

September 10, 1986

Docket No.: 50-368

Mr. T. Gene Campbell  
Vice President  
Nuclear Operations  
Arkansas Power & Light Company  
Post Office Box 551  
Little Rock, Arkansas 72203

Dear Mr. Campbell:

Subject: Issuance of Amendment No.80 to Facility Operating License NPF-6 -  
Arkansas Nuclear One, Unit No. 2

The Commission has issued the enclosed Amendment No.80 to Facility Operating License No. NPF-6 for Arkansas Nuclear One, Unit No. 2. The amendment consists of changes to the Technical Specifications in partial response to your application dated April 25, 1986 as supplemented May 23, 1986.

The amendment revises Technical Specification 3.1.1.4 pertaining to moderator temperature coefficient.

A copy of the Safety Evaluation is also enclosed. The notice of issuance will be included in the Commission's Bi-Weekly Federal Register Notice.

Sincerely,

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Robert S. Lee, Project Manager  
PWR Project Directorate No. 7  
Division of PWR Licensing-B

Enclosures:

- 1. Amendment No. 80 to NPF-6
- 2. Safety Evaluation

cc: See next page

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*for*  
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RLee  
7/24/86

PDR  
JLee  
7/30/86

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8/5/86  
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M. Warner 5/13 change*

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9/10/86

Mr. T. Gene Campbell  
Arkansas Power & Light Company

Arkansas Nuclear One  
Unit No. 2

cc:

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Little Rock, Arkansas 72203

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P. O. Box 608  
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The Honorable Emil Grant  
Acting Judge of Pope County  
Pope County Courthouse  
Russellville, Arkansas 72801

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UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

ARKANSAS POWER & LIGHT COMPANY

DOCKET NO. 50-368

ARKANSAS NUCLEAR ONE, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 80  
License No. NPF-6

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Arkansas Power & Light Company (the licensee) dated April 25, 1986 as supplemented May 23, 1986, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's regulations set forth in 10 CFR Chapter I;
  - B. The facility will operate in conformity with the application, the provisions of the Act, and the regulations of the Commission;
  - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. NPF-6 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 80, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

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3. This license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Robert S. Lee, Project Manager  
PWR Project Directorate No. 7  
Division of PWR Licensing-B

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: September 10, 1986

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ATTACHMENT TO LICENSE AMENDMENT NO.80

FACILITY OPERATING LICENSE NO. NPF-6

DOCKET NO. 50-368

Replace the following page of the Appendix "A" Technical Specifications with the enclosed page. The revised page is identified by amendment number and contains vertical lines indicating the areas of change. The corresponding overleaf page is also provided to maintain document completeness.

Remove Page

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Insert Page

3/4 1-5

## REACTIVITY CONTROL SYSTEMS

### MODERATOR TEMPERATURE COEFFICIENT

#### LIMITING CONDITION FOR OPERATION

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3.1.1.4 The moderator temperature coefficient (MTC) shall be:

- a. Less positive than  $0.5 \times 10^{-4} \Delta k/k/^{\circ}F$  whenever THERMAL POWER is  $\leq 70\%$  of RATED THERMAL POWER,
- b. Less positive than  $0.0 \Delta k/k/^{\circ}F$  whenever THERMAL POWER is  $> 70\%$  of RATED THERMAL POWER, and
- c. Less negative than  $-3.4 \times 10^{-4} \Delta k/k/^{\circ}F$  at RATED THERMAL POWER.

APPLICABILITY: MODES 1 and 2\*.

#### ACTION:

With the moderator temperature coefficient outside any one of the above limits, be in at least HOT STANDBY within 6 hours.

#### SURVEILLANCE REQUIREMENTS

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4.1.1.4.1 The MTC shall be determined to be within its limits by confirmatory measurements. MTC measured values shall be extrapolated and/or compensated to permit direct comparison with the above limits.

4.1.1.4.2 The MTC shall be determined at the following frequencies and THERMAL POWER conditions during each fuel cycle:

- a. Prior to initial operation above 5% of RATED THERMAL POWER, after each fuel loading.
- b. At any THERMAL POWER, within 7 EFPD after reaching a RATED THERMAL POWER equilibrium boron concentration of 800 ppm.
- c. At any THERMAL POWER, within 7 EFPD after reaching a RATED THERMAL POWER equilibrium boron concentration of 300 ppm.

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\*With  $K_{eff} \geq 1.0$ .



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO FACILITY OPERATING LICENSE NO. NPF-6

ARKANSAS POWER AND LIGHT COMPANY

ARKANSAS NUCLEAR ONE, UNIT 2

DOCKET NO. 50-368

1.0 INTRODUCTION

By letter dated April 25, 1986, Arkansas Power and Light Company (AP&L) submitted a request to amend Facility Operating License No. NPF-6 for the Arkansas Nuclear One-Unit 2 (ANO-2) plant. The request was for proposed changes to the Technical Specifications involving a more negative moderator temperature coefficient (MTC), an increase in the refueling water tank (RWT) maximum solution temperature, and an increase in the required shutdown margin for Modes 1 through 4. This Safety Evaluation addresses the proposed changes related to MTC. The remainder of the proposed changes will be the subject of a separate Safety Evaluation.

2.0 EVALUATION

The proposed change to Technical Specification 3.1.1.4 will lower the allowable MTC negative limit to  $-3.4 \times 10^{-4} \Delta k/k/^\circ F$  from  $-2.8 \times 10^{-4} \Delta k/k/^\circ F$ . This change is required to accommodate the longer than originally planned cycle length anticipated for Cycle 6. A negative MTC has an adverse effect on events which result in cooldown of the reactor coolant system (RCS) since it results in a positive reactivity addition. The licensee has stated that the most limiting RCS cooldown accident associated with a decrease in the MTC is the steam line break (SLB) event. At the staff's request, the licensee submitted the results of a reanalysis of the SLB event by letter from T. Gene Campbell to George W. Knighton dated May 23, 1986. The results for SLB events initiated from hot full power with and without loss of AC power, and from hot zero power with and without loss of AC power show that the Cycle 6 peak post-trip reactivities are less limiting than those originally reported in the ANO-2 FSAR. The hot zero power case with loss of AC power resulted in a peak return to power of 1.56% for Cycle 6 as compared to the FSAR Cycle 1 result of 43.2% power. The SLB event for Cycle 6 is thus bounded by the conclusions reported in the FSAR and the change to the more negative MTC Technical Specification limit is, therefore, acceptable.

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### 3.0 EVALUATION SUMMARY

Based on the staff evaluation of the results of the licensees' reanalysis described above, the proposed change to ANO-2 Technical Specification 3.1.1.4, "Moderator Temperature Coefficient", is acceptable.

### 4.0 ENVIRONMENTAL CONSIDERATION

This amendment involves a change in the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously published a proposed finding that the amendment involves no significant hazards consideration and there has been no public comment on such finding. Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

### 5.0 CONCLUSION

We have concluded, based on the considerations discussed above, that (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (2) such activities will be conducted in compliance with the Commission's regulations, and the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal contributor to this SE was L. Kopp

Dated: September 10, 1986