DCS MS-016

MAR 27 1984

Docket No. 50-368

DISTRIBUTION:

~~Docket File~~	RDiggs
NRC PDR	LTremper
L PDR	OPA, CMiles
ORB#3 Rdg	ACRS-10
DEisenhut	DBrinkman
PMKretuzer-3	WJones
RSLee	TBarnhart-4
OELD	JNGrace
SECY	LHarmon
EJordan	Gray File +4

Mr. John M. Griffin, Vice President
Nuclear Operations
Arkansas Power & Light Company
P. O. Box 551
Little Rock, Arkansas 72203

Dear Mr. Griffin:

The Commission has issued the enclosed Amendment No. 54 to Facility Operating License No. NPF-6 for Arkansas Nuclear One, Unit No. 2. This amendment is in response to your application dated December 15, 1983.

The amendment revises the Technical Specifications (TS) pertaining to the D.C. Distribution System. The changes update TS 3.8.2.3 and 4.8.2.3.1 to conform with the most recent Standard Technical Specifications (NUREG-0452, Revision 4) which reflect current industry standards and practices.

A copy of the Safety Evaluation is enclosed. The notice of issuance will be included in the Commission's next monthly Federal Register notice.

Sincerely,

Original Signed by J. R. Miller

James R. Miller, Chief
Operating Reactors Branch #3
Division of Licensing

Enclosure:
1. Amendment No. 54 to NPF-6
2. Safety Evaluation

cc w/enclosure:
See next page

~~ORB#3~~:DL	~~ORB#3~~:DL	~~ORB#3~~:DL	OELD	AD:OR:DL
PMKreutzer	RSLee/pn	JRMiller	No legal objection McGregor	GCLainas
3/23/84	3/23/84	3/26/84	3/26/84	3/27/84

8404120114 840327
PDR ADOCK 05000368
P PDR

cc:

Mr. John Marshall
Manager, Licensing
Arkansas Power & Light Company
P. O. Box 551
Little Rock, Arkansas 72203

Mr. James M. Levine
General Manager
Arkansas Nuclear One
P. O. Box 608
Russellville, Arkansas 72801

Mr. Robert B. Borsum
Babcock & Wilcox
Nuclear Power Generation Division
Suite 220
7910 Woodmont Avenue
Bethesda, Maryland 20814

Nicholas S. Reynolds, Esq.
c/o Bishop, Liberman, Cook,
Purcell & Reynolds
1200 Seventeenth Street, N.W.
Washington, D. C. 20036

Mr. Charles B. Brinkman
Manager - Washington Nuclear
Operations
C-E Power Systems
7910 Woodmont Avenue
Bethesda, Maryland 20814

Regional Administrator (2)
Nuclear Regulatory Commission, Region IV
Office of Executive Director for Operations
611 Ryan Plaza Drive, Suite 1000
Arlington, Texas 76011

Mr. J. Callan
U.S. NRC
P. O. Box 2090
Russellville, Arkansas 72801

U.S. Environmental Protection Agency
Region VI Office
ATTN: Regional Radiation
Representative
1201 Elm Street
Dallas, Texas 75270

Mr. Frank Wilson
Director, Division of Environmental
Health Protection
Arkansas Department of Health
4815 West Markman Street
Little Rock, Arkansas 72201

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

ARKANSAS POWER & LIGHT COMPANY

DOCKET NO. 50-368

ARKANSAS NUCLEAR ONE, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 54
License No. NPF-6

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Arkansas Power & Light Company (the licensee) dated December 15, 1983, 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 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. 54 , are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications, except where otherwise stated in specific license conditions.

3. This license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

James R. Miller, Chief
Operating Reactors Branch #3
Division of Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: March 27, 1984

ATTACHMENT TO LICENSE AMENDMENT NO. 54

FACILTIY OPERATING LICENSE NO. NPF-6

DOCKET NO. 50-368

Replace the following pages of the Appendix "A" Technical Specifications with the enclosed pages. The revised pages are identified by amendment number and contains vertical lines indicating the areas of change. The corresponding overleaf pages are provided to maintain document completeness.

Remove Page	Insert Page
3/4 8-8	3/4 8-8
3/4 8-9	3/4 8-9
	3/4 8-9a
	3/4 8-10 (unchanged)

ELECTRICAL POWER SYSTEMS

D.C. DISTRIBUTION - SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.8.2.4 As a minimum, the following D.C. electrical equipment and bus shall be energized and OPERABLE:

1 - 125-volt D.C. bus, and

1 - 125-volt battery bank and charger supplying the above D.C. bus.

APPLICABILITY: MODES 5 and 6.

ACTION:

With less than the above complement of D.C. equipment and bus OPERABLE, establish CONTAINMENT INTEGRITY within 8 hours.

SURVEILLANCE REQUIREMENTS

4.8.2.4.1 The above required 125-volt D.C. bus shall be determined OPERABLE and energized at least once per 7 days by verifying correct breaker alignment and indicated power availability.

4.8.2.4.2 The above required 125-volt battery bank and charger shall be demonstrated OPERABLE per Surveillance Requirement 4.8.2.3.2.

ELECTRICAL POWER SYSTEMS

A.C. DISTRIBUTION - SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.8.2.2 As a minimum, the following A.C. electrical busses shall be OPERABLE:

1 - 4160 volt Emergency Bus

1 - 480 volt Emergency Load Center Bus

4 - 480 volt Motor Control Center Busses

2 - 120 volt A.C. Vital Busses

APPLICABILITY: MODES 5 and 6

ACTION:

With less than the above complement of A.C. busses OPERABLE and energized, establish CONTAINMENT INTEGRITY within 8 hours.

SURVEILLANCE REQUIREMENTS

4.8.2.2 The specified A.C. busses shall be determined OPERABLE at least once per 7 days by verifying correct breaker alignment and indicated power availability.

ELECTRICAL POWER SYSTEMS

D.C. DISTRIBUTION - OPERATING

LIMITING CONDITION FOR OPERATION

3.8.2.3 As a minimum, the following D.C. electrical sources shall be OPERABLE:

TRAIN "A" consisting of 125-volt D.C. bus No. 1, 125-volt D.C. battery bank No. 1 and a full capacity charger.

TRAIN "B" consisting of 125-volt D.C. bus No. 2, 125-volt D.C. battery bank No. 2 and a full capacity charger.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

a. With one of the required battery banks inoperable, restore the inoperable battery bank to OPERABLE status within 2 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

b. With one of the required full capacity chargers inoperable, demonstrate the OPERABILITY of its associated battery bank by performing Surveillance Requirement 4.8.2.3.1.a.1 within one hour at least once per 8 hours thereafter. If any Category A limit in Table 4.8-2 is not met, declare the battery inoperable.

SURVEILLANCE REQUIREMENTS

4.8.2.3.1 Each 125-volt battery bank and charger shall be demonstrated OPERABLE:

a. At least once per 7 days by verifying that:

1. The parameters in Table 4.8-2 meet the Category A LIMITS, and

2. The total battery terminal voltage is greater than or equal to 129 volts on float charge.

b. At least once per 92 days and within 7 days after a battery discharge with battery terminal voltage below 110 volts, or battery overcharge with battery terminal voltage above 150 volts, by verifying that:

1. The parameters in Table 4.8-2 meet the Category B LIMITS,

SURVEILLANCE REQUIREMENTS (Continued)

2. There is no visible corrosion at either terminals or connectors, and

3. The average electrolyte temperature of 12 of the connected cells is above 60°F.

c. At least once per 18 months by verifying that:

1. The cells, cell plates, and battery racks show no visual indication of physical damage or abnormal deterioration,

2. The cell-to-cell and terminal connections are clean, tight, and coated with anti-corrosion material,

3. The resistance of each cell-to-cell and terminal connection is less than or equal to 150×10^{-6} ohm, and

4. The battery charger will supply at least 200 amperes at $\geq$ 125 volts for at least 8 hours.

d. At least once per 18 months, during shutdown, by verifying that the battery capacity is adequate to supply and maintain in OPERABLE status all of the actual or simulated emergency loads for the design duty cycle when the battery is subjected to a battery service test.

e. At least once per 60 months, during shutdown, by verifying that the battery capacity is at least 80% of the manufacturer's rating when subjected to a performance discharge test. Once per 60-month interval this performance discharge test may be performed in lieu of the battery service test.

f. At least once per 18 months, during shutdown, performance discharge tests of battery capacity shall be given to any battery that shows signs of degradation or has reached 85% of the service life expected for the application. Degradation is indicated when the battery capacity drops more than 10% of rated capacity from its average on previous performance tests, or is below 90% of the manufacturer's rating.

TABLE 4.8-2

BATTERY SURVEILLANCE REQUIREMENTS

	CATEGORY A(1)	CATEGORY B(2)	
Parameter	LIMITS for each designated pilot cell	LIMITS for each connected cell	ALLOWABLE(3) VALUE for each connected cell
Electrolyte	>Minimum level indication mark, and ≦¼" above maximum level indication mark	>Minimum level indication mark, and ≦¼" above maximum level indication mark	Above top of plates, and not overflowing
Float Voltage	≧2.13 volts	≧2.13 volts(c)	>2.07 volts
Specific Gravity(a)	≧1.195(b)	≧1.190 Average of all connected cells >1.200	Not more than .020 below the average of all connected cells Average of all connected cells ≧1.190(b)

(a) Corrected for electrolyte temperature and level.
(b) Or battery charging current is less than 2 amps when on charge.
(c) Corrected for average electrolyte temperature.
(1) For any Category A parameter(s) outside the LIMIT(S) shown, the battery may be considered OPERABLE provided that within 24 hours all the Category B measurements are taken and found to be within their ALLOWABLE VALUES, and provided all Category A and B parameter(s) are restored to within LIMITS within the next 6 days.
(2) For any Category B parameter(s) outside the LIMIT(S) shown, the battery may be considered OPERABLE provided that the Category B parameters are restored to within LIMITS within 7 days.
(3) Any Category B parameter not within its ALLOWABLE VALUE indicates an inoperable battery.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 54 TO FACILITY OPERATING LICENSE NO. NPF-6

ARKANSAS POWER & LIGHT COMPANY

ARKANSAS NUCLEAR ONE, UNIT 2

DOCKET NO. 50-368

Introduction

By letter dated December 15, 1983, Arkansas Power & Light Company (the licensee or AP&L) requested an amendment to Facility Operating License No. NPF-6 for operation of Arkansas Nuclear One, Unit 2 (ANO-2), located in Pope County, Arkansas.

The proposed changes to ANO-2 Technical Specification 3.8.2.3 and 4.8.2.3.1 are requested to reflect current industry standards and practices, ANO-2 specific design parameters, and limits previously approved by the NRC. The development of these proposed changes was based on NUREG-0452, Revision 4. The proposed changes will not affect the safety of plant operation nor alter the ability of the D.C. power systems to perform as described in the FSAR.

Evaluation

The following are the bases for proposed changes to the Standard Technical Specifications to incorporate ANO-2 plant specific conditions.

(1) 3.8.2.3

ANO-2 has an additional full capacity charger which can be manually operated in the event the dedicated charger becomes inoperable. For this reason, the phrase "its associated full capacity charger" in the Standard Technical Specification was changed to "a full capacity charger" in the proposed specification for Trains "A" and "B" and, therefore, it is acceptable.

(2) 3.8.2.3, Action b

The phrase "until an operable charger is restored to the affected bank" was added in the technical specification. We discussed with the licensee the basis of the added phrase and found that the phrase was added to clarify the action statement. It is our interpretation of the action statement without the phrase that the action statement does not apply when an operable charger is restored to the affected bank. We have discussed this interpretation with the licensee and he has agreed that the additional phrase is not needed. Therefore, Technical Specification 3.8.2.3 Action b is in accordance with STS and is acceptable.

(3) 4.8.2.3.1.b

The licensee proposed to delete the 92 days Surveillance Requirement of the Standard Technical Specification which reads "There is no visible corrosion at either terminal or connections, or the connection resistance of these items is less than 150 x 10^{-6} ohms."

The licensee states that a precise and accurate method for measuring cell-to-cell and terminal connection resistance with the cells in service and on float has not been identified. The ANO-2 battery and bus design does not include disconnects or isolation devices which allow performing the above surveillance while batteries are in service. Based on our evaluation of the licensee's system, we approve deletion of the requirement to measure terminal or connection resistance at the 92-day surveillance test interval. However, the licensee is required to perform the visual inspection by verifying that there is no visible corrosion at least once per 92 days and therefore, as agreed by the licensee, the following phrase should be added to the Surveillance Requirement of ANO-2 technical specification Section 4.8.2.3.1.b (There is no visible corrosion at either terminals or connections.)

(4) 4.8.2.3.1.C.3

The licensee's clarification that cell-to-cell and terminal connection resistance do not include connecting cabling resistance between multiple racks and/or tiers of cells is acceptable.

(5) 4.8.2.3.1.C.4

The staff had previously approved the design capacity of the battery charger to supply at least 200 amperes as described in the FSAR. The proposed ANO-2 technical specification to specify the battery charger supplying 200 amperes for 8 hours is in accordance with STS and therefore acceptable.

(6) Table 4.8-2 Battery Surveillance Requirements

Standard Technical Specifications (STS) are based on manufacturer's recommended full charge specific gravity of 1.215. The manufacturer's recommended value for full charge specific gravity for the ANO-2 batteries is 1.210. Thus, the appropriate test criteria for Category A testing is greater than or equal to 1.195 and for Category B testing is greater than or equal to 1.190 (greater than 1.200 for the average of all connected cells). The proposed values of Table 4.8-2 as stated above for the technical specification of ANO-2 conform with the intent of the limits stated in the STS and are, therefore, acceptable.

(7) 4.8.2.3.d, e and f

The proposed battery capacity test (18 month intervals) and the performance discharge test of the batteries (60 months intervals) comply with the STS and are, therefore, acceptable.

Based on the foregoing discussions, the staff finds the proposed changes acceptable.

Environmental Consideration

We have determined that the amendment does not authorize a change in effluent types or total amounts nor an increase in power level and will not result in any significant environmental impact. Having made this determination, we have further concluded that the amendment involves an action which is insignificant from the standpoint of environmental impact and, pursuant to 10 CFR §51.5(d)(4), that an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with the issuance of this amendment.

Conclusion

We have 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 this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Date: March 27, 1984

Principal Contributor:
S. Rhow