



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

May 16, 1989

*Docket
File*

Docket No. 50-313

Mr. T. Gene Campbell
Vice President, Nuclear
Operations
Arkansas Power and Light Company
P. O. Box 551
Little Rock, Arkansas 72203

Dear Mr. Campbell:

SUBJECT: ISSUANCE OF AMENDMENT NO. 120 TO FACILITY OPERATING LICENSE
NO. DPR-51 - ARKANSAS NUCLEAR ONE, UNIT 1 (TAC NO. 73059)

The Commission has issued the enclosed Amendment No. 120 to Facility Operating License No. DPR-51 for the Arkansas Nuclear One, Unit No. 1 (ANO-1). This amendment consists of changes to the Technical Specifications (TSs) in response to your application dated April 25, 1989 as supplemented on May 5, 1989.

The amendment changes ANO-1 license condition 2.c.(1) to increase the authorized steady state reactor core power level to a maximum of 2054 megawatts thermal, which is 80% of full power (2568 megawatts thermal).

A copy of the Safety Evaluation is also enclosed. Notice of Issuance will be included in the Commission's next biweekly Federal Register notice.

Sincerely,

for George F. Dick Jr.

C. Craig Harbuck, Project Manager
Project Directorate - IV
Division of Reactor Projects - III,
IV, V and Special Projects
Office of Nuclear Reactor Regulation

Enclosures:

- 1. Amendment No. 120 to DPR-51
- 2. Safety Evaluation

cc w/enclosures:
See next page

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[Signature]*

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Original signed by
George F. Dick, Jr. for

C. Craig Harbuck, Project Manager
Project Directorate - IV
Division of Reactor Projects - III,
IV, V and Special Projects
Office of Nuclear Reactor Regulation

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LTR NAME: ANO1 AMENDMENT TAC 73059

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Mr. T. Gene Campbell
Arkansas Power & Light Company

Arkansas Nuclear One, Unit 1

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

ARKANSAS POWER AND LIGHT COMPANY

DOCKET NO. 50-313

ARKANSAS NUCLEAR ONE, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 120
License No. DPR-51

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Arkansas Power and Light Company (the licensee) dated April 24, 1989 as supplemented on May 5, 1989, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, as amended, the provisions of the Act, and the rules and 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 license 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.

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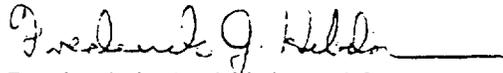
2. Accordingly, paragraph 2.c.(1) of Facility Operating License No. DPR-51 is hereby amended to read as follows:

- (1) Maximum Power Level

The licensee is authorized to operate the facility at steady state reactor core power levels not in excess of 2054 megawatts thermal.

3. The license amendment is effective as of its date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION


Frederick J. Hebdon, Director
Project Directorate - IV
Division of Reactor Projects - III,
IV, V and Special Projects
Office of Nuclear Reactor Regulation

Date of Issuance: May 16, 1989



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 120 TO

FACILITY OPERATING LICENSE NO. DPR-51

ARKANSAS POWER AND LIGHT COMPANY

ARKANSAS NUCLEAR ONE, UNIT NO. 1

DOCKET NO. 50-313

INTRODUCTION

By letter dated April 24, 1989 as supplemented on May 5, 1989, Arkansas Power and Light Company (AP&L or the licensee) requested an amendment to Facility Operating License No. DPR-51 for Arkansas Nuclear One, Unit 1 (ANO-1). The proposed amendment would increase the authorized steady state reactor core power levels to a maximum of 2054 megawatts thermal, pending NRC approval and licensee implementation of the permanent modification to address a high pressure Injection (HPI) system small break loss of coolant accident (LOCA) at which time the licensee may request an amendment to resume full power operation at steady state reactor core power levels not in excess of 2568 megawatts thermal.

BACKGROUND

In response to an AP&L request for license amendment (Reference 1), the staff reviewed the licensee's submittal and the Babcock & Wilcox (B&W) analysis (Reference 2). Based on this review, the staff had determined that a maximum power level of 50% was justified to ensure adequate mitigation of a postulated HPI line break event. Therefore, the staff rejected that part of the request that would permit achieving a power level above 50%. This change was made to assure that adequate core cooling will be available in the event of a newly postulated small pipe break in the High Pressure Injection (HPI) line. The staff approval of the 50% power limit was based on a B&W estimate which showed the core remained covered at a 74% power level and the fact that considerable LOCA margin exists at the 50% power level. The staff found (Reference 3) that in order to justify operation at a power level greater than 50%, AP&L would have to perform a formal Appendix K LOCA analysis using an approved evaluation model for the specific HPI line break of concern. AP&L has provided this analysis (Reference 4) and the staff has completed its evaluation of this analysis.

EVALUATION

An ANO-1 HPI line break analysis was performed using the B&W small break LOCA (SBLOCA) evaluation model (EM) (Reference 5). This EM meets the requirements of 10 CFR Part 50 Appendix K and has been previously reviewed and approved by the staff. The HPI line break analysis was performed using assumptions which are consistent with or more conservative than those contained in the SBLOCA EM. This analysis demonstrates that the current ANO-1 HPI configuration will provide

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adequate core cooling in the event of a complete HPI line break at an operating power of 80% of full power. Reference 4 also verifies that the current ANO-1 Cycle 9 Technical Specification limits will remain valid for operation up to 50 effective full power days (EFPD) followed by operation at 80% of rated thermal power for the remainder of the current fuel cycle. The staff has reviewed the licensee's submittal (Reference 4) and finds this analysis to be based on methods which have been previously reviewed and approved by the staff and that the EM used meets the requirements of 10 CFR Part 50 Appendix K. Therefore, we find the licensee's request to operate at a power level of 80% of full power to be acceptable.

ENVIRONMENTAL CONSIDERATION

The 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 exposures. The Commission has previously issued 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 Section 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.

CONCLUSION

The staff has 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.

Date: May 16, 1989

Principal Contributor: G. Schwenk

REFERENCES

1. Letter, T. Gene Campbell (AP&L) to J. A. Calvo (NRC), "Request for Emergency License Amendment," dated March 23, 1989.
2. Letter, J. H. Taylor (B&W) to J. A. Calvo (NRC) "HPL Line Break Evaluation," dated March 23, 1989
3. Letter, C. Craig Harbuck (NRC) to T. Gene Campbell (AP&L), "Issuance of Amendment No. 119 to Facility Operating License No. DPR-51 - Arkansas Nuclear One, Unit 1 (ANO-1), dated March 29, 1989.
4. Letter, Dale E. James (AP&L) to J. A. Calvo (NRC), dated May 5, 1989.
5. N. Savanni et al., "B&W's Small Break LOCA ECCA Evaluation Model," BAW-10154, Babcock & Wilcox, Lynchburg, Virginia, July 1985.