January 14, 1997

Mr. C. Randy Hutchinson
Vice President, Operations ANO
Entergy Operations, Inc.
1448 S. R. 333
Russellville, AR 72801

SUBJECT: ISSUANCE OF AMENDMENT NO. 179 TO FACILITY OPERATING LICENSE NO. NPF-6 - ARKANSAS NUCLEAR ONE, UNIT NO. 2 (TAC NO. M97291)

Dear Mr. Hutchinson:

The Commission has issued the enclosed Amendment No. 179 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 in response to your application dated November 24, 1996, and December 2, 1996, supplement.

The amendment adds small break loss-of-coolant accident methodology CENPD-137, Supplement 1-P and its approval letter as a reference to Section 6.9.5.1. This code (previously approved by the Nuclear Regulatory Commission) increases the steam generator tube plugging limit to 30% with an associated 10% reduction in reactor coolant system flow. This amendment also corrects a typographical error in Technical Specification 6.9.5.1.8, and Technical Specifications 6.9.5.1.10 through 6.9.5.1.14 are numbered to accommodate these changes.

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:

Kombiz Salehi, Acting 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. 179 to NPF-6
2. Safety Evaluation

cc w/encls: See next page

DISTRIBUTION:

Docket File	PUBLIC	PD4-1 r/f
J. Roe	C. Hawes	ACRS
OGC(15B18)	G. Hill (2)	J. Dyer, RIV
C. Grimes	K. Salehi	J. Kilcrease, RIV f/r
E. Adensam (EGA1)	L. Hurley, RIV	F. Orr
T. Collins	W. Beckner	

Document Name: AR297291.AMD

OFC	(A)PM/PD4-1	(A)LA/PD4-1	SRXB	SRXB	OGC	D/PD4-1
NAME	KSalehi/cf	CHawes	FOrr	TCollins		WBeckner
DATE	12/31/96	12/26/96	12/26/96	12/26/96	12/ /96	12/19/96
COPY	YES/NO	YES/NO	YES/NO	YES/NO	YES/NO	YES/NO

OFFICIAL RECORD COPY

170059 9701210036

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

January 14, 1997

Mr. C. Randy Hutchinson
Vice President, Operations ANO
Entergy Operations, Inc.
1448 S. R. 333
Russellville, AR 72801

SUBJECT: ISSUANCE OF AMENDMENT NO. 179 TO FACILITY OPERATING LICENSE NO. NPF-6 - ARKANSAS NUCLEAR ONE, UNIT NO. 2 (TAC NO. M97291)

Dear Mr. Hutchinson:

The Commission has issued the enclosed Amendment No. 179 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 in response to your application dated November 24, 1996, and December 2, 1996, supplement.

The amendment adds small break loss-of-coolant accident methodology CENPD-137, Supplement 1-P and its approval letter as a reference to Section 6.9.5.1. This code (previously approved by the Nuclear Regulatory Commission) increases the steam generator tube plugging limit to 30% with an associated 10% reduction in reactor coolant system flow. This amendment also corrects a typographical error in Technical Specification 6.9.5.1.8, and Technical Specifications 6.9.5.1.10 through 6.9.5.1.14 are numbered to accommodate these changes.

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,

Kombiz Saleni, Acting 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. 179 to NPF-6
2. Safety Evaluation

cc w/encls: See next page

cc:

Executive Vice President
& Chief Operating Officer
Entergy Operations, Inc.
P. O. Box 31995
Jackson, MS 39286-199

Director, Division of Radiation
Control and Emergency Management
Arkansas Department of Health
4815 West Markham Street, Slot 30
Little Rock, AR 72205-3867

Winston & Strawn
1400 L Street, N.W.
Washington, DC 20005-3502

Manager, Rockville Nuclear Licensing
Framatone Technologies
1700 Rockville Pike, Suite 525
Rockville, MD 20852

Senior Resident Inspector
U.S. Nuclear Regulatory Commission
P. O. Box 310
London, AR 72847

Regional Administrator, Region IV
U.S. Nuclear Regulatory Commission
611 Ryan Plaza Drive, Suite 400
Arlington, TX 76011-8064

County Judge of Pope County
Pope County Courthouse
Russellville, AR 72801

Vice President, Operations Support
Entergy Operations, Inc.
P. O. Box 31995
Jackson, MS 39286-1995

Wise, Carter, Child & Caraway
P. O. Box 651
Jackson, MS 39205

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

ENTERGY OPERATIONS, INC.

DOCKET NO. 50-368

ARKANSAS NUCLEAR ONE, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 179
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 November 24, 1996, as supplemented by letter dated December 2, 1996, 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. 179, 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

Kombiz Salehi, Acting 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: January 14, 1997

ATTACHMENT TO LICENSE AMENDMENT NO. 179

FACILITY OPERATING LICENSE NO. NPF-6

DOCKET NO. 50-368

Revise the following pages of the Appendix "A" Technical Specifications with the attached pages. The revised pages are identified by Amendment number and contain vertical lines indicating the area of change.

REMOVE PAGES	INSERT PAGES
6-21	6-21
6-21a	6-21a

CORE OPERATING LIMITS REPORT

6.9.5 The core operating limits shall be established and documented in the CORE OPERATING LIMITS REPORT prior to each reload cycle or any remaining part of a reload cycle.

6.9.5.1 The analytical methods used to determine the core operating limits addressed by the individual Technical Specifications shall be those previously reviewed and approved by the NRC for use at ANO-2, specifically:

1) "The ROCS and DIT Computer Codes for Nuclear Design", CENPD-266-P-A, April 1983 (Methodology for Specifications 3.1.1.1 and 3.1.1.2 for Shutdown Margins, 3.1.1.4 for MTC, 3.1.3.6 for Regulating and Group P CEA Insertion Limits, and 3.2.4.b for DNBR Margin).

2) "CE Method for Control Element Assembly Ejection Analysis," CENPD-0190-A, January 1976 (Methodology for Specification 3.1.3.6 for Regulating and Group P CEA Insertion Limits and 3.2.3 for Azimuthal Power Tilt).

3) "Modified Statistical Combination of Uncertainties, CEN-356(V)-P-A, Revision 01-P-A, May 1988 (Methodology for Specification 3.2.4.c and 3.2.4.d for DNBR Margin and 3.2.7 for ASI).

4) "Calculative Methods for the CE Large Break LOCA Evaluation Model," CENPD-132-P, August 1974 (Methodology for Specification 3.1.1.4 for MTC, 3.2.1 for Linear Heat Rate, 3.2.3 for Azimuthal Power Tilt, and 3.2.7 for ASI).

5) "Calculational Methods for the CE Large Break LOCA Evaluation Model," CENPD-132-P, Supplement 1, February 1975 (Methodology for Specification 3.1.1.4 for MTC, 3.2.1 for Linear Heat Rate, 3.2.3 for Azimuthal Power Tilt, and 3.2.7 for ASI).

6) "Calculational Methods for the CE Large Break LOCA Evaluation Model," CENPD-132-P, Supplement 2-P, July 1975 (Methodology for Specification 3.1.1.4 for MTC, 3.2.1 for Linear Heat Rate, 3.2.3 for Azimuthal Power Tilt, and 3.2.7 for ASI).

7) "Calculative Methods for the CE Large Break LOCA Evaluation Model for the Analysis of CE and W Designed NSSS," CEN-132, Supplement 3-P-A, June 1985 (Methodology for Specification 3.1.1.4 for MTC, 3.2.1 for Linear Heat Rate, 3.2.3 for Azimuthal Power Tilt, and 3.2.7 for ASI).

8) "Calculative Methods for the CE Small Break LOCA Evaluation Model," CENPD-137-P, August 1974 (Methodology for Specification 3.1.1.4 for MTC, 3.2.1 for Linear Heat Rate, 3.2.3 for Azimuthal Power Tilt, and 3.2.7 for ASI).

9) "Calculative Methods for the CE Small Break LOCA Evaluation Model," CENPD-137, Supplement 1-P, January 1977 (Methodology for Specification 3.1.1.4 for MTC, 3.2.1 for Linear Heat Rate, 3.2.3 for Azimuthal Power Tilt, and 3.2.7 for ASI).

CORE OPERATING LIMITS REPORT

10) "CESEC-Digital Simulation of a Combustion Engineering Nuclear Steam Supply System," December 1981 (Methodology for Specifications 3.1.1.1 and 3.1.1.2 for Shutdown Margin, 3.1.1.4 for MTC, 3.1.3.1 for Movable Control Assemblies - CEA Position, 3.1.3.6 for Regulating CEA and Group P Insertion Limits, and 3.2.4.b for DNBR Margin).

11) Letter: O.D. Parr (NRC) to F.M. Stern (CE), dated June 13, 1975 (NRC Staff Review of the Combustion Engineering ECCS Evaluation Model). NRC approval for 6.9.5.1.4, 6.9.5.1.5, and 6.9.5.1.8 methodologies.

12) Letter: O.D. Parr (NRC) to A.E. Scherer (CE), dated December 9, 1975 (NRC Staff Review of the Proposed Combustion Engineering ECCS Evaluation Model changes). NRC approval for 6.9.5.1.6 methodology.

13) Letter: K. Kniel (NRC) to A.E. Scherer (CE), dated September 27, 1977 (Evaluation of Topical Reports CENPD-133, Supplement 3-P and CENPD-137, Supplement 1-P). NRC approval for 6.9.5.1.9 methodology.

14) Letter: 2CNA038403, dated March 20, 1984, J.R. Miller (NRC) to J.M. Griffin (AP&L), "CESEC Code Verification." NRC approval for 6.9.5.1.10 methodology.

6.9.5.2 The core operating limits shall be determined so that all applicable limits (e.g. fuel thermal-mechanical limits, core thermal-hydraulic limits, ECCS limits, nuclear limits such as shutdown margin, and transient and accident analysis limits) of the safety analysis are met.

6.9.5.3 The CORE OPERATING LIMITS REPORT, including any mid-cycle revisions or supplements thereto, shall be provided upon issuance to the NRC Document Control Desk with copies to the Regional Administrator and Resident Inspector.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 179 TO

FACILITY OPERATING LICENSE NO. NPF-6

ENTERGY OPERATIONS, INC.

ARKANSAS NUCLEAR ONE, UNIT NO. 2

DOCKET NO. 50-368

1.0 INTRODUCTION

By letter dated November 24, 1996, as supplemented by letter dated December 2, 1996 (request for exigent processing), Entergy Operations, Inc. (the licensee) submitted a request for changes to the Arkansas Nuclear One, Unit 2 (ANO-2) Technical Specifications (TSs). The requested changes would add small break loss-of-coolant accident methodology CENPD-137, Supplement 1-P and its approval letter as a reference to Section 6.9.5.1. Calculations using this code which was approved by the Nuclear Regulatory Commission (NRC) increase the steam generator tube plugging limit to 30% with an associated 10% reduction in reactor coolant system (RCS) flow. This amendment also corrects a typographical error in Technical Specification 6.9.5.1.8, and Technical Specifications 6.9.5.1.10 through 6.9.5.1.14 are numbered for these changes.

On December 9, 1996, the licensee verified that the number of plugged tubes would not exceed their current 10% limit established by the old code. This determination removed the basis for considering this request as exigent. Since the potential does exist for the plugging to exceed the 10% in the future, the technical specification amendment request is therefore, a valid request on a normal schedule. Nothing contained in the December 2, 1996, request for exigent processing altered the staff's initial proposed no safety hazard condition determination; therefore, renoticing was not warranted.

2.0 EVALUATION

This change adds as references small break loss-of-coolant accident calculational method by Combustion Engineering. The code, CENPD-137, Supplement 1-P, was previously approved and that approval was conveyed to the licensee on September 27, 1977, by K. Kniel (NRC). Calculations using the approved code include parameters for small break loss-of-coolant accidents assuming 30% plugged tubes per steam generator. Since that code was previously evaluated and approved, invoking that code for the small break loss-of-coolant accident is acceptable by the NRC. In addition, such analysis using the approved code and assuming 30% steam generator tube plugging with its associated flow reduction demonstrate conformance with 10 CFR 50.46(b)

9701210039

requirements. Therefore, 30% tube plugging value and/or its associated RCS flow are acceptable for inclusion in the ANO-2 TSs. Other changes are administrative and pose no impact on any operational aspects of the plant.

3.0 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.

4.0 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. The NRC staff determined that the amendment does not increase the amounts or changes the types of any offsite effluent, and that there is no increase in individual or cumulative occupational radiation exposure. The Commission previously issued a proposed finding that the amendment involved no significant hazards consideration, and there has been no public comment on such finding (61 FR 64173). 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

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: K. Salehi

Date: January 14, 1997