



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

June 29, 1979

NRC POR

Docket No.: 50-313

Mr. William Cavanaugh, III
Vice President, Generation
and Construction
Arkansas Power & Light Company
P. O. Box 551
Little Rock, Arkansas 72203

Dear Mr. Cavanaugh:

By letter dated April 20, 1979, we provided our Safety Evaluation supporting stud tensioning at 70°F at Arkansas Nuclear One, Unit No. 1 (ANO-1). In conducting our review for this issue we identified two issues which require our attention. They are the following:

1. In your letter of August 18, 1978, you indicated that efforts were being formulated to determine the actual chemistry of the ANO-1 closure head weld. We request the plans for this task or otherwise report if the job has been abandoned.
2. In addition to the stud tensioning at 70°F problem there are other safety analyses involving atypical weld metal to be considered. Other plant operations, such as normal operation, heat-up, cool-down, hydrostatic testing (ASME Code requirement), etc., also are subject to fracture prevention limitations. Charpy tests of atypical weld metal showed that the ductile upper shelf occurred at about 300°F where the average absorbed energy was about 81 ft.-lb. Those results suggest that there is no need to impose additional operating limitations on ANO-1 to prevent failure of the reactor pressure vessel. However, as was the case with the stud tensioning problem, there is greater technical confidence in showing that there is an adequate safety margin by virtue of a fracture mechanics analysis using experimental fracture toughness data obtained at the temperature of interest. Therefore, we request you obtain and report elevated temperature K_{IC} (or J_{IC}) data.

We request a schedule for your response which will provide the requested data as soon as practicable.

Sincerely,

Robert W. Reid, Chief
Operating Reactors Branch #4
Division of Operating Reactors

cc: See next page

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