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

June 13, 1985
LIC-85-237

Mr. E. J. Butcher, Acting Chief
Office of Nuclear Reactor Regulation
Division of Licensing
U. S. Nuclear Regulatory Commission
Washington, DC 20555

References: (1) Docket No. 50-285

(2) "Omaha Public Power District Nuclear Analysis Reload Core Analysis Methodology Overview," OPPD-NA-8301-P, September 1983.

(3) "Statistical Combination of Uncertainties," CENPD-257(O)-P, November, 1983.

(4) "Acceptance for Referencing of Licensing Topical Report CENPD-207, CE Critical Heat Flux: Critical Heat Flux Correlation for CE Fuel Assemblies with Standard Spacer Grids; Part 2 Non-Uniform Axial Power Distribution," letter C. E. Thomas (NRC) to A. E. Scherer (CE), dated November 2, 1984.

(5) Letter OPPD (R. L. Andrews) to NRC (James R. Miller), dated March 6, 1985, "Fort Calhoun Cycle 10 Reload."

Dear Mr. Butcher:

Core Reload Methodology Changes
for Cycle 10

The Omaha Public Power District is currently performing the Cycle 10 core reload safety analysis for the Fort Calhoun Station. The Cycle 10 core is designed to further reduce the flux to the reactor vessel beltline welds to minimize the RT_{NDT} shift. The additional flux reduction will be accomplished by use of part length poison rods inserted in peripheral assemblies located near the critical weld locations. Use of the poison rods (and the associated flux shifts) result in increases in both the total integrated radial peaking factor (F_RT) and the total unrodded radial peaking factor ($F_{xy}T$). To accommodate the increased radial peaking, improvements in the monitoring systems are required. These improvements consist of converting the Thermal Margin/Low Pressure (TM/LP) calculators to the "standard system" type units which include axial shape dependency and the addition of a Mini-CECOR/Better Axial Shape Selection System

Add: RegFile 1 ltr/encl IE26 1/25 Change: LPDR PDR NSIC 24X } 1 ltr only

(BASSS) for incore monitoring of the DNB and Linear Heat Rate Limiting Conditions for Operation. The above modifications and fuel system design changes require revisions to the District's approved reload methodology contained in the overview topical report, Reference (2), which were previously identified in Reference (5).

The attached revision of Reference (2) discusses Mini-CECOR/BASSS which will be installed on the District's ERF computer system. As previously discussed with members of your staff, the District is in the process of moving "plant computer" functions from the PRODAC-250 computer to the ERF computer. All inputs necessary for the execution of Mini-CECOR/BASSS have been or will be transferred to the ERF computer prior to Cycle 10 startup with one exception. Problems have arisen with transferring the primary CEA position indication system currently installed on the PRODAC-250. The District is assessing utilizing the secondary CEA position indication system (This is the reed switch system which is the primary CEA position indication system for most CE-built NSSS) for this function. This system is also utilized by the rod block function. If it is not possible to install the lead bank secondary CEA position indication system on the ERF computer, District personnel will manually enter the lead bank CEA position into the ERF computer any time the position of the lead bank is changed and Mini-CECOR/BASSS is being utilized to monitor the DNB Limiting Condition for Operation (LCO). The District considers manual entry of CEA position to be satisfactory for this method of DNB LCO monitoring because Fort Calhoun Station operates with all CEA's withdrawn from the core approximately 90% of the time Mini-CECOR/BASSS would be utilized for DNB LCO monitoring (based on an assessment of reactor operation during Cycles 8 and 9) and the fact that the current DNB LCO parameters of cold leg temperature, pressurizer pressure and axial shape index are manually monitored once per shift [Technical Specification 3.10(7)].

In its methodology for thermal-margin analysis the District utilizes the CE-1 Critical Heat Flux Correlation for 14 x 14 CE type fuel. The NRC has recently issued a Safety Evaluation Report, Reference (4), for the CE Topical Report CENPD-207, "CE Critical Heat Flux: Critical Heat Flux Correlation for CE Fuel Assemblies with Standard Spacer Grids; Part 2 Non-Uniform Axial Power Distribution," which approves a 14 x 14 CE-1 correlation limit of 1.15. The District is modifying its reload methodology to reflect the approval of the 1.15 limit.

Some of the above changes have an impact on the District's Statistical Combination of Uncertainties (SCU) methods and topical report [Reference (3)]. The SCU program will be updated to reflect the changes in the TM/LP calculators and the addition of the Mini-CECOR/BASSS algorithm. In addition, the approved 14 x 14 CE-1 correlation limit of 1.15 will be used as the new base value in the SCU analysis. All of the analysis in support of the SCU program will be performed by Combustion Engineering personnel at their Windsor, Connecticut facility. Since no changes to the approved SCU methodology will be made, the update of the SCU topical report will be included in the submittal to the Commission of the Cycle 10 Core Reload Safety Analysis.

The Cycle 10 setpoints will be generated based on these methodology changes. Combustion Engineering will provide revised setpoint manuals and train appro

priate District personnel on the methodology changes. The training will be completed before District personnel develop the Cycle 10 setpoints.

The reload methodology changes affect the methodology overview topical, Reference (2). Attachment 1 is the revised methodology overview topical, OPPD-NA-8301-P, Revision 1. Changed portions of the text are denoted by vertical lines in the right-hand margin. The document has been reissued to reflect the changes in page numbering due to the addition on Page 1 and the subsequent shift of the text. Other changes have resulted from the addition to the references and subsequent renumbering. Attachment 2 is a brief explanation of each change. Attachment 3 is a non-proprietary version of the topical.

Please note that pursuant to 10 CFR 2.790(b)(1), certain portions of the attached information has been deemed trade secrets and/or privileged commercial information by Combustion Engineering, Inc. (CE) and Exxon Nuclear Company, Inc. (ENC). Accordingly, please find attached the District's application for withholding this information from public disclosure.

Sincerely,

R. L. Andrews
Division Manager
Nuclear Production

RLA/DJM/rh

Attachment

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

Mr. E. G. Tourigny, NRC Project Manager
Mr. L. A. Yandell, NRC Senior Resident Inspector

BEFORE THE UNITED STATES

NUCLEAR REGULATORY COMMISSION

In the Matter of	)	
	)	
OMAHA PUBLIC POWER DISTRICT	)	Docket No. 50-285
(Fort Calhoun Station,	)	
Unit No. 1)	)	

APPLICATION FOR
WITHHOLDING INFORMATION
FROM PUBLIC DISCLOSURE

Pursuant to Section 2.790(b)(1) of the regulations of the Nuclear Regulatory Commission ("the Commission"), Omaha Public Power District ("the District") submits this application to withhold certain information from public disclosure. Applicant has obtained this information from documents which identify this information as being owned by Combustion Engineering, Inc. (CE) or by Exxon Nuclear Company, Inc. (ENC). It is the opinion of CE and ENC that the information in question contains trade secrets and/or privileged or confidential commercial or financial information. The CE and ENC information was purchased by the District under a proprietary information agreement.

The information for which proprietary treatment is sought is contained in the following document:

OPPD-NA-8301-P, Rev. 01, Reload Core Analysis Methodology Overview, June, 1985.

The document has been appropriately designated as proprietary.

This information was obtained by the District from documents for which CE and ENC have executed affidavits which set forth the bases on which the information may be withheld from public disclosure by the Commission.

Respectfully Submitted,

OMAHA PUBLIC POWER DISTRICT

By R L Andrews

R. L. Andrews
Division Manager
Nuclear Production

Sworn to before me on this

13th day of June, 1985.

James J. Fisicaro
Notary

GENERAL NOTARY - State of Nebraska
JAMES J. FISICARO
My Comm Exp 10/23/87