Docket Nos. 50-313/368

March 8, 1989

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 NOS. 116 AND 89 TO FACILITY OPERATING LICENSE NOS. DPR-51 AND NPF-6 - ARKANSAS NUCLEAR ONE, UNITS 1 AND 2 (TAC NOS. 69053 AND 69054)

The Commission has issued the enclosed Amendment Nos. 116 and 89 to Facility Operating License Nos. DPR-51 and NPF-6 for the Arkansas Nuclear One, Units 1 and 2 (ANO-1&2). These amendments consist of changes to the Technical Specifications (TSs) in response to your applications dated May 27, 1988 as supplemented by letter dated January 27, 1989 for Unit 1.

The amendments modify the TSs for each unit by adding operability and surveillance requirements for the core exit thermocouples (CETs). The CET System is one of the inadequate core cooling (ICC) monitoring systems. These systems and associated TSs are required by NUREG-0737, Section IIF.2, as specified by Generic Letter 83-37.

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

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

/s/

Chester Poslusny, Project Manager
Project Directorate - IV
Division of Reactor Projects - III,
IV, V and Special Projects
Office of Nuclear Reactor Regulation

Enclosures:
1. Amendment No. 116 to DPR-51
2. Amendment No. 89 to NPF-6
3. Safety Evaluation

cc w/enclosures:
See next page

DISTRIBUTION:

Docket Files	Wanda Jones	(2)-CPoslusny
NRC PDR	EButcher	ACRS (10)
Local PDR	Plant File	GPA/PA
PD4 Reading	PNoonan	ARM/LFMB
EJordan	CHarbuck (2)	DHagan
BGrimes	JCalvo	
TMeek (4)	OGC-Rockville	

LTR NAME: ANO1 AMENDMENT 1/24

PD4/LA	PD4/PM	PD4/PM	OGC-Rockville	PD4/D
PNoonan	CHarbuck:bj	CPoslusny	EBachmann	JCalvo
02/23/89	02/23/89	02/23/89	02/27/89	02/8/89

3

Docket Nos. 50-313/368

March 8, 1989

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 NOS. 116 AND 89 TO FACILITY OPERATING LICENSE NOS. DPR-51 AND NPF-6 - ARKANSAS NUCLEAR ONE, UNITS 1 AND 2 (TAC NOS. 69053 AND 69054)

The Commission has issued the enclosed Amendment Nos. 116 and 89 to Facility Operating License Nos. DPR-51 and NPF-6 for the Arkansas Nuclear One, Units 1 and 2 (ANO-1&2). These amendments consist of changes to the Technical Specifications (TSs) in response to your applications dated May 27, 1988 as supplemented by letter dated January 27, 1989 for Unit 1.

The amendments modify the TSs for each unit by adding operability and surveillance requirements for the core exit thermocouples (CETs). The CET System is one of the inadequate core cooling (ICC) monitoring systems. These systems and associated TSs are required by NUREG-0737, Section IIF.2, as specified by Generic Letter 83-37.

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

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

/s/

Chester Poslusny, Project Manager
Project Directorate - IV
Division of Reactor Projects - III,
IV, V and Special Projects
Office of Nuclear Reactor Regulation

Enclosures:
1. Amendment No. 116 to DPR-51
2. Amendment No. 89 to NPF-6
3. Safety Evaluation

cc w/enclosures:
See next page

DISTRIBUTION:

Docket Files	Wanda Jones	(2)-CPoslusny
NRC PDR	EButcher	ACRS (10)
Local PDR	Plant File	GPA/PA
PD4 Reading	PNoonan	ARM/LFMB
EJordan	CHarbuck (2)	DHagan
BGrimes	JCalvo	
TMeek (4)	OGC-Rockville	

LTR NAME: ANO1 AMENDMENT 1/24

PD4/LA	PD4/PM	PD4/PM	OGC-Rockville	PD4/D
PNoonan	CHarbuck:bj	CPoslusny	EBachmann	JCalvo
02/23/89	02/23/89	02/23/89	02/27/89	02/8/89

3

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

March 8, 1989

Docket Nos. 50-313/368

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 NOS. 116 AND 89 TO FACILITY OPERATING LICENSE NOS. DPR-51 AND NPF-6 - ARKANSAS NUCLEAR ONE, UNITS 1 AND 2 (TAC NOS. 69053 AND 69054)

The Commission has issued the enclosed Amendment Nos. 116 and 89 to Facility Operating License Nos. DPR-51 and NPF-6 for the Arkansas Nuclear One, Units 1 and 2 (ANO-1&2). These amendments consist of changes to the Technical Specifications (TSs) in response to your applications dated May 27, 1988 as supplemented by letter dated January 27, 1989 for Unit 1.

The amendments modify the TSs for each unit by adding operability and surveillance requirements for the core exit thermocouples (CETs). The CET System is one of the inadequate core cooling (ICC) monitoring systems. These systems and associated TSs are required by NUREG-0737, Section IIF.2, as specified by Generic Letter 83-37.

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

Sincerely,

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

Chester Poslusny, Project Manager
Project Directorate - IV
Division of Reactor Projects - III,
IV, V and Special Projects
Office of Nuclear Reactor Regulation

Enclosures:
1. Amendment No. 116 to DPR-51
2. Amendment No. 89 to NPF-6
3. Safety Evaluation

cc w/enclosures:
See next page

Mr. T. Gene Campbell
Arkansas Power & Light Company

Arkansas Nuclear One
Unit Nos. 1 and 2

cc:
Mr. Dan R. Howard, Manager
Licensing
Arkansas Nuclear One
P. O. Box 608
Russellville, Arkansas 72801

Mr. James M. Levine, Executive Director
Site Nuclear Operations
Arkansas Nuclear One
P. O. Box 608
Russellville, Arkansas 72801

Nicholas S. Reynolds, Esq.
Bishop, Cook, Purcell
& Reynolds
1400 L Street, N.W.
Washington, D.C. 20005-3502

Regional Administrator, Region IV
U.S. Nuclear Regulatory Commission
Office of Executive Director for
Operations
611 Ryan Plaza Drive, Suite 1000
Arlington, Texas 76011

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

Ms. Greta Dicus, Director
Division of Environmental Health
Protection
Arkansas Department of Health
4815 West Markam Street
Little Rock, Arkansas 72201

Mr. Robert B. Borsum
Babcock & Wilcox
Nuclear Power Generation Division
Suite 220
1700 Rockville Pike, Suite 525
Rockville, Maryland 20852

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

Honorable William Abernathy
County Judge of Pope County
Pope County Courthouse
Russellville, Arkansas 72801

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. 116
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 May 27, 1988 as supplemented January 27, 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.

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. DPR-51 is hereby amended to read as follows:

   2. Technical Specifications

   The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 116 , 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

José A. Calvo

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: March 8, 1989

ATTACHMENT TO LICENSE AMENDMENT NO.116

FACILITY OPERATING LICENSE NO. DPR-51

DOCKET NO. 50-313

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
43b	43b
-	45d1
-	45f1
72d	72d

The Degraded Voltage Monitoring relay settings are based on the short term starting voltage protection as well as long term running voltage protection. The 4.16 KV undervoltage relay setpoints are based on the allowable starting voltage plus maximum system voltage drops to the motor terminals, which allows approximately 78% of motor rated voltage at the motor terminals. The 460V undervoltage relay setpoint is based on long term motor voltage requirements plus the maximum feedwater voltage drop allowance resulting in a 92% setting of motor rated voltage.

The OPERABILITY of the accident monitoring instrumentation ensures that sufficient information is available on selected plant parameters to monitor and assess these variables during and following an accident. This capability is consistent with the recommendation of Regulatory Guide 1.97, "Instrumentation for Light-Water-Cooled Nuclear Power Plants to Assess Plant Conditions During and Following an Accident," December 1975 and NUREG-0578, "TMI-2 Lessons Learned Task Force Status Report and Short-term Recommendations."

The OPERABILITY of the chlorine detection system ensures that sufficient capability is available to promptly detect and initiate protective action in the event of an accidental chlorine release. This capability is required to protect control room personnel and is consistent with the recommendations of Regulatory Guide 1.95, "Protection of Nuclear Power Plant Control Room Operators against an Accidental Chlorine Release," February 1975.

The subcooled margin monitors (SMM), and core-exit thermocouples are a result of the Inadequate Core Cooling (ICC) instrumentation required by Item II.F.2 NUREG-0737. The function of the ICC instrumentation is to increase the ability of the plant operators to diagnose the approach to and recovery from ICC. Additionally, they aid in tracking reactor coolant inventory. These instruments are included in the Technical Specifications at the request of NRC Generic Letter 83-37 and are not required by the accident analysis, nor to bring the plant to cold shutdown conditions.

REFERENCE

FSAR, Section 7.1

Amendment No. 116

Table 3.5.1-1 (cont'd)

OTHER SAFETY RELATED SYSTEMS
(cont'd)

1	2	3	4	5
Functional Unit	No. of channels	No. of channels for system trip	Min. operable channels	Min. degree of redundancy	Operator action if conditions of column 3 or 4 cannot be met
13. In core Thermocouples (core-exit thermocouples)	6/core quadrant	N/A	2/core quadrant	0	Note 22

Table 3.5.1-1 (cont'd)

Notes:

22. With the number of operable channels less than two (2) per core quadrant restore the inoperable channel to operable status within 30 days or be in at least HOT SHUTDOWN within the next 12 hours.

Amendment No. 116

Table 4.1-1 (Cont.)

Channel Description	Check	Test	Calibrate	Remarks
d. SG A high range level high-high	S	M	R	
e. SG B high range level high-high	S	M	R	
57. Containment High Range Radiation Monitors	D	M	R	
58. Containment Pressure-High	M	NA	R	
59. Containment Water Level-Wide Range	M	NA	R	
60. Low Temperature Overpressure Protection Alarm Logic	NA	R	R	
61. Core-exit Thermocouples	M	NA	R	

NOTE:

S - Each Shift
W - Weekly
M - Monthly
D - Daily

T/W - Twice per Week
Q - Quarterly
P - Prior to each startup if not done previous week
B/M - Every 2 months

R - Once every 18 months
PC - Prior to going Critical if not done within previous 31 days
NA - Not Applicable

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. 89
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 May 27, 1988, 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.

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. 89 , 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

José A. Calvo

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: March 8, 1989

ATTACHMENT TO LICENSE AMENDMENT NO. 89

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. The corresponding overleaf pages are also provided to maintain document completeness.

REMOVE PAGES	INSERT PAGES
-	3/4 3-40a
-	3/4 3-41a

TABLE 3.3-10 (Con't)

POST-ACCIDENT MONITORING INSTRUMENTATION

INSTRUMENT	MINIMUM CHANNELS OPERABLE
13. In Core Thermcouples (Core-Exit Thermocouples)	2/core quadrant

TABLE 4.3-10

POST-ACCIDENT MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

INSTRUMENT	CHANNEL CHECK	CHANNEL CALIBRATION
1. Containment Pressure (Normal Design Range)	M	R
2. Containment Pressure (High Range)	M	R
3. Pressurizer Pressure	M	R
4. Pressurizer Water Level	M	R
5. Steam Generator Pressure	M	R
6. Steam Generator Water Level	M	R
7. Refueling Water Tank Water Level	M	R
8. Containment Water Level - Wide Range	M	R
9. Emergency Feedwater Flow Rate	M	R
10. Reactor Coolant System Subcooling Margin Monitor	M	R
11. Pressurizer Safety Valve Acoustic Position Indication	M	R
12. Pressurizer Safety Valve Tail Pipe Temperature	M	R

TABLE 4.3-10 (Con't)

POST-ACCIDENT MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

INSTRUMENT	CHANNEL CHECK	CHANNEL CALIBRATION
13. In Core Thermocouples (Core-Exit Thermocouples)	M	R

INSTRUMENTATION

CHLORINE DETECTION SYSTEMS

LIMITING CONDITION FOR OPERATION

3.3.3.7 Two independent chlorine detection systems, with their alarm/trip setpoints adjusted to actuate at a chlorine concentration of $\leq$ 5 ppm, shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

a. With one chlorine detection system inoperable, restore the inoperable detection system to OPERABLE status within 7 days or within the next 6 hours initiate and maintain operation of the control room emergency ventilation system in the recirculation mode of operation.

b. With no chlorine detection system OPERABLE, within 1 hour initiate and maintain operation of the control room emergency ventilation system in the recirculation mode of operation.

c. The provisions of Specification 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.3.3.7 Each chlorine detection system shall be demonstrated OPERABLE by performance of a CHANNEL CHECK at least once per 12 hours, a CHANNEL FUNCTIONAL TEST at least once per 31 days and a CHANNEL CALIBRATION at least once per 18 months.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NOS. 116 AND 89 TO

FACILITY OPERATING LICENSE NOS. DPR-51 AND NPF-6

ARKANSAS POWER AND LIGHT COMPANY

ARKANSAS NUCLEAR ONE, UNIT NOS. 1 AND 2

DOCKET NOS. 50-313 AND 50-368

1.0 INTRODUCTION

By letters dated May 27, 1988 as supplemented by letter dated January 27, 1989 for Unit 1, Arkansas Power and Light Company requested changes to the Technical Specifications (TS) for Arkansas Nuclear One - Units 1 and 2 (ANO-1&2). The proposed changes would add core exit thermocouples in the Accident Monitoring Instrumentation, TS Tables 3.5.1-1 and 4.1-1 for Unit 1 and in the Post-Accident Monitoring Instrumentation, TS Tables 3.3-10 and 4.3-10 for Unit 2.

The proposed change to add core exit thermocouples to the ANO-1 Tables 3.5.1-1 and 4.1-1 and ANO-2 TS Tables 3.3-10 and 4.3-10 is in accordance with the requirements of NUREG-0737, Item II.F.2, "Instrumentation for Detection of Inadequate Core Cooling" and Generic Letter 83-37, NUREG-0737 Technical Specifications."

Generic Letter No. 83-37 requires that TS provide assurance that facility operation is maintained within acceptable limits for each facility in accordance with NUREG-0737.

2.0 EVALUATION

The proposed change would add core exit thermocouples: (1) to TS Table 3.5.1-1, Accident Monitoring Instrumentation and require 6 thermocouples per core quadrant for operability determination while allowing 2 thermocouples per quadrant as the minimum number of operable channels for operation for Unit 1 and (2) to TS Table 3.3-10, Post-Accident Monitoring Instrumentation and require 2 thermocouples per quadrant as the minimum number of operable channels for operation for Unit 2. Also, the core exit thermocouples will be added to TS Table 4.1-1, Accident Monitoring Instrumentation Surveillance Requirements, and TS Table 4.3-10, Post-Accident Monitoring Instrumentation Surveillance Requirements, requiring a "Channel Check" on a monthly basis and a "Channel Calibration" once every 18 months. These changes are in conformance with the sample provided in Enclosure 3 to Generic Letter 83-37, pages 15 and 16.

The proposed changes are in conformance with NUREG-0737 and Generic Letter 83-37. Therefore, based on the above, the staff finds these changes to be acceptable.

3.0 ENVIRONMENTAL CONSIDERATION

The amendments 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 amendments involve 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 amendments involve no significant hazards consideration and there has been no public comment on such finding. Accordingly, the amendments meet 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 amendments.

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 amendments will not be inimical to the common defense and security or to the health and safety of the public.

Date: March 8, 1989

Principal Contributor: B. Marcus