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CP&L

Carolina Power & Light Company

December 3, 1976

FILE: NG-3514(R) SERIAL: NG-76-1563

Director of Nuclear Reactor Regulation
ATTN: Robert W. Reid, Chief
Operating Reactors Branch No. 4
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

RECEIVED DEC 6 1976 U.S. NUCLEAR REGULATORY COMMISSION Mail Section

H. B. ROBINSON STEAM ELECTRIC PLANT UNIT NO. 2
DOCKET NO. 50-261
FACILITY OPERATING LICENSE NO. DPR-23
RESPONSE TO ORDER - ECCS REEVALUATION

Dear Mr. Reid:

The attachment to this letter provides justification that the previously approved small break ECCS analyses for the Exxon fuel contained in the H. B. Robinson Plant are not significantly affected by changes in the upper head temperature, steam generator tube plugging and low head pump flow.

It is our understanding that this submittal provides the necessary information to allow the Staff to complete their evaluation of the ECCS analyses submitted in compliance with the Order for Modification of License of August 27, 1976.

As required by Commission regulations, this submittal is signed under oath by a duly authorized officer of the Company.

Yours very truly,

E. E. Utley
Vice President
Bulk Power Supply

MFP/dkm
Attachment

Sworn to and subscribed before me this 3rd day of December, 1976.

Franklin Murray
Notary Public

FRANKLIN MURRAY NOTARY PUBLIC WAKE COUNTY, N. C.

My Commission Expires October 4, 1981

50-261
Appli.

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336 Fayetteville Street • P. O. Box 1551 • Raleigh, N. C. 27602

E. E. UTLEY TO R. W. REID LETTER DATED DECEMBER 3, 1976

Attachment

The effects of changing the upper head temperature, the percentage of plugged steam generator tubes, and the effect of correcting the error in low head pumped flow does not significantly affect the results of the small break analyses previously submitted in XN-75-57, Revision 1. The reasons for this are enumerated below.

The increased value of upper head temperature is not a significant effect because of the decreased pressure differential between the upper head volume and the remainder of the primary system. Thus, during the transient, the pressure decay and core flow will not be significantly affected in comparison with the large break results.

The change in the percentage of plugged steam generator tubes is not a significant effect because loop flows during a small break transient are less than those during a large break transient. Thus, the effect of plugging on loop flow will be less than that shown in the large break analysis.

The correction to the low head pump flow is not a significant effect because the accumulator flow and high head pump injection dominates the flow into the reactor coolant system during the time that the peak clad temperature is approached. In addition, the low head flow does not become significant until after the peak clad temperature for the worst break has been reached and the temperature transient is turned around.

In addition, the worst small break previously analyzed had a margin of 743°F to the limit of 2200°F, assuming a total core peaking factor of 2.30. Therefore, based on the discussions above as they relate to previously calculated results of these effects in large break analyses, the peak clad temperature change for the worst small break will not be significant. The peaking factor limit reduction to 2.20 based on the large break analysis results previously submitted assures additional conservatism for the small break analysis.