

ATTACHMENT 1
REVISED ANO-1 LICENSE

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ARKANSAS POWER AND LIGHT COMPANY

(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 license filed by the Arkansas Power and Light Company (AP&L) and Entergy Operations, Inc., (EOI) (the licensees*) 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. EOI is technically qualified and AP&L is 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 has satisfied the applicable provisions of 10 CFR Part 140, "Financial Protection Requirements and Indemnity Agreements," of the Commission's regulations;

*After a transfer of AP&L nuclear personnel to EOI, EOI has succeeded AP&L as the operator of Arkansas Nuclear One, Unit 1 (the facility). Consequently, EOI is authorized to act for itself and for AP&L and has exclusive responsibility and control over the physical construction, operation and maintenance of the facility. Hereinafter, the term licensees refers to both AP&L and EOI.

- 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, as amended, is hereby issued to AP&L and EOI 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 AP&L and operated by EOI. 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) 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;
 - (2) AP&L, pursuant to the Act and 10 CFR Part 70, to receive, possess and use at any time 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;
 - (3) EOI, pursuant to the Act and 10 CFR Part 70, to receive, possess and use at any time 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;
- (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 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 2054 megawatts thermal.

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 124 are hereby incorporated in the license. EOI shall operate the facility in accordance with the Technical Specifications.

- (3) AP&L** 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 (SE) 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.

**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.

(4) 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.

- (a) "Arkansas Nuclear One Physical Security Plan," with revisions submitted through February 24, 1988;
- (b) "Arkansas Nuclear One Guard Training and Qualification Plan," with revisions submitted through August 20, 1985; and,
- (c) "Arkansas Nuclear One Safeguards Contingency Plan," with revisions submitted through May 30, 1980.

Changes made in accordance with 10 CFR 73.55 shall be implemented in accordance with the schedule set forth therein.

(5) Systems Integrity

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 preventive 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) Iodine Monitoring

EOI shall implement a program which will ensure the capability to accurately determine the airborne iodine concentration in vital areas under accident conditions. program shall include the following:

- 1. Training of personnel,
- 2. Procedures for monitoring, and
- 3. Provisions for maintenance of sampling and analysis equipment.

(7) Secondary Water Chemistry Monitoring

A secondary water chemistry monitoring program shall be implemented to minimize steam generator tube degradation. This program shall include:

1. Identification of a sampling schedule for the critical parameters and control points for these parameters;
2. Identification of the procedures used to measure the values of the critical parameters;
3. Identification of process sampling points;
4. Procedures for the recording and management of data;
5. Procedures defining corrective actions for off-control point chemistry conditions; and
6. A procedure identifying the authority responsible for the interpretation of the data and the sequence and timing of administrative events required to initiate a corrective action.

- d. This license is effective as of the date of issuance and shall expire at midnight, December 6, 2008.

FOR THE ATOMIC ENERGY COMMISSION

A. Giambusso, Deputy Director

Date of Issuance: May 21 1974

ATTACHMENT 2

REVISED ANO-2 LICENSE

ARKANSAS POWER AND LIGHT COMPANY

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 Arkansas Power and Light Company AP&L and Entergy Operations, Inc. (EOI) (the licensees*) 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, as amended, the provisions of the Act, and the regulations of the Commission;

*After a transfer of AP&L nuclear personnel to EOI, EOI has succeeded AP&L as the operator of Arkansas Nuclear One, Unit 2 (the facility). Consequently, EOI is authorized to act for itself and for AP&L and has exclusive responsibility and control over the physical construction, operation and maintenance of the facility. Hereinafter, the term licensees refers to both AP&L and EOI.

- 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. EOI is technically qualified and AP&L is financially qualified to engage in the activities authorized by this operating license in accordance with the regulations of the Commission;
 - F. AP&L 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 Amendment No. 1 to 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, as amended, is hereby issued to AP&L and EOI 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 the AP&L and operated by EOI. 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) 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;

- (2) AP&L, pursuant to the Act and 10 CFR Part 50, to possess the facility at the designated location in Pope County, Arkansas, in accordance with the limitations set forth in this license;
- (3) EOI, pursuant to the Act of 10 CFR Part 70, to receive, possess and use at any time 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
- (5) 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 amended license shall be deemed to contain and is subject to 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; 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 2815 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 Appendices A & B, as revised through Amendment No. 98 are hereby incorporated in the license. EOI shall operate the facility in accordance with the Technical Specifications, except where otherwise stated in specific license conditions.

(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 the issuance of the license or within the operational restrictions indicated. The removal of these conditions shall be made by an amendment to the license supported by a favorable evaluation by the Commission.

(a) "Fuel Performance" was deleted.

(b) Fire Protection

EOI shall maintain in effect and fully implement all provisions of the approved fire protection program. The approved fire protection program consists of the licensee's documents as follows:

<u>Date</u>	<u>Document</u>	
-	Final Safety Analysis Report Section 9.5.1 through Amendment 47 dated June 16, 1978	
May 17, 1977	AP&L** Letter submitting a comparison of the ANO-2 Fire Protection Program to Branch Technical Position 9.5-1.	
August 30, 1977	AP&L Letter transmitting the Fire Hazards Analysis and responses to staff questions.	
September 21, 1977	AP&L Letter transmitting responses to staff questions and positions.	
October 26, 1977	AP&L Letter transmitting Fire Hazards Analysis Information and responses to staff questions and positions.	
February 3, 1978	AP&L Letter transmitting Fire Hazards Analysis Information	
February 28, 1978	AP&L Letter transmitting Administrative Controls information.	
March 31, 1978	AP&L Letter transmitting responses to staff questions.	
April 12, 1978	AP&L Letter transmitting responses to staff questions and positions.	

**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.

April 17, 1978	AP&L Letter transmitting responses to staff questions and positions.	
April 26, 1978	AP&L Letter transmitting responses to staff questions and positions.	
June 8, 1978	AP&L Letter transmitting affidavit for previously docketed letters.	
June 13, 1978	AP&L Letter transmitting Administrative Controls information.	
June 15, 1978	AP&L Letter transmitting Administrative Controls information.	
June 29, 1978	AP&L Letter transmitting Administrative Control information.	
July 7, 1978	AP&L Letter transmitting affidavit for previously docketed letters.	
July 7, 1978	AP&L Letter transmitting Administrative Controls information.	
July 13, 1978	AP&L Letter transmitting affidavit for previously docketed letters.	

(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. |

(d) "Instrument Trip Setpoints Drift Allowance" was deleted.

(e) Fire Protection

AP&L 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

Applicable
Section of
NUREG-0223

Date

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)	*
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 Electrical 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.

- (f) "Overpressure Mitigating System" was deleted.
- (g) "Verification of Transient Analysis Code" was deleted.
- (h) "Main Feedwater System Modification" was deleted.
- (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. 1

- (j) "Environmental Qualifications of Safety Related Instrumentation" was deleted.
- (k) "Core Protection Calculator System (CPCS)" was deleted.
- (l) "CEA Guide Tube Surveillance Program" was deleted.
- (m) "Redundant Valve Position Indication" was deleted.
- (n) "Fire Barrier Testing" was deleted.
- (o) "Offsite Power System" was deleted.
- (p) Secondary Water Chemistry Monitoring

EOI shall implement a secondary water chemistry monitoring program using the overall plant administrative procedure "Steam Generator Water Chemistry Monitoring, Unit II", to minimize steam generator tube degradation. The program shall be defined in specific plant procedures and shall include: 1

1. Identification of sampling schedule for the critical parameters and control points for these parameters;
2. Identification of the procedures used to measure the values of the critical parameters;
3. Identification of process sampling points;
4. Procedure for the recording and management of data;
5. Procedures defining corrective actions for off control point chemistry conditions; and

6. A procedure identifying the authority responsible for the interpretation of the data, and the sequence and timing of administrative events required to initiate corrective action.

(4) 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 preventive maintenance and periodic visual inspection requirements, and
2. Integrated leak test requirements for each system at a frequency not to exceed refueling cycle intervals.

(5) 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.

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:

- (a) "Arkansas Nuclear One Physical Security Plan," with revisions submitted through February 24, 1988;
- (b) "Arkansas Nuclear One Guard Training and Qualification Plan," with revisions submitted through August 20, 1985; and,
- (c) "Arkansas Nuclear One Safeguards Contingency Plan," with revisions submitted through May 30, 1980.

Changes made in accordance with 10 CFR 73.55 shall be implemented in accordance with the schedule set forth therein.

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

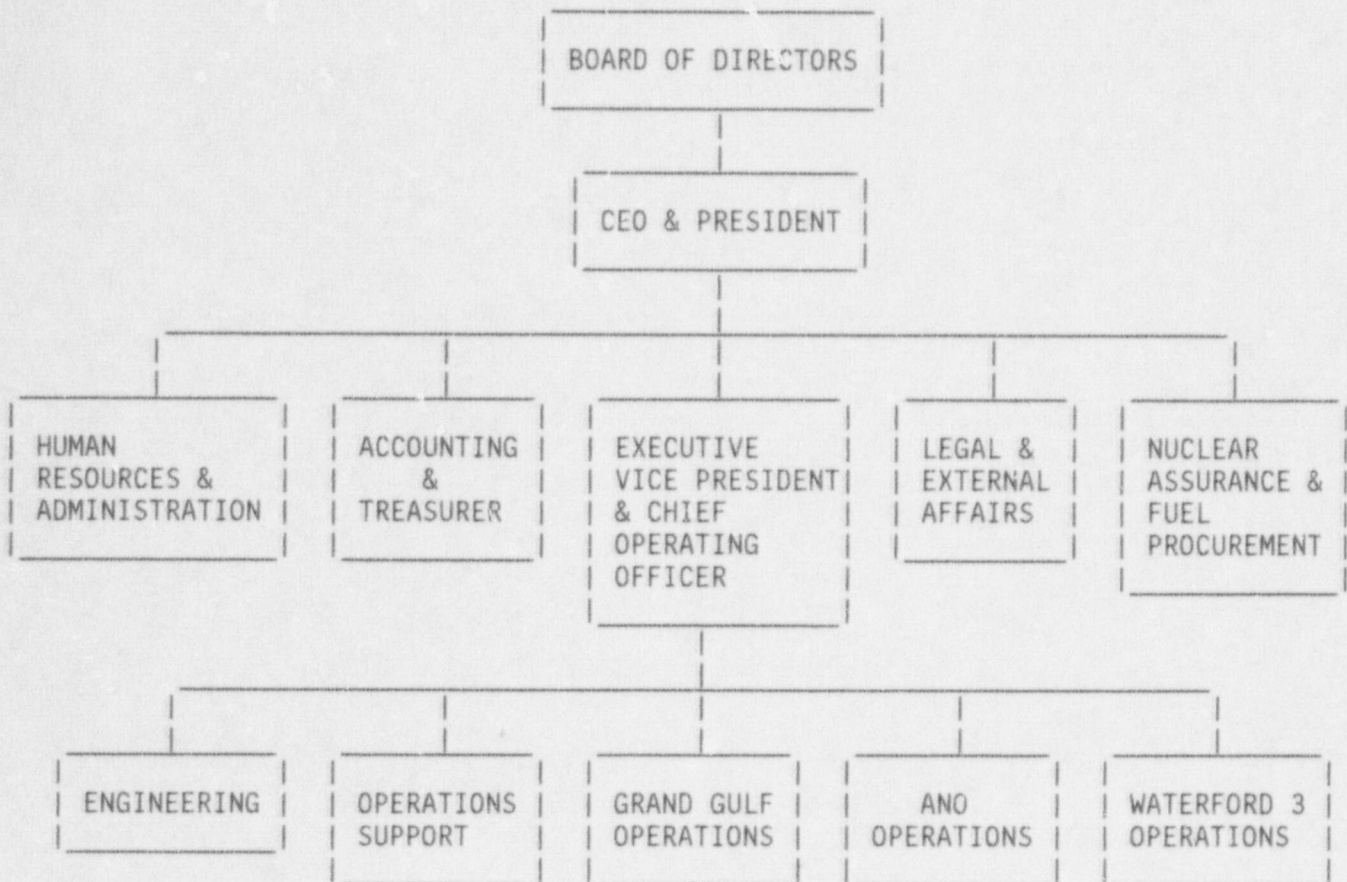
Before engaging in additional construction or operational activities which may result in an environmental impact that was not evaluated by the Commission, EOI will prepare and record an environmental evaluation of such activity. When the evaluation indicates that such activity may result in a significant 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, EOI shall provide a written evaluation of such activities and obtain prior approval from the Director, Office of Nuclear Reactor Regulation.

- F. This license is effective as of the date of issuance and shall expire at midnight, December 6, 2012.

Roger S. Boyd, Director

Date of Issuance: September 1, 1978

PROPOSED ENTERGY OPERATIONS, INC.
ORGANIZATION CHART



NOTE: Quality organizations for each plant have access to President & CEO and Executive Vice President and COO on matters related to Quality.