ARKANSAS POWER & LIGHT COMPANY
FIRST COMMERCIAL BUILDING/P.O. BOX 551/LITTLE ROCK, ARKANSAS 72203/(501) 371-4422

September 26, 1984

JOHN M. GRIFFIN
Senior Vice President
Energy Supply

1CAN098409

Director of Nuclear Reactor Regulation
ATTN: Mr. J. F. Stolz, Chief
Operating Reactors Branch #4
Division of Licensing
U. S. Nuclear Regulatory Commission
Washington, DC 20555

SUBJECT: Arkansas Nuclear One - Unit 1
Docket No. 50-313
License No. DPR-51
Cycle 7 Reload Report and Proposed
Technical Specification Change Request

Gentlemen:

Attached is the ANO-1 Cycle 7 Reload Report for your review. Included with this report are proposed Technical Specification changes required as a result of the reload.

These proposed Technical Specification changes result partially from the low leakage fuel cycle design and the implementation of revised analytical methods to account for the effects of crossflow. In addition the proposed Technical Specifications have been simplifed by the combination of certain burnup dependent limits into a single limit applicable to the entire cycle. This change has been made to permit the potential application of these limits to future cycles without the need for additional Technical Specification changes. The LOCA linear heat rate limits used as input to appropriate Technical Specifications include the impact of NUREG 0630, "Cladding Swelling Models for LOCA Analysis." The impact of NUREG 0630 was conservatively assessed by a bounding calculation with offsetting credit taken for use of the FLECSET heat transfer correlation. Supporting information on the impact of NUREG 0630/FLECSET was submitted by letter dated June 8, 1983, (1CAN068301) from J. R. Marshall to J.F. Stolz.

The crossflow methodology used in this analysis include the LYNX1, LYNX2, and LYNXT computer codes which are currently under review by the NRC. LYNX1 and LYNX2 are described by Babcock and Wilcox Topical Reports BAW-10129 and BAW-10130 submitted by Babcock and Wilcox by letter dated October 28, 1976,

A001
1/1

Add: IE/DEPER/IE-EAB
w/check $150.00
#9-8329

from Kenneth E. Suhrki to D. B. Vassallo. The LYNXT code is described in BAW-10156 submitted by letter dated January 20, 1984, from J. H. Taylor to David Moran. The LYNX1 and LYNX2 codes are used for steady state core thermal hydraulic analysis while the LYNXT code is intended for both steady state and transient analysis. Per discussions with your staff we understand that the review of LYNXT may not be completed in time for application to this reload analysis, therefore LYNXT has not been used in transient core thermal hydraulic analysis in support of the attached proposed Technical Specifications. In the interest of efficiency the LYNXT model was used for steady state applications. For these specific cases LYNXT produces essentially identical results as LYNX1 and LYNX2. This is supported by the attached report, BAW-1829 "Thermal-Hydraulic Crossflow Applications" which included a comparison of the results of the LYNX1 and LYNX2 codes to results obtained using LYNXT. The transient cases were based on the RADAR code with initial conditions provided by LYNXT, which in this case again would provide essentially identical information as LYNX1 and LYNX2. No margin enhancement credits have been taken through the above described use of LYNXT.

In accordance with 10CFR50.90, we have determined the proposed Technical Specification amendment request as having no Significant Hazards Consideration (SHC) and are including the basis of our SHC determination as part of this amendment package. Additionally, a copy of this amendment package has been sent to Mr. E. Frank Wilson, Director, Division of Environmental Health Protection, State Department of Health.

Also, pursuant to 10CFR170.12(c) we are including a check in the amount of $150 as application fee. The circumstances of this proposed amendment are not exigent or emergency. However, we do request your prompt review as our current projections are for the ANO-1 sixth refueling outage (1R6), which is scheduled to begin October 12, 1984. All of the proposed revisions contained herein are essential for Cycle 7 operations.

Very truly yours,

John M. Griffin

JMG/SAB/ac

Attachment

cc: Mr. E. Frank Wilson

STATE OF ARKANSAS)
)
COUNTY OF PULASKI) SS

I, John M. Griffin, being duly sworn, subscribe to and say that I am Sr. Vice President, of Energy Supply, for Arkansas Power & Light Company; that I have full authority to execute this oath; that I have read the document numbered 1CAN098409 and know the contents thereof; and that to the best of my knowledge, information and belief the statements in it are true.

John M. Griffin

JOHN M. GRIFFIN

SUBSCRIBED AND SWORN TO before me, a Notary Public in and for the County and State above named, this 26th day of September, 1984.

Brenda J. Patterson

Notary Public

My Commission Expires:

4-1-85

SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

The proposed amendment request does not involve a SHC because

(A) operation of Arkansas Nuclear One in accordance with this change would not:

1) involve a significant increase in the probability or consequences of an accident previously evaluated;
2) create the possibility of a new or different kind of accident from any previously evaluated;
3) involve a significant reduction in a margin of safety; and

(B) the proposed amendment most closely matches the example:

"(iii) For a nuclear power reactor, a change resulting from a nuclear reactor core reloading, if no fuel assemblies significantly different from those found previously acceptable to the NRC for a previous core at the facility in question are involved. This assumes that no significant changes are made to the acceptance criteria for the Technical Specifications, that the analytical methods used to demonstrate conformance with the Technical Specifications and regulations are not significantly changed, and that NRC has previously found such methods acceptable."

It should be noted that certain analytical methods used in this submittal are currently under review by the NRC and have not been formally approved as of the date of this submittal.