



Omaha Public Power District

1623 HARNEY • OMAHA, NEBRASKA 68102 • TELEPHONE 538-4000 AREA CODE 402

June 30, 1980

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Reference: Docket No. 50-285

Dear Mr. Denton:

Subject: Evaluation of Asymmetric Loads

The purpose of this letter is to update the Commission concerning the status of the asymmetric loads evaluation for the Fort Calhoun Station. In January of 1978, the District was requested by the NRC to reevaluate reactor coolant system components and supports subject to asymmetric pressure loads following postulated pipe ruptures. Following several meetings with the NRC staff in August of 1978, the District provided its detailed plans for responding to that request. During the ensuing period, a number of meetings have been held with members of the staff to keep them apprised of the interim results of our progress. In February of this year, the District provided the staff with an interim report on the evaluation completed up to that time. At our most recent meeting with the staff on June 10, 1980, the staff was advised that our calculations to date showed acceptable results with the possible exception that design loads for the primary shield wall may be exceeded.

Several approaches have been considered to substantiate the District's position that a safety problem does not exist. The first approach, which involved dynamic calculations of the steel reinforced concrete primary shield wall, was rejected due to the highly complex state of the art calculations required. A second approach considered the feasibility of attaching restraints to lugs welded to the reactor vessel cold leg piping and restrained to the adjacent concrete shield wall, thus limiting the maximum area of the postulated pipe break. Because of the estimated high cost associated with this approach, an excess of \$26,000,000, and the estimated high radiation exposure that would result during installation, approximately 7,200 man rem, as well as the resulting reduction in safety margin of reactor coolant system piping to fatigue failure from welding, this second approach was also rejected.

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At the present time it appears that the most reasonable approach toward resolving this issue is a method involving the use of fracture mechanics analysis to demonstrate that reactor coolant system piping will first leak at a detectable rate well before a double-ended failure would occur. It is the District's position that no technical basis exists for rejecting this type of approach. A detailed discussion of this plan will be provided as soon as it is finalized, but no later than September 1, 1980. Based on the premise that the approach the District plans to pursue is acceptable, a complete report describing the analysis will be provided by December, 1980.

We would appreciate any comments or questions which you may have concerning the approach that we intend to pursue.

Sincerely,



W. C. Jones
Division Manager
Production Operations

WCJ/KJM/RLJ/TJM:ca1

cc: LeBoeuf, Lamb, Leiby & MacRae
1333 New Hampshire Avenue, N. W.
Washington, D.C. 20036