

October 11, 1995

Mr. Jerry W. Yelverton  
Vice President, Operations ANO  
Entergy Operations, Inc.  
1448 S. R. 333  
Russellville, AR 72801

50-368

SUBJECT: ISSUANCE OF AMENDMENT NO. 168 TO FACILITY OPERATING LICENSE  
NO. NPF-6 - ARKANSAS NUCLEAR ONE, UNIT NO. 2 (TAC NO. M92149)

Dear Mr. Yelverton:

The Commission has issued the enclosed Amendment No. 168 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 March 17, 1995.

The amendment revises requirements associated with channel functional tests of the core protection calculator following a high temperature alarm.

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

Sincerely,

ORIGINAL SIGNED BY:  
George Kalman, Senior Project Manager  
Project Directorate IV-1  
Division of Reactor Projects III/IV  
Office of Nuclear Reactor Regulation

Docket No. 50-368

Enclosures: 1. Amendment No. 168 to NPF-6  
2. Safety Evaluation

cc w/encls: See next page

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| OFC  | (A)LA/PD4-1        | PM/PD4-1             | OGC <i>OKB</i> |
| NAME | TCClark <i>JLC</i> | GKalman/vw <i>GK</i> | R. Bachmann    |
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UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

October 11, 1995

Mr. Jerry W. Yelverton  
Vice President, Operations ANO  
Energy Operations, Inc.  
1448 S. R. 333  
Russellville, AR 72801

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Sincerely,

A handwritten signature in cursive script, appearing to read "George Kalman".

George Kalman, Senior Project Manager  
Project Directorate IV-1  
Division of Reactor Projects III/IV  
Office of Nuclear Reactor Regulation

Docket No. 50-368

Enclosures: 1. Amendment No. 168 to NPF-6  
2. Safety Evaluation

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Mr. Jerry W. Yelverton  
Entergy Operations, Inc.

Arkansas Nuclear One, Unit 2

cc:

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Pope County Courthouse  
Russellville, AR 72801



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

ENERGY OPERATIONS, INC.

DOCKET NO. 50-368

ARKANSAS NUCLEAR ONE, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 168  
License No. NPF-6

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Entergy Operations, Inc. (the licensee) dated March 17, 1995, 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, 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.

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 Appendix A, as revised through Amendment No. 168, 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 the date of issuance, to be implemented within 30 days.

FOR THE NUCLEAR REGULATORY COMMISSION



George Kalman, Senior Project Manager  
Project Directorate IV-1  
Division of Reactor Projects III/IV  
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical  
Specifications

Date of Issuance: October 11, 1995

ATTACHMENT TO LICENSE AMENDMENT NO. 168

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 vertical lines indicating the area of change.

REMOVE PAGE

3/4 3-1

INSERT PAGE

3/4 3-1

### 3/4.3 INSTRUMENTATION ON

#### 3/4.3.1 REACTOR PROTECTIVE INSTRUMENTATION

##### LIMITING CONDITION FOR OPERATION

3.3.1.1 As a minimum, the reactor protective instrumentation channels and bypasses of Table 3.3-1 shall be OPERABLE with RESPONSE TIMES as shown in Table 3.3-2.

APPLICABILITY: As shown in Table 3.3-1.

##### ACTION:

As shown in Table 3.3-1.

##### SURVEILLANCE REQUIREMENTS

4.3.1.1.1 Each reactor protective instrumentation channel shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL CALIBRATION and CHANNEL FUNCTIONAL TEST operations for the MODES and at the frequencies shown in Table 4.3-1.

4.3.1.1.2 The logic for the bypasses shall be demonstrated OPERABLE prior to each reactor startup unless performed during the preceding 92 days. The total bypass function shall be demonstrated OPERABLE at least once per 18 months during CHANNEL CALIBRATION testing of each channel affected by bypass operation.

4.3.1.1.3 The REACTOR TRIP SYSTEM RESPONSE TIME of each reactor trip function shall be demonstrated to be within its limit at least once per 18 months. Each test shall include at least one channel per function such that all channels are tested at least once every N times 18 months where N is the total number of redundant channels in a specific reactor trip function as shown in the "Total No. of Channels" column of Table 3.3-1.

4.3.1.1.4 The Core Protection Calculator System shall be determined OPERABLE at least once per 12 hours by verifying that less than three auto restarts have occurred on each calculator during the past 12 hours.

4.3.1.1.5 The affected Core Protection Calculator Channel shall be subjected to a CHANNEL FUNCTIONAL TEST to verify OPERABILITY within 12 hours of receipt of a valid CPC Cabinet High Temperature alarm.





UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 168 TO

FACILITY OPERATING LICENSE NO. NPF-6

ENERGY OPERATIONS, INC.

ARKANSAS NUCLEAR ONE, UNIT NO. 2

DOCKET NO. 50-368

1.0 INTRODUCTION

The Arkansas Nuclear One, Unit 2 (ANO-2) core protection calculator (CPC) system is a subsystem of the reactor protection system. The CPCs are dedicated minicomputers that calculate the departure from nucleate boiling ratio (DNBR) and local power density (LPD) and issue a reactor trip command if these fuel design limits are exceeded. Each of the four channels of CPCs is mounted in a dedicated cabinet. The cabinets are in the CPC room of the reactor auxiliaries building. The CPC room temperature and humidity are controlled to provide a suitable environment for reliable computer operations. A failure of the CPC room cooling system could result in high CPC cabinet temperatures, which could affect the reliability of the CPC minicomputers.

The original CPC cabinets were not equipped with high temperature alarm switches; therefore, CPC room temperature was monitored to ensure a suitable environment for the CPCs. Since individual cabinet temperatures were not available, the technical specifications (TSs) required a channel functional test of all four CPC channels after a valid high room temperature alarm.

The new CPC cabinets have individual cabinet temperature monitoring devices and alarm switches, which allow the operator to monitor the temperature in each CPC cabinet. By letter dated March 17, 1995, the licensee proposed a TS amendment to reflect the enhanced temperature monitoring capability of the new CPC cabinets.

2.0 DISCUSSION

The current ANO-2 TS requires a channel functional test of all four CPC channels to verify CPC operability within 12 hours of a valid high CPC room temperature alarm. This TS surveillance requirement is based on the original system installation. The ability to monitor each CPC cabinet temperature is an enhancement of the original system design, in that the CPC cabinet temperature indications more accurately reflect the operating environment of the CPC minicomputers. The amended TS requires a channel functional test of the affected CPC cabinet temperature monitoring channel within 12 hours of receiving a valid cabinet high temperature alarm.

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ENCLOSURE

The TS amendment will also revise the room temperature alarm setpoint to a value that will alert the operators to restore CPC room cooling before operability of the CPC minicomputers is affected.

### 3.0 TECHNICAL CONCLUSION

The proposed TS change enhances the capability to monitor individual CPC cabinet temperatures, thereby more closely controlling the operating environment of the CPC minicomputers. The amended TS requires a channel functional test only on the affected CPC channel. This provides a more direct verification of the CPC operating environment. This change is consistent with the criteria of the "Standard Technical Specifications for Combustion Engineering Plants", NUREG-1432, Rev. 0. Therefore, the staff finds the proposed change to the Arkansas Nuclear One, Unit 2 TSs acceptable.

### 4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Arkansas State official was notified of the proposed issuance of the amendment. The State official had no comments.

### 5.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and changes surveillance requirements. The NRC 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 issued a proposed finding that the amendment involves no significant hazards consideration, and there has been no public comment on such finding (60 FR 39437). 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.

### 6.0 CONCLUSION

The Commission 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, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) 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: Sang Rhow

Date: October 11, 1995