Babcock & Wilcox

Power Generation Division

P.O. Box 1260, Lynchburg, Va. 24505
Telephone: (703) 384-5111

October 16, 1972

Mr. A. Schwencer
Chief, PWR Branch 4
Directorate of Licensing
U.S. Atomic Energy Commission
Washington, D. C. 20545

Dear Mr. Schwencer:

In response to your informal request for information on the method of reactor coolant pump support, B&W submits the following:

During normal operation of all the B&W 177 fuel assembly plants, the reactor coolant pump and motor sets are partially supported by dead weight hangers. About one-half of the total weight of the pump and motor set is carried by these hangers, and the remainder is carried by the piping itself. The effect of this weight is included in the stress analysis of the piping, which meets the requirements of ANSI B31.7.

In addition to the dead weight supports, seismic snubbers are also attached to the pump-motor set as required to maintain the piping stresses below the specified levels. The need for seismic restraints, of course, varies with the individual site seismic criteria. The effects of the restraints were included in the piping seismic stress analyses and the requirements as to location, number, and size of snubbers specified to the Architect/Engineer (who supplies them).

During initial installation of the reactor coolant pump motor, the dead weight hangers do not have to be employed. The reactor coolant piping is sufficiently strong to carry the full weight of both pump and motor, in the absence of pressure and temperature in the loop and provided both suction and discharge legs are already welded to the pump casing. For these conditions, the maximum stress in the piping occurs at the end of the 45° elbow on the steam generator discharge piping (pump suction). At that point, the primary bending stress is 18,500 psi compared to a material yield strength of 38,000 psi.

Very truly yours,

BABCOCK & WILCOX COMPANY
Nuclear Power Generation

for James F. Mallay
Manager, Licensing

JFM/db

2210 104

7911180 539