

July 28, 1988

Docket No. 50-368

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. 86 TO FACILITY OPERATING LICENSE
NO. NPF-6 - ARKANSAS NUCLEAR ONE, UNIT NO. 2 (TAC NO. 66558)

The Commission has issued the enclosed Amendment No. 86 to Facility Operating License No. NPF-6 for the Arkansas Nuclear One, Unit No. 2 (ANO-2). This amendment consists of changes to the Technical Specifications (TSs) in response to your application dated October 28, 1987 (2CAN108706).

The amendment modifies the Technical Specifications to decrease the required differential pressure produced by the high pressure safety injection pumps during surveillance testing.

A copy of our related Safety Evaluation is enclosed. The notice is being forwarded to the Office of the Federal Register for publication.

Sincerely,

/s/

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. 86 to NPF-6
2. Safety Evaluation
3. Notice of Issuance

cc w/enclosures:

See next page

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LTR NAME: ANO2 AMENDMENT TAC 66558

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

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Vice President, Nuclear
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Sincerely,

A handwritten signature in cursive script that reads "C. Craig Harbuck".

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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See next page

Mr. T. Gene Campbell
Arkansas Power & Light Company

Arkansas Nuclear One, Unit 2

cc:

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Honorable William Abernathy
County 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 AND LIGHT COMPANY

DOCKET NO. 50-368

ARKANSAS NUCLEAR ONE, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 86
License No. NPF-6

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Arkansas Power and Light Company (the licensee) dated October 28, 1987, 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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P PDC

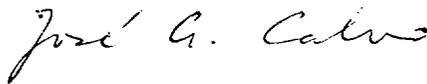
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and Paragraph 2.C.(2) of Facility Operating License No. NPF-6 is hereby amended to read as follows:

2. Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 86, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

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

FOR THE NUCLEAR REGULATORY COMMISSION



Jose A. Calvo, Director
Project Directorate - IV
Division of Reactor Projects - III,
IV, V and Special Projects
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: July 28, 1988

ATTACHMENT TO LICENSE AMENDMENT NO. 86

FACILITY OPERATING LICENSE NO. NPF-6

DOCKET NO. 50-368

Revise the following page of the Appendix "A" Technical Specifications with the attached page. The revised page is identified by Amendment number and contains a vertical line indicating the area of change. The corresponding overleaf page is also provided to maintain document completeness.

REMOVE PAGE

3/4 5-5

INSERT PAGE

3/4 5-5

EMERGENCY CORE COOLING SYSTEMS

SURVEILLANCE REQUIREMENTS (CONTINUED)

f. By verifying that each of the following pumps develops the indicated differential pressure on recirculation flow when tested pursuant to Specification 4.0.5:

1. High-Pressure Safety Injection pump \geq 1360.4 psid with 90°F water.
2. Low-Pressure Safety Injection pump \geq 156.25 psid with 90°F water.

g. By verifying the correct position of each electrical and/or mechanical position stop for the following ECCS throttle valves:

1. Within 4 hours following completion of each valve stroking operation or maintenance on the valve when the ECCS subsystems are required to be OPERABLE.
2. At least once per 18 months.

HPSI System
Valve Number

- a. 2CV-5035-1
- b. 2CV-5015-1
- c. 2CV-5075-1
- d. 2CV-5055-1
- e. 2CV-5036-2
- f. 2CV-5016-2
- g. 2CV-5076-2
- h. 2CV-5056-2

LPSI System
Valve Number

- a. 2CV-5037-1
- b. 2CV-5017-1
- c. 2CV-5077-2
- d. 2CV-5057-2

h. By performing a flow balance test, during shutdown, following completion of modifications to the ECCS subsystem that alter the subsystem flow characteristics and verifying the following flow rates.

HPSI System - Single Pump

- a. Injection Leg 1, \geq 196 gpm
- b. Injection Leg 2, \geq 196 gpm
- c. Injection Leg 3, \geq 196 gpm
- d. Injection Leg 4, \geq 196 gpm

LPSI System - Single Pump

- a. Injection Leg 1, \geq 1059 gpm
- b. Injection Leg 2, \geq 1059 gpm
- c. Injection Leg 3, \geq 1059 gpm
- d. Injection Leg 4, \geq 1059 gpm

EMERGENCY CORE COOLING SYSTEMS

ECCS SUBSYSTEMS - $T_{avg} < 300^{\circ}\text{F}$

LIMITING CONDITION FOR OPERATION

3.5.3 As a minimum, one ECCS subsystem comprised of the following shall be OPERABLE:

- a. One OPERABLE high-pressure safety injection pump, and
- b. An OPERABLE flow path capable of taking suction from the refueling water tank on a Safety Injection Actuation Signal and automatically transferring suction to the containment sump on a Recirculation Actuation Signal.

APPLICABILITY: MODES 3* and 4.

ACTION:

- a. With no ECCS subsystem OPERABLE, restore at least one ECCS subsystem to OPERABLE status within 1 hour or be in COLD SHUTDOWN within the next 20 hours.
- b. In the event the ECCS is actuated and injects water into the Reactor Coolant System, a Special Report shall be prepared and submitted to the Commission pursuant to Specification 6.9.2 within 90 days describing the circumstances of the actuation and the total accumulated actuation cycles to date.

SURVEILLANCE REQUIREMENTS

4.5.3 The ECCS subsystem shall be demonstrated OPERABLE per the applicable Surveillance Requirements of 4.5.2.

*With pressurizer pressure < 1700 psia.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 86 TO

FACILITY OPERATING LICENSE NO. NPF-6

ARKANSAS POWER AND LIGHT COMPANY

ARKANSAS NUCLEAR ONE, UNIT NO. 2

DOCKET NO. 50-368

1.0 INTRODUCTION

By letter dated October 28, 1987, Arkansas Power and Light Company (AP&L or the licensee) requested an amendment to the Technical Specifications (TSs) appended to Facility Operating License No. NPF-6 for Arkansas Nuclear One, Unit 2 (ANO-2). The proposed amendment would change surveillance requirement 4.5.2.f.1 for the high pressure safety (HPSI) pumps. The proposed change involves a decrease in the required differential pressure developed by the HPSI pump from 1402.5 psid to 1360.4 psid.

2.0 EVALUATION

The effect of the proposed reduction in the required differential pressure developed by the HPSI flow is to alter the HPSI flow delivered to the reactor coolant system (RCS). The licensee indicated that the flow reduction would be small. Although the reduced flow was used by the licensee in its safety analysis of the change, the licensee is not proposing to alter the HPSI flow requirements given in Technical Specification 4.5.2.h.

The licensee reviewed the ANO-2 safety analysis report (SAR) to determine which accidents could potentially be affected by the change. Loss of coolant accident (LOCA) analyses, steam line break accident analysis and steam generator tube rupture analyses were identified as the affected accidents. Each of these were examined by the licensee.

For large break LOCA analyses, the proposed change was identified as having no impact as the combined HPSI and low pressure safety injection (LPSI) flow would still be sufficient to assure maintenance of a full downcomer during the reflood phase of the accident. For small break LOCAs, the licensee reanalyzed the limiting event and concluded that peak cladding temperature would increase by less than 20°F above the 1460°F previously calculated (FSAR Table 6.3-19) and the large break LOCA would still remain the limiting event.

The steam line break was reanalyzed using the reduced HPSI flow and the increased refueling water tank (RWT) boron concentration previously approved by the staff (License No. NPF-6, Amendment No. 82 issued March 11, 1988). The revised analysis showed that the consequences of a steam line break for Cycle 7 is bounded by that for the reference cycle, Cycle 2, previously approved by the staff.

The licensee concluded that a reduced HPSI flow would have only a small, but beneficial effect, on the steam generator tube rupture analysis.

For each cycle the licensee must perform a core reload analysis in accordance with 10 CFR 50.59 to verify that the consequences of the accidents analyzed in Chapter 15 of the Final Safety Analysis Report are still bounded by the accident analysis results for the reference cycle. The reduction in the HPSI pump minimum differential pressure requirement does not increase the consequences of those accidents beyond those accepted by the staff for Cycle 2.

Based on the staff's review of the licensee analyses, the staff finds the licensee's analysis acceptable.

3.0 ENVIRONMENTAL CONSIDERATION

The NRC staff has considered the environmental impact of the proposed changes to the Technical Specifications. An "Environmental Assessment and Finding of No Significant Impact" was published in the Federal Register on July 18, 1988 (53 FR 27091).

4.0 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: July 28, 1988

Principal Contributors: R. Jones

UNITED STATES NUCLEAR REGULATORY COMMISSIONARKANSAS POWER AND LIGHT COMPANYDOCKET NO. 50-368NOTICE OF ISSUANCE OF AMENDMENT TOFACILITY OPERATING LICENSE

The U.S. Nuclear Regulatory Commission (the Commission) has issued Amendment No. ⁸⁶ to Facility Operating License No. NPF-6, to Arkansas Power and Light Company, which revised the Technical Specifications for operation of the Arkansas Nuclear One, Unit No. 2, located in Pope County, Arkansas. The amendment was effective as of the date of its issuance.

The amendment approved a reduction in the required differential pressure produced by the high pressure safety injection pumps during surveillance testing. The revised differential pressure specification enhances operational flexibility by allowing for greater variation in pump performance.

The application for the amendment complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations. The Commission has made appropriate findings as required by the Act and the Commission's rules and regulations in 10 CFR Chapter I, which are set forth in the license amendment.

Notice of Consideration of Amendment and Opportunity for Prior Hearing in connection with this action was published in the FEDERAL REGISTER on December 28, 1987 (52 FR 48887). No request for a hearing or petition for leave to intervene was filed following this notice.

The Commission has prepared an Environmental Assessment and Finding of No Significant Impact related to the action and has concluded that an environmental impact statement is not warranted because this action will not have a significant environmental impact.

For further details with respect to this action, see (1) the application for amendment dated October 28, 1987, (2) Amendment No. 86 to Facility Operating License No. NPF-6, and (3) the Environmental Assessment and Finding of No Significant Impact (53 FR 27091). All of these items are available for public inspection at the Commission's Public Document Room, 1717 H Street, N.W., Washington, D.C., and at the Tomlinson Library, Arkansas Technical University, Russellville, Arkansas 72801. A copy of items (2) and (3) may be obtained upon request addressed to the U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Director, Division of Reactor Projects - III, IV, V and Special Projects.

Dated at Rockville, Maryland, this 28th day of July 1988.

FOR THE NUCLEAR REGULATORY COMMISSION



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