October 2, 1992

Docket No. 50-368

Mr. Jerry W. Yelverton
Vice President, Operations ANO
Entergy Operations, Inc.
Route 3 Box 137G
Russellville, Arkansas 72801

Dear Mr. Yelverton:

SUBJECT: ISSUANCE OF AMENDMENT NO. 136 TO FACILITY OPERATING LICENSE NO. NPF-6 - ARKANSAS NUCLEAR ONE, UNIT NO. 2 (TAC NO. M84180)

The Commission has issued the enclosed Amendment No. 136 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 August 4, 1992.

The amendment revised TS 4.7.1.2.a.1 to decrease the value of the secondary steam supply pressure specified for surveillance of the turbine-driven emergency feedwater (EFW) pump from greater than 865 psig to greater than 800 psia (785 psig). In addition, "secondary steam supply pressure" is changed to "steam generator pressure."

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:

Thomas W. Alexion, Project Manager
Project Directorate IV-1
Division of Reactor Projects - III/IV/V
Office of Nuclear Reactor Regulation

Enclosures:
1. Amendment No. 136 to NPF-6
2. Safety Evaluation

cc w/enclosures:
See next page

080030

DISTRIBUTION:

Docket File	NRC/Local PDR	PD4-1 Reading
S. Peterson	M. Virgilio	J. Larkins
P. Noonan	ACRS(10)(MSP315)	OGC(MS15B18)
D. Hagan(MS3206)	G. Hill(4)	Wanda Jones(MS7103)
C. Grimes(MS11E22)	PD4-1 Plant File	OPA(MS2G5)
OC/LFMB(MS4503)	W. Johnson, RIV	RTwigg
A. B. Beach, RIV	T. Alexion	

* See previous concurrence

OFC	LA:PD4-1	PE:PD4-1	PM:PD4-1	BC:SPLB*	OGC*	D:PD4-1
NAME	PNoonan	RTwigg	TAlexion	CMcCracken	CBarth	JLarkins
DATE	10/2/92	10/2/92	10/2/92	9/8/92	9/11/92	10/2/92

OFFICIAL RECORD COPY Document Name: AR284180.amd

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

October 2, 1992

Docket No. 50-368

Mr. Jerry W. Yelverton
Vice President, Operations ANO
Entergy Operations, Inc.
Route 3 Box 137G
Russellville, Arkansas 72801

Dear Mr. Yelverton:

SUBJECT: ISSUANCE OF AMENDMENT NO. 136 TO FACILITY OPERATING LICENSE NO. NPF-6 - ARKANSAS NUCLEAR ONE, UNIT NO. 2 (TAC NO. M84180)

The Commission has issued the enclosed Amendment No. 136 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 August 4, 1992.

The amendment revised TS 4.7.1.2.a.1 to decrease the value of the secondary steam supply pressure specified for surveillance of the turbine-driven emergency feedwater (EFW) pump from greater than 865 psig to greater than 800 psia (785 psig). In addition, "secondary steam supply pressure" is changed to "steam generator pressure."

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,

Thomas W. Alexion

Thomas W. Alexion, Project Manager
Project Directorate IV-1
Division of Reactor Projects - III/IV/V
Office of Nuclear Reactor Regulation

Enclosures:
1. Amendment No. 136 to NPF-6
2. Safety Evaluation

cc w/enclosures:
See next page

cc:

Mr. Donald C. Hintz, President
and Chief Operating Officer
Entergy Operations, Inc.
P. O.Box 31995
Jackson, Mississippi 39286

Mr. R. A. Fenech
General Manager, Plant Operations
Entergy Operations, Inc.
Route 3 Box 137G
Russellville, Arkansas 72801

Mr. Nicholas S. Reynolds
Winston & Strawn
1400 L Street, N.W.
Washington, D.C. 20005-3502

Robert B. Borsum
Licensing Representative
B&W Nuclear Technologies
1700 Rockville Pike, Suite 525
Rockville, Maryland 20852

Senior Resident Inspector
U.S. Nuclear Regulatory Commission
72801 1 Nuclear Plant Road
Russellville, Arkansas 72801

Regional Administrator, Region IV
U.S. Nuclear Regulatory Commission
611 Ryan Plaza Drive, Suite 1000
Arlington, Texas 76011

Honorable Joe W. Phillips
County Judge of Pope County
Pope County Courthouse
Russellville, Arkansas 72801

Ms. Greta Dicus, Director
Division of Radiation Control
and Emergency Management
Arkansas Department of Health
4815 West Markham Street
Little Rock, Arkansas 72205-3867

Mr. John R. McGaha
Vice President, Operations Support
Entergy Operations, Inc.
P. O. Box 31995
Jackson, Mississippi 39286

Mr. Robert B. McGehee
Wise, Carter, Child & Caraway
P. O. Box 651
Jackson, Mississippi 39205

Mr. Charles B. Brinkman, Manager
Washington Nuclear Operations
ABB Combustion Engineering Nuclear Power
12300 Twinbrook Parkway, Suite 330
Rockville, Maryland 20852

Admiral Kinnaird R. McKee, USN (Ret) Mr.
214 South Morris Street
Oxford, Maryland 21654

Mr. James J. Fisicaro
Director, Licensing
Entergy Operations, Inc.
Route 3, Box 137G
Russellville, Arkansas

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

ENTERGY OPERATIONS, INC.

DOCKET NO. 50-368

ARKANSAS NUCLEAR ONE, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 136
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 August 4, 1992, 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. 136 , 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

John T. Larkins, Director
Project Directorate IV-1
Division of Reactor Projects - III/IV/V
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: October 2, 1992

ATTACHMENT TO LICENSE AMENDMENT NO. 136

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.

REMOVE PAGE	INSERT PAGE
3/4 7-5	3/4 7-5

EMERGENCY FEEDWATER SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.1.2 Two emergency feedwater pumps and associated flow paths shall be OPERABLE with:

a. One motor driven pump capable of being powered from an OPERABLE emergency bus, and

b. One turbine driven pump capable of being powered from an OPERABLE steam supply system.

APPLICABILITY: MODES 1, 2, and 3

ACTION:

With one emergency feedwater pump inoperable, restore the inoperable pump to OPERABLE status within 72 hours or be in HOT SHUTDOWN within the next 12 hours.

SURVEILLANCE REQUIREMENTS

4.7.1.2 Each emergency feedwater pump shall be demonstrated OPERABLE:

a. At least once per 31 days by:

1. Verifying that the turbine driven pump delivers a flow of ≥ 485 gpm which is capable of being supplied to the steam generators at a discharge pressure of ≥1200 psig when steam generator pressure is greater than 800 psia. The provisions of Specification 4.0.4 are not applicable.

2. Verifying that the electric driven pump delivers a flow of ≥485 gpm which is capable of being supplied to the steam generators at a discharge pressure of ≥1200 psig.

3. Verifying that each valve (manual, power operated or automatic) in the flow path that is not locked, sealed, or otherwise secured in position, is in its correct position.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 136 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 August 4, 1992, Entergy Operations, Inc. (the licensee), submitted a request for changes to the Arkansas Nuclear One, Unit No. 2 (ANO-2) Technical Specifications (TSs). The requested changes would revise Technical Specification (TS) 4.7.1.2.a.1 to decrease the value of the secondary steam supply pressure specified for surveillance of the turbine-driven emergency feedwater (EFW) pump from greater than 865 psig to greater than 800 psia (785 psig). In addition "secondary steam supply pressure" is changed to "steam generator pressure."

2.0 EVALUATION

The most probable cause of degradation of the ANO-2 Steam Generator tubes is intergranular stress corrosion cracking (IGSCC). To mitigate the consequences of IGSCC, the licensee is considering reduction of the primary-side temperatures of 607°F for the hot leg and 553°F for the cold leg to approximately 599°F and 545°F, respectively. The new primary-side temperatures will reduce the secondary steam supply pressure from an approximate value of 915 psia to 850 psia.

Currently, TS 4.7.1.2.a.1 requires surveillance of the turbine-driven emergency feedwater (EFW) pump every 31 days to verify that the pump delivers a flow of ≥485 gpm to the steam generator (SG) at a discharge pressure of ≥1200 psig when secondary steam supply pressure is >865 psig. With the new reduced primary temperatures, ANO-2 would be required by the surveillance to raise the hot-leg temperature or reduce the plant load until secondary steam supply pressure exceeded 865 psig (880 psia). Raising the hot-leg temperature or reducing the plant load on a monthly basis could increase the possibility of a reactor transient due to primary temperature effects, reactor power changes affecting xenon, tilt and axial power shape, and secondary-system-induced perturbations. Changing TS 4.7.1.2.a.1 to require a steam supply pressure of >800 psia will allow surveillance testing of the EFW pump under stable conditions at the new reduced primary temperatures.

The turbine-driven EFW pump curves and the expected performance curve for the turbine driver show that a steam inlet pressure of 250 psig available to the trip and throttle valve of the turbine driver is sufficient to provide a 485 gpm flow rate, at a discharge pressure of 1277 psig. The secondary steam supply pressure of approximately 850 psia (835 psig) will greatly exceed the needed 250 psig.

Based on its review, the staff concludes that decreasing the value of the secondary steam supply pressure required by TS 4.7.1.2.a.1 from >865 psig to >800 psia (785 psig) is acceptable. Additionally, the substitution of "steam generator pressure" (with units in psia) for "secondary steam supply pressure" (with units in psig) clarifies the specification, reflects the instrumentation used to measure the secondary steam supply pressure for this surveillance, and is acceptable.

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 and changes in 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 (57 FR 40210 and 41793). 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: R. Twigg, PDIV-1

Date: October 2, 1992