September 13, 1990

Docket No. 50-313

Entergy Operations, Inc.
ATTN: Mr. Neil S. Carns
Vice President, Operations
Arkansas Nuclear One
Post Office Box 551
Little Rock, Arkansas 72203

Dear Mr. Carns:

SUBJECT: ISSUANCE OF AMENDMENT NO. 135 TO FACILITY OPERATING LICENSE NO. DPR-51 - ARKANSAS NUCLEAR ONE, UNIT 1 (TAC NO. 74375)

The Commission has issued the enclosed Amendment No. 135 to Facility Operating License No. DPR-51 for the Arkansas Nuclear One, Unit No. 1 (ANO-1). This amendment consists of changes to the Technical Specifications (TSs) in response to your application dated August 9, 1989, as supplemented by letters dated March 30 and June 15, 1990.

The amendment adds limiting conditions for operation and reporting requirements to the ANO-1 TSs regarding Seismic Monitoring Instrumentation and changes the existing surveillance testing requirements for clarity and to achieve consistency with the ANO-2 TSs.

A copy of the Safety Evaluation is also enclosed. 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 and Special Projects
Office of Nuclear Reactor Regulation

Enclosures:
1. Amendment No. 135 to DPR-51
2. Safety Evaluation

cc w/enclosures:
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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

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Office of Nuclear Reactor Regulation

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

ENTERGY OPERATIONS, INC.

DOCKET NO. 50-313

ARKANSAS NUCLEAR ONE, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 135
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 dated August 9, 1989, as supplemented on March 30 and June 15, 1990, 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. DPR-51 is hereby amended to read as follows:

   2. Technical Specifications

      The Technical Specifications contained in Appendix A, as revised through Amendment No. 135, 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

Theodore R. Quay

Theodore R. Quay, Acting Director
Project Directorate IV-1
Division of Reactor Projects - III,
IV, V and Special Projects
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: September 13, 1990

ATTACHMENT TO LICENSE AMENDMENT NO. 135

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
-	42b
43b	43b
45d1	45d1
45g	45g
72a	72a
72b	72b
-	72b1
72d	72d

3.5.1.13 The Seismic Monitoring Instrumentation shall be operable with a minimum measurement range from 0.01 to 1.0 g (2-25.4 HZ for Triaxial Response Spectrum Recorders).

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 feeder 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.

The OPERABILITY of the Seismic Monitoring Instrumentation ensures that sufficient capability is available to promptly determine the magnitude of a seismic event and evaluate the response of those features important to safety. This capability is required to permit comparison of the measured response to that used in the design basis for the facility to determine if plant shutdown is required pursuant to Appendix "A" of 10CFR Part 100. The instrumentation is consistent with the recommendations of Safety Guide 12, "Instrumentation for Earthquake," published March 19, 1971, and NUREG-0800 Section 3.7.4, "Seismic Instrumentation."

REFERENCE

FSAR, Section 7.1
FSAR, Section 2.7.6

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
14. Seismic Monitoring Instrumentation					
a. Triaxial Time-History Accelerographs					
1. ACS-8001, Unit 1 Containment Base (Slab, Elev. 335'*)	1	N/A	1	0	Note 27
2. ACS-8002, Unit 1 Top of Containment, Elev. 531'6"	1	N/A	1	0	Note 27
b. Triaxial Peak Accelerographs					
1. 2XR-8347, Unit 2 Containment Base Slab, Elev. 336'6"	1	N/A	1	0	Note 27
2. 2XR-8348, Unit 2 Primary Shield O/S Reactor Cavity, Elev. 366'3"	1	N/A	1	0	Note 27
3. 2XR-8349, Unit 2 Top of Containment, Elev. 531'6"	1	N/A	1	0	Note 27
c. Triaxial Response-Spectrum Recorders					
1. 2XR-8350, Unit 2 Containment Base Slab, Elev. 335'6" (O/S Containment)	1	N/A	1	0	Note 27

*With Unit 1 control room indication/or alarm

Table 3.5.1-1 (cont'd)

23. With the number of operable Electronic (SCR) Trip relays one less than the total number of Electronic (SCR) Trip relays in a channel, restore the inoperable Electronic (SCR) Trip relay to operable status in 48 hours or place the SCRs associated with the inoperable Electronic (SCR) Trip relay in trip in the next hour. With two or more Electronic (SCR) Trip relays inoperable, place all Electronic (SCR) Trip relays associated with that channel in trip in the next hour. This requirement does not apply to the Electronic Trip channels associated with Group 8 Regulating Power Supply.

24. With the number of OPERABLE channels one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may proceed provided the following conditions are satisfied:

    a. Within 1 hour:

        1. Place the inoperable channel in the tripped condition, or

        2. Remove power supplied to the control rod trip device associated with the inoperable channel.

    b. One additional channel may be bypassed for up to 4 hours for surveillance testing and the inoperable channel above may be bypassed for up to 30 minutes in any 24-hour period when necessary to test the trip breaker associated with the logic of the channel being tested. The inoperable channel above shall not be bypassed to test the logic of a channel of the trip system associated with the inoperable channel.

25. With one of the Control Rod Drive Trip Breaker diverse trip features (undervoltage or shunt trip attachment) inoperable, restore it to OPERABLE status in 48 hours or place the breaker in trip in the next hour.

26. Interrupts motor power to the Safety Groups of control rods only.

27. With one or more seismic monitoring instruments inoperable for more than 30 days, prepare and submit a Special Report to the Commission pursuant to Specification 6.12.2 within the next 10 days outlining the cause of the malfunction and the plans for restoring the instrument(s) to OPERABLE status. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

Table 4.1-1 (Cont.)

Channel Description	Check	Test	Calibrate	Remarks
36. Boric Acid Addition Tank				
a. Level Channel	NA	NA	R	
b. Temperature Channel	M	NA	R	
37. Degraded Voltage Monitoring	W	R	R	
38. Sodium Hydroxide Tank Level Indicator	NA	NA	R	
39. Incore Neutron Detectors	M(1)	NA	NA	(1) Check Functioning
40. Emergency Plant Radiation Instruments	M(1)	NA	R	(1) Battery Check
41. Reactor Trip Upon Turbine Trip Circuitry	M	PC	R	
42. Seismic Monitoring Instruments				
a. Triaxial Time-History Accelerographs				
1. ACS-8001, Unit 1 Containment Base Slab, Elev, 335' (with Unit 1 control room indication)	M(1)	SA	R	(1) Except Seismic Trigger
2. ACS-8002, Unit 1 Top of Containment Elev. 531'6"	M(1)	SA	R	

Table 4.1-1 (Cont.)

Channel Description	Check	Test	Calibrate	Remarks
b. Triaxial Peak Accelerographs				
1. 2XR-8437, Unit 2 Containment Base Slab, Elev. 336'6"	NA	NA	R	
2. 2XR-8348, Unit 2 Primary Shield O/S Reactor Cavity, Elev. 366'3"	NA	NA	R	
3. 2XR-8349, Unit 2 Top of Containment, Elev. 531'6"	NA	NA	R	
c. Triaxial Response-Spectrum Recorders				
1. 2XR-8350, Unit 2 Containment Base Slab, Elev. 335'6" (O/S Containment)	NA	R	R	
43. ESAS Manual Trip Functions				
a. Switches & Logic	NA	R	NA	
b. Logic	NA	M	NA	
44. Reactor Manual Trip	NA	P	NA	
45. Reactor Building Sump Level	NA	NA	R	
46. EFW Flow Indication	M	NA	R	

Table 4.1-1 (Cont.)

Channel Description	Check	Test	Calibrate	Remarks
47. RCS Subcooling Margin Monitor	D	NA	R	
48. Electromatic Relief Valve Flow Monitor	D	NA	R	
49. Electromatic Relief Block Valve Position Indicator	D	NA	R	
50. Pressurizer Safety Valve Flow Monitor	D	NA	R	
51. Pressurizer Water Level Indicator	D	NA	R	
52. Control Room Chlorine Detector	D	M	R	
53. EFW Initiation				
a. Manual	NA	M	NA	
b. SG Low Level, SGA or B	S	M	R	
c. Low Pressure SGS or B	S	M	R	
d. Loss of both MFW Pumps and PWR > 10%	S	M	R	

Amendment No. 25, 39, 50, 69, 91, 135 72b1

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	
62. Electronic (SCR) Trip Relays	NA	M	NA	

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
SA - Twice per Year

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 135 TO

FACILITY OPERATING LICENSE NO. DPR-51

ENTERGY OPERATIONS, INC.

ARKANSAS NUCLEAR ONE, UNIT NO. 1

DOCKET NO. 50-313

INTRODUCTION

By letter dated August 9, 1989, as supplemented by letters dated March 30 and June 15, 1990, Arkansas Power and Light Company (AP&L) requested an amendment to the Technical Specifications appended to Facility Operating License No. DPR-51 for Arkansas Nuclear One, Unit 1 (ANO-1). The proposed amendment would (1) add the Seismic Monitoring Instrumentation with a measurement range of 0.01 to 1.0 g to Technical Specification (TS) Section 3.5.1, Operational Safety Instrumentation; (2) add a basis and an appropriate FSAR reference to the corresponding TS Bases section; (3) add the specific instrumentation required (Triaxial Time-History Accelerographs, Triaxial Peak Accelerographs, and Triaxial Response-Spectrum Recorders) to TS Table 3.5.1-1 with the appropriate annotations; and (4) change the current surveillance requirements of TS Table 4.1-1, Item 42, for clarity and to achieve consistency with the Arkansas Nuclear One, Unit 2 (ANO-2) TS requirements. The proposed TS change will upgrade the ANO-1 Technical Specifications to comply with Safety Guide 12 and to be consistent with the ANO-2 Technical Specifications.

EVALUATION

The seismic monitoring instrumentation, addressed by this proposed amendment, is shared with ANO-2. The limiting conditions for operation and reporting requirements proposed were compared with the existing TS requirements for ANO-2, and were found to be identical. Since the proposed amendment simply adds reporting requirements for inoperability and requires testing consistent with vendor recommendations, both of which are already required by the ANO-2 TSs, it is acceptable. In addition, consistency between the ANO-1&2 TS regarding the shared seismic monitoring instrumentation provides assurance that this important instrumentation will be properly maintained and function as designed.

The March 30, 1990, supplement provided a page that was inadvertently omitted in the original application. Only the page number is revised due to the amendment (the content of this page is not affected by the amendment). The staff finds this change to be acceptable.

The June 15, 1990, supplement clarified the background and discussion sections of the original application regarding the surveillance frequencies to highlight the differences between the current and the proposed TSs and to clarify that the proposed TSs meet Safety Guide 12. The June 15, 1990, supplement also revised the TS pages proposed in the original application to define what "SA" means (the use of "SA" was proposed but it was inadvertently not defined), and to annotate more clearly the instrumentation located in ANO-2. The staff finds these clarifications and changes to be acceptable as well.

ENVIRONMENTAL CONSIDERATION

The amendment involves a change in a requirement with respect to the 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 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 exposures. 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. Accordingly, the amendment meets 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 amendment.

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.

Dated: September 13, 1990

Principal Contributor: T. Alexion