

ENTERGY ARKANSAS, INC.

ENTERGY OPERATIONS, INC.

(Arkansas Nuclear One, Unit 1)

DOCKET NO. 50-313

FACILITY OPERATING LICENSE

License No. DPR-51

1. The Atomic Energy Commission (the Commission) having found that:
  - a. The issuance of this license to Entergy Arkansas, Inc. 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 and all required notifications to other agencies or bodies have been duly made;
  - b. Construction of Arkansas Nuclear One, Unit 1 (the facility) has been substantially completed in conformity with Construction Permit No. CPPR-57, and the application, as amended, the provisions of the Act and the rules and regulations of the Commission;
  - c. The facility will operate in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission;
  - d. There is reasonable assurance: (i) that the activities authorized by this operating license can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the rules and regulations of the Commission;
  - e. Entergy Operations, Inc. (EOI)\* is technically and financially qualified to engage in the activities authorized by this operating license in accordance with the rules and regulations of the Commission;
  - f. Entergy Arkansas, Inc. has satisfied the applicable provisions of 10 CFR Part 140, "Financial Protection Requirements and Indemnity Agreements," of the Commission's regulations;
  - g. The issuance 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 Facility Operating License No. DPR-51 is in accordance with 10 CFR Part 50,

Appendix D, of the Commission's regulations and all applicable requirements of said Appendix D have been satisfied; and

- i. The receipt, possession, and use of source, byproduct and special nuclear material as authorized by this 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. Facility Operating License No. DPR-51 is hereby issued to Entergy Arkansas, Inc. and Entergy Operations, Inc. to read as follows:
  - a. This 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 "Final Safety Analysis Report" as supplemented and amended (Amendments 1 through 45) and the Environmental Report as supplemented and amended (Supplements 1 through 5).
  - 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 license.
    - (2) EOI, pursuant to Section 104b 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 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 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

## 5.0 DESIGN FEATURES

Specifications for design features are intended to cover characteristics of importance to each of the physical barriers, and to the maintenance of safety margins in the design.

### 5.1 SITE

#### Applicability

Applies to the location and extent of the exclusion area.

#### Objective

To define the location and the size of the site area as pertains to safety.

#### Specification

Arkansas Nuclear One-Unit 1 is located on a site consisting of approximately 1100 acres which provides for 0.65 statute mile exclusion radius from the reactor building. This exclusion area includes certain portions of the bed and banks of the Dardanelle Reservoir which are owned by the Federal Government. An easement authorizes exclusion of all persons from these areas during periods of emergency. The site is approximately 6 statute miles WNW from the City of Russellville (Latitude 35°-18'-36" N, Longitude 93°-13'-53" W) in an area characterized by remoteness from population centers.

#### REFERENCE

FSAR, Section 2.2

ANO-2



ENTERGY ARKANSAS, INC.

ENTERGY OPERATIONS, INC.

DOCKET NO. 50 - 368

ARKANSAS NUCLEAR ONE, UNIT 2

FACILITY OPERATING LICENSE

License No. NPF - 6

1. The Nuclear Regulatory Commission (the Commission) having found that:
  - A. The issuance of this license to Entergy Arkansas, Inc. complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's regulations set forth in 10 CFR Chapter I;
  - B. Construction of Arkansas Nuclear One, Unit 2 (the facility) has been substantially completed in conformity with Construction Permit No. CPPR-89 and the application, as amended, the provisions of the Act and the regulations of the Commission;
  - C. The facility requires exemptions from certain requirements of (1) Sections 50.55a(g)(2) and 50.55a(g)(4) of 10 CFR Part 50, (2) Appendices G and H to 10 CFR Part 50 and (3) Appendix J to 10 CFR Part 50 for a period of three years. These exemptions are described in the Office of Nuclear Reactor Regulation's safety evaluations supporting the granting of these exemptions which are enclosed in the letter transmitting this license amendment. These exemptions are authorized by law and will not endanger life or property or the common defense and security and are otherwise in the public interest. The exemptions are, therefore, hereby granted. With the granting of these exemptions, the facility will operate in conformity with the application, as amended, the provisions of the Act, and the regulations of the Commission;
  - D. There is reasonable assurance: (i) that the activities authorized by this operating license can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the regulations of the Commission;
  - E. Entergy Operations, Inc. (EOI)\* is technically and financially qualified to engage in the activities authorized by this operating license in accordance with the regulations of the Commission;
  - F. Entergy Arkansas, Inc, has satisfied the applicable provisions of 10 CFR Part 140, "Financial Protection Requirements and Indemnity Agreements," of the Commission's regulations;
  - G. The issuance of this amended 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 and other costs and considering available alternatives, the issuance of 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
- I. The receipt, possession, and use of source, byproduct and special nuclear material as authorized by this 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 is hereby issued to Entergy Arkansas, Inc. and Entergy Operations, Inc. to read as follows:
- A. This amended 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 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 amended 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;

2.C.(4) (Number has never been used.)

- (5) EOI shall implement a program to reduce leakage from systems outside containment that would or could contain highly radioactive fluids during a serious transient or accident to as low as practical levels. This program shall include the following.
1. Provisions establishing preventative maintenance and periodic visual inspection requirements, and
  2. Integrated leak test requirements for each system at a frequency not to exceed refueling cycle intervals.
- (6) EOI shall implement a program which will ensure the capability to accurately determine the airborne iodine concentration in vital areas under accident conditions. This program shall include the following:
1. Training of personnel,
  2. Procedures for monitoring, and
  3. Provisions for maintenance of sampling and analysis equipment.

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.

D. Physical Protection

EOI shall fully implement and maintain in effect all provisions of the Commission-approved physical security, guard 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 plans, which contain Safeguards Information protected under 10 CFR 73.21, are entitled: "Arkansas Nuclear One Industrial Security Plan," with revisions submitted through January 19, 1995; Arkansas Nuclear One Guard Training and Qualification Plan," with revisions submitted through August 23, 1991; and "Arkansas Nuclear One Safeguards Contingency Plan," with revisions submitted through November 16, 1990. Changes made in accordance with 10 CFR 73.55 shall be implemented in accordance with the schedule set forth therein.

MARKUP OF CURRENT ANO-1 OPERATING LICENSE  
AND TECHNICAL SPECIFICATIONS

(FOR INFO ONLY)



ENTERGY ARKANSAS, INC. - POWER AND LIGHT COMPANY

ENTERGY OPERATIONS, INC.

(Arkansas Nuclear One, Unit 1)

DOCKET NO. 50-313

FACILITY OPERATING LICENSE

License No. DPR-51

1. The Atomic Energy Commission (the Commission) having found that:
  - a. The ~~application for issuance of this license filed by the~~ to Entergy Arkansas, Inc. Power and Light Company (AP&L) 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 and all required notifications to other agencies or bodies have been duly made;
  - b. Construction of Arkansas Nuclear One, Unit 1 (the facility) has been substantially completed in conformity with Construction Permit No. CPPR-57, and the application, as amended, the provisions of the Act and the rules and regulations of the Commission;
  - c. The facility will operate in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission;
  - d. There is reasonable assurance: (i) that the activities authorized by this operating license can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the rules and regulations of the Commission;
  - e. Entergy Operations, Inc. (EOI)\* is technically and financially qualified to engage in the activities authorized by this operating license in accordance with the rules and regulations of the Commission;
  - f. ~~AP&L~~ Entergy Arkansas, Inc. has satisfied the applicable provisions of 10 CFR Part 140, "Financial Protection Requirements and Indemnity Agreements," of the Commission's regulations;
  - g. The issuance 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 Facility Operating License No. DPR-51 is in accordance with 10 CFR Part 50,

Appendix D, of the Commission's regulations and all applicable requirements of said Appendix D have been satisfied; and

- i. The receipt, possession, and use of source, byproduct and special nuclear material as authorized by this 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. Facility Operating License No. DPR-51 is hereby issued to ~~the~~ Entergy Arkansas, Inc. ~~Power and Light Company~~ and Entergy Operations, Inc. to read as follows:
  - a. This license applies to Arkansas Nuclear One, Unit 1, a pressurized water reactor and associated equipment (the facility), owned by ~~the~~ Entergy Arkansas, Inc. ~~Power and Light Company~~. The facility is located in Pope County, Arkansas and is described in the "Final Safety Analysis Report" as supplemented and amended (Amendments 1 through 45) and the Environmental Report as supplemented and amended (Supplements 1 through 5).
  - b. Subject to the conditions and requirements incorporated herein, the Commission hereby licenses:
    - (1) ~~AP&L~~ 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 license.
    - (2) EOI, pursuant to Section 104b 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 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 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;
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#### Applicability

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#### REFERENCE

FSAR, Section 2.2

MARKUP OF CURRENT ANO-2 OPERATING LICENSE

(FOR INFO ONLY)

ENTERGY ARKANSAS, INC. POWER AND LIGHT COMPANY

ENTERGY OPERATIONS, INC.

DOCKET NO. 50 - 368

ARKANSAS NUCLEAR ONE, UNIT 2

FACILITY OPERATING LICENSE

License No. NPF - 6

1. The Nuclear Regulatory Commission (the Commission) having found that:
  - A. The issuance of this license ~~amendment to~~ Entergy Arkansas, Inc. Power and Light Company (AP&L) complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's regulations set forth in 10 CFR Chapter I;
  - B. Construction of Arkansas Nuclear One, Unit 2 (the facility) has been substantially completed in conformity with Construction Permit No. CPPR-89 and the application, as amended, the provisions of the Act and the regulations of the Commission;
  - C. The facility requires exemptions from certain requirements of (1) Sections 50.55a(g)(2) and 50.55a(g)(4) of 10 CFR Part 50, (2) Appendices G and H to 10 CFR Part 50 and (3) Appendix J to 10 CFR Part 50 for a period of three years. These exemptions are described in the Office of Nuclear Reactor Regulation's safety evaluations supporting the granting of these exemptions which are enclosed in the letter transmitting this license amendment. These exemptions are authorized by law and will not endanger life or property or the common defense and security and are otherwise in the public interest. The exemptions are, therefore, hereby granted. With the granting of these exemptions, the facility will operate in conformity with the application, as amended, the provisions of the Act, and the regulations of the Commission;
  - D. There is reasonable assurance: (i) that the activities authorized by this operating license can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the regulations of the Commission;
  - E. Entergy Operations, Inc. (EOI)\* is technically and financially qualified to engage in the activities authorized by this operating license in accordance with the regulations of the Commission;
  - F. ~~AP&L~~ Entergy Arkansas, Inc. has satisfied the applicable provisions of 10 CFR Part 140, "Financial Protection Requirements and Indemnity Agreements," of the Commission's regulations;
  - G. The issuance of this amended 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 and other costs and considering available alternatives, the issuance of 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
- I. The receipt, possession, and use of source, byproduct and special nuclear material as authorized by this 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.
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- (5) EOI shall implement a program to reduce leakage from systems outside containment that would or could contain highly radioactive fluids during a serious transient or accident to as low as practical levels. This program shall include the following.
1. Provisions establishing preventative maintenance and periodic visual inspection requirements, and
  2. Integrated leak test requirements for each system at a frequency not to exceed refueling cycle intervals.
- (6) EOI shall implement a program which will ensure the capability to accurately determine the airborne iodine concentration in vital areas under accident conditions. This program shall include the following:
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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.

D. Physical Protection

EOI shall fully implement and maintain in effect all provisions of the Commission-approved physical security, guard 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 plans, which contain Safeguards Information protected under 10 CFR 73.21, are entitled: "Arkansas Nuclear One Industrial Security Plan," with revisions submitted through January 19, 1995; Arkansas Nuclear One Guard Training and Qualification Plan," with revisions submitted through August 23, 1991; and "Arkansas Nuclear One Safeguards Contingency Plan," with revisions submitted through November 16, 1990. Changes made in accordance with 10 CFR 73.55 shall be implemented in accordance with the schedule set forth therein.