

ENCLOSURE 1

REVISED PAGES OF RENEWED FACILITY OPERATING LICENSE NOS. DPR-51 AND NPF-6

DOCKET NOS. 50-313 AND 50-368

ARKANSAS NUCLEAR ONE, UNIT NOS. 1 AND 2

Replace the following pages of the Facility Operating Licenses. The revised pages are identified by the date of the letter issuing these pages and contain marginal lines indicating the areas of change.

REMOVE

License DPR-51

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License NPF-6

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- g. The renewal of this operating license will not be inimical to the common defense and security or to the health and safety of the public;
 - h. After weighing the environmental, economic, technical, and other benefits of the facility against environmental costs and considering available alternatives, the issuance of the renewed Facility Operating License No. DPR-51 is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied; and
 - i. The receipt, possession, and use of source, byproduct and special nuclear material as authorized by this renewed license will be in accordance with the Commission's regulations in 10 CFR Parts 30, 40 and 70, including 10 CFR Section 30.33, 40.32, 70.23 and 70.31.
2. On the basis of the foregoing findings regarding this facility, Facility Operating License DPR-51, issued on May 21, 1974, is superseded by renewed Facility Operating License No. DPR-51, which is hereby issued to Entergy Arkansas, Inc. and Entergy Operations, Inc. to read as follows:
- a. This renewed license applies to Arkansas Nuclear One, Unit 1, a pressurized water reactor and associated equipment (the facility), owned by Entergy Arkansas, Inc. The facility is located in Pope County, Arkansas, and is described in the "Safety Analysis Report" (SAR) as supplemented and amended, and the Environmental Report as supplemented and amended.
 - b. Subject to the conditions and requirements incorporated herein, the Commission hereby licenses:
 - (1) Entergy Arkansas, Inc., pursuant to Section 104b of the Act and 10 CFR Part 50, to possess but not operate the facility at the designated location in Pope County, Arkansas, in accordance with the procedures and limitations set forth in this renewed license.
 - (2) EOI, pursuant to Section 104b of the Act and 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities," to possess, use, and operate the facility at the designated location in Pope County, Arkansas in accordance with the procedures and limitations set forth in this renewed license;
 - (3) EOI, pursuant to the Act and 10 CFR Part 70, to receive, possess and use at any time at the facility site and as designated solely for the facility, special nuclear material as reactor fuel, in accordance with the limitations for storage and amounts required for reactor operation, as described in the SAR, as supplemented and amended;
 - (4) EOI, pursuant to the Act and 10 CFR Parts 30, 40 and 70, to receive, possess and use at any time any byproduct, source and special nuclear material as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required;

- (5) EOI, pursuant to the Act and 10 CFR Parts 30, 40 and 70, to receive, possess and use in amounts as required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components;
 - (6) EOI, pursuant to the Act and 10 CFR Parts 30 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.
- c. This renewed license shall be deemed to contain and is subject to the conditions specified in the following Commission regulations in 10 CFR Chapter I: Part 20, Section 30.34 of Part 30, Section 40.41 of Part 40, Sections 50.54 and 50.59 of Part 50, and Section 70.32 of Part 70; is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:
- (1) Maximum Power Level
EOI is authorized to operate the facility at steady state reactor core power levels not in excess of 2568 megawatts thermal.
 - (2) Technical Specifications
The Technical Specifications contained in Appendix A, as revised through Amendment No. 230, are hereby incorporated in the renewed license. EOI shall operate the facility in accordance with the Technical Specifications.
 - (3) Safety Analysis Report
The licensee's SAR supplement submitted pursuant to 10 CFR 54.21(d), as revised on March 14, 2001, describes certain future inspection activities to be completed before the period of extended operation. The licensee shall complete these activities no later than May 20, 2014.
 - (4) Physical Protection
EOI shall fully implement and maintain in effect all provisions of the Commission-approved physical security, training and qualification, and safeguards contingency plans, including amendments made pursuant to provisions of the Miscellaneous Amendments and Search Requirements revisions to 10 CFR 73.55 (51 FR 27817 and 27822) and to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The combined set of plans, which contains Safeguards Information protected under 10 CFR 73.21, is entitled: "Arkansas Nuclear One Physical Security Plan, Training and Qualifications Plan, and Safeguards Contingency Plan," as submitted on May 4, 2006.

(5) Implementation of the Improved Technical Specifications (ITS)

The licensee is authorized to relocate certain Technical Specification requirements previously included in Appendix A to licensee controlled documents, as described in Table R, Relocated Specifications, and Table LA, Removal of Details, attached to the Safety Evaluation for Amendment No. 215. These requirements shall be relocated to the appropriate documents as part of the implementation of the ITS.

The schedule for performing Surveillance Requirements (SRs) that are new or revised in Amendment No. 215 shall be as follows:

1. For SRs that are new in this amendment, the first performance shall be due at the end of the first surveillance interval, which begins on the date of implementation of this amendment.
2. For SRs that existed prior to this amendment whose intervals of performance are being reduced, the first reduced surveillance interval shall begin upon completion of the first surveillance performed after implementation of this amendment.
3. For SRs that existed prior to this amendment that contained modified acceptance criteria, the performance shall be due at the end of the first surveillance interval that began on the date the surveillance was last performed prior to the implementation of this amendment.
4. For SRs that existed prior to this amendment whose interval of performance are being extended, the first extended surveillance interval shall begin upon completion of the last surveillance performed prior to the implementation of this amendment.

(6) Deleted

(7) Deleted

(8) Fire Protection

EOI shall implement and maintain in effect all provisions of the approved Fire Protection Program as described in Appendix 9A to the SAR and as approved in the Safety Evaluation dated March 31, 1992, subject to the following provision:

1. AP&L¹ may proceed with and is required to complete the modifications identified in Paragraphs 3.1 through 3.19 of the NRC's Fire Protection Safety Evaluation on the facility dated August 22, 1978, and supplements thereto. These modifications shall be completed as specified in Table 3.1 of the Safety Evaluation Report or supplements thereto. In addition, the licensee may proceed with and is required to complete the modifications identified in Supplement 1 to the Fire Protection Safety Evaluation Report, and any future supplements. These modifications shall be completed by the dates identified in the supplement.
2. The licensee may make changes to the approved Fire Protection Program without prior approval of the Commission only if those changes would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire.

(9) Mitigation Strategies

The licensee shall develop and maintain strategies for addressing large fires and explosions that include the following key areas:

1. Fire fighting response strategy with the following elements:
 - (a) Pre-defined coordinated fire response strategy and guidance
 - (b) Assessment of mutual aid fire fighting assets
 - (c) Designated staging areas for equipment and materials
 - (d) Command and control
 - (e) Training of response personnel
2. Operations to mitigate fuel damage considering the following:
 - (a) Protection and use of personnel assets
 - (b) Communications
 - (c) Minimizing fire spread
 - (d) Procedures for implementing integrated fire response strategy
 - (e) Identification of readily-available pre-staged equipment
 - (f) Training on integrated fire response strategy
 - (g) Spent fuel pool mitigation measures
3. Actions to minimize release to include consideration of:
 - (a) Water spray scrubbing
 - (b) Dose to onsite responders

¹ The Original licensee authorized to possess, use, and operate the facility was AP&L. Consequently, certain historical references to AP&L remain in the license conditions.

3. This renewed license is effective as of the date of issuance and shall expire at midnight, May 20, 2034.

FOR THE NUCLEAR REGULATORY COMMISSION

Original Signed by:
Jon R. Johnson

Jon R. Johnson, Acting Director
Office of Nuclear Reactor Regulation

Attachment:

Appendix A - Technical Specifications and
Technical Specifications Bases (ML011710071 and ML011710100)

Date of Issuance: June 20, 2001

- F. EOI is technically and financially qualified to engage in the activities authorized by this renewed operating license in accordance with the regulations of the Commission;
 - G. Entergy Arkansas, Inc. has satisfied the applicable provisions of 10 CFR Part 140, "Financial Protection Requirements and Indemnity Agreements," of the Commission's regulations;
 - H. The issuance of this renewed operating license will not be inimical to the common defense and security or to the health and safety of the public;
 - I. After weighing the environmental, economic, technical and other benefits of the facility against environmental and other costs and considering available alternatives, the issuance of Renewed Facility Operating License No. NPF-6 subject to the conditions for protection of the environment set forth herein, is in accordance with 10 CFR Part 51 (formerly Appendix D to 10 CFR Part 50) of the Commission's regulations and all applicable requirements have been satisfied; and
 - J. The receipt, possession, and use of source, byproduct and special nuclear material as authorized by this renewed license will be in accordance with the Commission's regulations in 10 CFR Parts 30, 40 and 70, including 10 CFR Sections 30.33, 40.32, 70.23 and 70.31.
2. Facility Operating License No. NPF-6, issued September 1, 1978, is superceded by Renewed Facility Operating License No. NPF-6, which is hereby issued to Entergy Arkansas, Inc. and Entergy Operations, Inc. to read as follows:
- A. This renewed license applies to Arkansas Nuclear One, Unit 2, a pressurized water reactor and associated equipment (the facility) owned by Entergy Arkansas, Inc. The facility is located in Pope County, Arkansas and is described in the Final Safety Analysis Report as supplemented and amended (Amendments 20 through 47) and the Environmental Report as supplemented and amended (Amendments 1 through 7).
 - B. Subject to the conditions and requirements incorporated herein, the Commission hereby licenses:
 - (1) Entergy Arkansas, Inc. pursuant to Section 103 of the Act and 10 CFR Part 50, to possess, but not operate, the facility at the designated location in Pope County, Arkansas in accordance with the procedures and limitations set forth in this renewed license.
 - (2) EOI, pursuant to Section 103 of the Act and 10 CFR Part 50, "Licensing of Production and Utilization Facilities," to possess, use, and operate the facility at the designated location in Pope County, Arkansas in accordance with the procedures and limitations set forth in this renewed license;
 - (3) EOI, pursuant to the Act and 10 CFR Part 70, to receive, possess and use at any time at the facility site and as designated solely for the facility, special nuclear material as reactor fuel, in accordance with the limitations for storage and amounts required for reactor operation, as described in the Final Safety Analysis Report, as supplemented and amended;

- (4) EOI, pursuant to the Act and 10 CFR Parts 30, 40 and 70 to receive, possess and use at any time any byproduct, source and special nuclear material as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required;
- (5) EOI, pursuant to the Act and 10 CFR Parts 30, 40 and 70, to receive, possess, and use in amounts as required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components; and
- (6) EOI, pursuant to the Act and 10 CFR Parts 30 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.

C. This renewed license shall be deemed to contain and is subject to conditions specified in the following Commission regulations in 10 CFR Chapter 1; Part 20, Section 30.34 of Part 30, Section 40.41 of Part 40, Sections 50.54 and 50.59 of Part 50, and Section 70.32 of Part 70; and is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:

(1) Maximum Power Level

EOI is authorized to operate the facility at steady state reactor core power levels not in excess of 3026 megawatts thermal. Prior to attaining this power level EOI shall comply with the conditions in Paragraph 2.C.(3).

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 271 are hereby incorporated in the renewed license. The licensee shall operate the facility in accordance with the Technical Specifications.

Exemptive 2nd paragraph of 2.C.2 deleted per Amendment 20, 3/3/81.

(3) Additional Conditions

The matters specified in the following conditions shall be completed to the satisfaction of the Commission within the stated time periods following issuance of the renewed license or within the operational restrictions indicated. The removal of these conditions shall be made by an amendment to the renewed license supported by a favorable evaluation by the Commission.

2.C.(3)(a) Deleted per Amendment 24, 6/19/81.

(b) Fire Protection

EOI shall implement and maintain in effect all provisions of the approved fire protection program as described in Amendment 9A to the Safety Analysis Report and as approved in the Safety Evaluation dated March 31, 1992, subject to the following provision:

The licensee may make changes to the approved fire protection program without prior approval of the Commission only if those changes would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire.

(c) Less Than Four Reactor Coolant Pump Operation

EOI shall not operate the reactor in operational Modes 1 and 2 with fewer than four reactor coolant pumps in operation, except as allowed by Special Test Exception 3.10.3 of the facility Technical Specifications.

2.C.(3)(d) Deleted per Amendment 24, 6/19/81.

- (e) Arkansas Power & Light (AP&L)¹ shall complete the following modifications by the indicated dates in accordance with the staff's findings as set forth in the fire protection evaluation report, NUREG-0223 "Fire Protection Safety Evaluation Report."

Implementation Dates for Proposed Modifications

<u>Applicable Section of NUREG-0223</u>		<u>Date</u>
3.1	Portable Radio Communication Equipment	March 31, 1979
3.2	Separation of Power Cables in Manholes	*
3.3	Protection from Water Spray	*
3.4	Protection of Redundant Cables in the MCC Room (2096-M)	December 30, 1978
3.5	Protection of Redundant Cables in the Hallway – Elevation 372 (2109-U)	*, **
3.6	Protection of Redundant Cables in the Cable Spreading Room (2098-L)	*
3.7	Protection of Redundant Cables in the Switchgear Room (2100-Z)	*

¹ AP&L is the predecessor to Entergy Arkansas, Inc.

Applicable
Section of
NUREG-0223

Date

3.8	Protection of Redundant Cables in the Electrical Equipment Room (2091-BB)	September 30, 1978
3.9	Protection of Redundant Cables in the Lower South Piping Penetration Room (2111-T)	September 30, 1978
3.10	Protection of Safe Shutdown Cables in the Upper South Piping Penetration Room (2084-DD)	September 30, 1978
3.11	Protection of Redundant Reactor Protection System Cables (2136-I)	*, **
3.12	Fire Dampers	September 30, 1978
3.13	Portable Extinguisher for the Control Room (2199-J)	November 15, 1978
3.14	Smoke Detectors	*, **
3.15	Manual Hose Stations (2055-JJ, 2084-DD, Containment, Elev. 317' of Auxiliary Building)	*, **
3.16	Portable Smoke Exhaust Equipment	December 1, 1978
3.17	Emergency Lighting	December 1, 1978
3.18	Reactor Coolant Pump Oil Collection System	*
3.19	Control of Fire Doors	March 31, 1979
3.20	Administrative Control Changes	December 1, 1978

(Numbers in parentheses refer to fire zone designations in the AP&L fire hazards analysis.)

* Prior to startup following the first regularly scheduled refueling outage.

** Technical Specifications covering these items should be proposed not later than 90 days prior to implementation.

- 2.C.(3)(f) Deleted per Amendment 24, 6/19/81.
- 2.C.(3)(g) Deleted per Amendment 93, 4/25/89.
- 2.C.(3)(h) Deleted per Amendment 29, (3/4/82) and its correction letter, (3/15/82).

(i) Containment Radiation Monitor

AP&L shall, prior to July 31, 1980 submit for Commission review and approval documentation which establishes the adequacy of the qualifications of the containment radiation monitors located inside the containment and shall complete the installation and testing of these instruments to demonstrate that they meet the operability requirements of Technical Specification No. 3.3.3.6.

- 2.C.(3)(j) Deleted per Amendment 7, 12/1/78.
- 2.C.(3)(k) Deleted per Amendment 12, 6/12/79 and Amendment 31, 5/12/82.
- 2.C.(3)(l) Deleted per Amendment 24, 6/19/81.
- 2.C.(3)(m) Deleted per Amendment 12, 6/12/79.
- 2.C.(3)(n) Deleted per Amendment 7, 12/1/78.
- 2.C.(3)(o) Deleted per Amendment 7, 12/1/78.
- 2.C.(3)(p) Deleted per Amendment 255, 9/28/04.
- 2.C.(4) (Number has never been used.)
- 2.C.(5) Deleted per Amendment 255, 9/28/04.
- 2.C.(6) Deleted per Amendment 255, 9/28/04.
- 2.C.(7) Deleted per Amendment 78, 7/22/86.

(8) Antitrust Conditions

EOI shall not market or broker power or energy from Arkansas Nuclear One, Unit 2. Entergy Arkansas, Inc. is responsible and accountable for the actions of its agents to the extent said agent's actions affect the marketing or brokering of power or energy from ANO, Unit 2.

(9) Rod Average Fuel Burnup

Entergy Operations is authorized to operate the facility with an individual rod average fuel burnup (burnup averaged over the length of a fuel rod) not to exceed 60 megawatt-days/kilogram of uranium.

(10) Mitigation Strategies

The licensee shall develop and maintain strategies for addressing large fires and explosions that include the following key areas:

- (i) Fire fighting response strategy with the following elements:
 1. Pre-defined coordinated fire response strategy and guidance
 2. Assessment of mutual aid fire fighting assets
 3. Designated staging areas for equipment and materials
 4. Command and control
 5. Training of response personnel
- (ii) Operations to mitigate fuel damage considering the following:
 1. Protection and use of personnel assets
 2. Communications
 3. Minimizing fire spread
 4. Procedures for implementing integrated fire response strategy
 5. Identification of readily-available pre-staged equipment
 6. Training on integrated fire response strategy
 7. Spent fuel pool mitigation measures
- (iii) Actions to minimize release to include consideration of:
 1. Water spray scrubbing
 2. Dose to onsite responders

D. Physical Protection

EOI shall fully implement and maintain in effect all provisions of the Commission-approved physical security, training and qualification, and safeguards contingency plans, including amendments made pursuant to provisions of the Miscellaneous Amendments and Search Requirements revisions to 10 CFR 73.55 (51 FR 27817 and 27822) and to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The combined set of plans, which contains Safeguards Information protected under 10 CFR 73.21, is entitled: "Arkansas Nuclear One Physical Security, Safeguards Contingency and Training & Qualification Plan," as submitted on May 4, 2006.

E. This renewed license is subject to the following additional condition for the protection of the environment:

Before engaging in additional construction or operational activities which may result in an environmental impact that was not evaluated by the Commission, EOI will prepare and record an environmental evaluation for such activity. When the evaluation indicates that such activity may result in a significant adverse environmental impact that was not evaluated, or that is significantly greater than that evaluated, in the Final Environmental Statement (NUREG-0254) or any addendum thereto, and other NRC environmental impact assessments, EOI shall provide a written evaluation of such activities and obtain prior approval from the Director, Office of Nuclear Reactor Regulation.

F. Updated Final Safety Analysis Report Supplement

The Final Safety Analysis Report supplement, as revised, shall be included in the next scheduled update to the Final Safety Analysis Report required by 10 CFR 50.71(e)(4) following issuance of this renewed license. Until that update is complete, ANO-2 may make changes to the programs and activities described in the supplement without prior Commission approval, provided that ANO-2 evaluates each such change pursuant to the criteria set forth in 10 CFR 50.59 and otherwise complies with the requirements of that section.

The ANO-2 Final Safety Analysis Report supplement, submitted pursuant to 10 CFR 54.21(d), describes certain future activities to be completed prior to the period of extended operation. ANO-2 shall complete these activities no later than July 17, 2018, and shall notify the NRC in writing when implementation of these activities is complete and can be verified by NRC inspection.

G. Reactor Vessel Material Surveillance Capsules

All capsules in the reactor vessel that are removed and tested must meet the test procedures and reporting requirements of American Society for Testing and Materials (ASTM) E 185-82 to the extent practicable for the configuration of the specimens in the capsule. Any changes to the capsule withdrawal schedule, including spare capsules, must be approved by the NRC prior to implementation. All capsules placed in storage must be maintained for future insertion.

4. This renewed license is effective as of the date of issuance and shall expire at midnight, July 17, 2038.

FOR THE NUCLEAR REGULATORY COMMISSION

Original signed by J. E. Dyer

J. E. Dyer, Director
Office of Nuclear Reactor Regulation

Attachments:

1. Appendix A - Technical Specifications
2. Preoperational Tests, Startup Tests and other items which must be completed by the indicated Operational Mode

Date of Issuance: June 30, 2005