

Omaha Public Power District
1623 Harney Omaha, Nebraska 68102
402/536-4000

December 30, 1983
LIC-83-321

Mr. James R. Miller, Chief
U. S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Licensing
Operating Reactors Branch No. 3
Washington, D.C. 20555

Reference: Docket No. 50-285

Dear Mr. Miller:

Fort Calhoun Station
Thermal Shield

In a telephone conversation on December 12, 1983 between E. G. Tourigny of your staff and K. J. Morris of Omaha Public Power District, it was requested that the District provide information concerning reactor operation at nominal operating temperature but less than 20% power.

The estimated number of hours which the Fort Calhoun reactor has been operated at nominal operating temperature but less than 20% power is 5,856 to date. This estimate was prepared by Combustion Engineering using the same methodology as was applied in preparing a similar history for the St. Lucie Unit No. 1.

At the time of the thermal shield visual inspection conducted during the 1983 refueling outage, the Fort Calhoun unit had accumulated approximately 5,550 hours of operation at nominal operating temperature but less than 20% power. During the inspection, there were no signs of deterioration of the thermal shield or its supports. The period of operation at less than 20% power prior to the inspection is approximately 32% greater than that at which it is theorized the St. Lucie unit had experienced prior to suffering a significant loss of preload on the thermal shield positioning pins.

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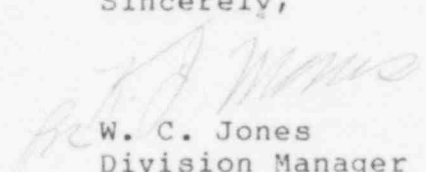
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Mr. James R. Miller
LIC-83-321
Page Two

Although the basic design of the St. Lucie and the Fort Calhoun reactors is similar, caution must be exercised in comparing their operation. The Fort Calhoun thermal shield and core support barrel experience lower reactor coolant flow velocities than plants where thermal shield degradation has been observed. Additionally, the radius of the core support barrel and thermal shield are smaller at Fort Calhoun and the annulus between these components is also smaller. This results in lower anticipated mechanical loads induced by the hydraulic forces in the reactor vessel.

At the present time, the District is pursuing methods to analytically quantify differences between Fort Calhoun and the other plants. This should then yield a measure of the design margins present at Fort Calhoun.

Sincerely,


W. C. Jones
Division Manager
Production Operations

WCJ/DJM:jmm

cc: Mr. J. E. Gagliardo, Director
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Mr. E. G. Tourigny, Project Manager
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Inspector