Omaha Public Power District

1623 HARNEY * OMAHA, NEBRASKA 68102 * TELEPHONE 536-4000 AREA CODE 402

May 20, 1982
LIC-82-199

Mr. Robert A. Clark
U. S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Licensing
Operating Reactors Branch No. 3
Washington, D.C. 20555

References: See attached list

Dear Mr. Clark:

Subject: Fort Calhoun Station Cycle 8 Reload Application Schedule

In response to concerns associated with pressurized thermal shock (PTS) of the Fort Calhoun Station reactor pressure vessel, the District committed to implementation of a low leakage fuel management scheme during the next fuel cycle (Cycle 8) in Reference 1. The Cycle 8 core is designed to reduce the fluence to critical reactor pressure vessel longitudinal welds by a factor of two. Because the Cycle 8 fuel, supplied by Exxon Nuclear Corporation, is currently being manufactured and cannot readily be modified to include burnable shims, it will be necessary to increase the allowable one pin peaks. To accommodate these increased one pin peaks, the District has chosen to perform analyses which utilize the CE setpoint and safety analysis methodology.

The proposed Cycle 8 methodology is essentially the same as that utilized in the Fort Calhoun Cycle 5 reload which was approved by the NRC in Reference 2. The major difference between the Cycle 8 and Cycle 5 methodologies will be the utilization of the TORC and CETOP computer codes and the CE-1 critical heat flux correlation rather than the COSMO-INTHERHMIC computer code and the W-3 critical heat flux correlation. Other analyses will be performed in a manner analogous to the methodology utilized for Cycle 5.

Steady-state DNBR analyses for Cycle 8 will be performed using the TORC computer code described in Reference 3, the CE-1 critical heat flux correlation described in Reference 4, and the simplified modeling methods described in Reference 5. A variant of TORC called CETOP, optimized for simplified modeling applications, will be used to develop the "design thermal margin model" described generically in Reference 5. Details of CETOP are discussed in Reference 6. A similar discussion of CETOP methodology was submitted on the Arkansas Nuclear One Unit 2 (ANO-2) docket in Reference 7 and on the Calvert Cliffs docket in References 8 and 9. CETOP was approved for use on ANO-2 in Reference 10.

The Technical Specification changes will be supported by the appropriate safety analyses. The safety analyses will also be submitted as an update to the appropriate sections of the FSAR in the next regular update following approval of the reload. This type of submittal will identify previous limiting analyses and reference cycle(s).

The District intends to submit the necessary Technical Specification changes and supporting analyses by November 1, 1982 and requests that the NRC complete the review by February 1, 1983 to support Cycle 8 operation.

Sincerely,

W. C. Jones
Division Manager
Production Operations

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

DOCKET NO. 50-285

ATTACHMENT TO LETTER TO ROBERT A. CLARK, NRC
DATED MAY 20, 1982

References:

1) Letter, W. C. Jones to T. M. Novak, LIC-82-029, January 18, 1982

2) Letter, R. W. Reid to T. E. Short, December 5, 1978

3) CENPD-161-P, "TORC Code, a Computer Code for Determining the Thermal Margin of a Reactor Core," July 1975

4) CENPD-162-P-A (Proprietary) and CENPD-162-A (Non-proprietary), "Critical Heat Flux Correlation for CE Fuel Assemblies with Standard Spacer Grids Part 1, Uniform Axial Power Distribution," April 1975

5) CENPD-206-P, "TORC Code, Verification and Simplified Modeling Methods," January 1977

6) Letter from A. E. Lundvall, Jr. (BG&E) to R. A. Clark (NRC), "Response to Question on SCU, CEN-124CB," dated June 2, 1981

7) Letter, D. C. Trimble (AP&L) to Director, NRR, "CETOP-D Code Structure and Modeling Methods, Response to First Round Questions on the Statistical Combination of Uncertainties Program (CEN-139 (A)-P)" July 15, 1981

8) CEN-124 (B)-P Part 2, "Response to First Round Questions on the Statistical Combination of Uncertainties Program: CETOP-D Code Structure and Modeling Methods," May 1981

9) Letter, A. E. Lundvall, Jr. (BG&E), to R. A. Clark (NRC), "Sixth Cycle License Application," February 17, 1982.

10) Final Safety Evaluation Report Supporting Facility Operating License Amendment No. 26 on Docket No. 50-368 and Operation of ANO-2 During Cycle 2, July 21, 1981