "Irradiation-Induced Reduction in Charpy Upper-Shelf Energy of Reactor Vessel Welds." This report is being submitted, at the Staff's request, by B&W on behalf of the B&W Owners Group's Reactor Vessel Materials Subcommittee. This subcommittee is comprised of the following utilities:

- Sacramento Municipal Utility District (Rancho Seco)
- Arkansas Power & Light (ANO-1)
- General Public Utilities (TMI-1/2)
- Florida Power Corp. (Crystal River 3)
- Duke Power Co. (Oconee 1/2/3)

One of the major goals of the Owners Group Program has been to determine the period of time the 177-fuel assembly reactor vessels can operate without violating the 50 ft-lb C_vUSE threshold.

The attached report describes the implementation of predictive methodology developed in this program to determine the service life to reach the 50 ft-lb C_vUSE threshold for each of the Owners Group reactor vessels. It was also necessary to establish a means of predicting the pre-service C_vUSE of each of the beltline region reactor vessel welds. The available C_vUSE data obtained from B&W-manufactured, early vintage welds (high-Cu MnMoNi/Linde 80 submerged-arc) were analyzed collectively for this purpose.

Based on the developed methods, all Owners Group reactor vessel welds are predicted to exhibit a C_vUSE of more than 50 ft-lb for 16 or more years. Completion of work in the other phases of the B&W Owners Group Program will provide the justification for plant operation for the 40-year design life.

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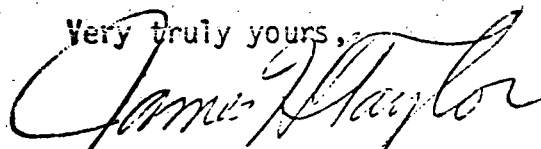
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Portions of this report contain information developed solely by B&W on behalf of the B&W Owners Group. The development methodology contained in this report is not available in the open literature and disclosure would provide knowledgeable individuals with information which might impair B&W's competitive position. This information has been held confidential within the company and has not been disclosed to any other person except on a proprietary basis. A non-proprietary version of this report will be supplied in the near future.

If you have any questions, we would be glad to discuss them at your convenience.

Very truly yours,

A handwritten signature in cursive script, reading "James H. Taylor".

James H. Taylor
Manager, Licensing

JHT:vp

cc: R. B. Borsum