

POLICY ISSUE NOTATION VOTE

May 21, 2001

SECY-01-0091

FOR: The Commissioners

FROM: William D. Travers
Executive Director for Operations

SUBJECT: ARKANSAS NUCLEAR ONE, UNIT 1, RENEWAL OF FULL-POWER OPERATING
LICENSE

PURPOSE:

To (1) inform the Commission of the results of the NRC staff's review of the Arkansas Nuclear One, Unit 1 (ANO-1), license renewal application submitted by Entergy Operations, Inc. (the applicant or Entergy), and (2) request that the Commission authorize the Director of NRR to make the appropriate findings and renew the operating license for the ANO-1 for an additional 20 years.

BACKGROUND:

By letter dated January 31, 2000, Entergy submitted its application to renew the operating license (Reference 1) for Arkansas Nuclear One, Unit 1, in accordance with 10 CFR Parts 51 and 54. In its application, Entergy requested renewal of operating license DPR-51, which was initially issued under Section 104b of the Atomic Energy Act, for a period of 20 years beyond the current license expiration at midnight May 20, 2014.

Contact:
Robert Prato, NRR
415-1147

DISCUSSION:

The staff performed its safety review of the ANO-1 license renewal application in accordance with 10 CFR Part 54, using guidance in NRR Office Letter 805, "License Renewal Application Review Process," and the draft "Standard Review Plan for the Review of License Renewal Applications for Nuclear Power Plants," dated June 2000. NUREG-1743, "Safety Evaluation Report Related to the License Renewal of Arkansas Nuclear One, Unit 1" (Reference 2), describes the results of the staff's review of the scoping, screening, aging management, and time-limited aging analyses activities, in accordance with the requirements of 10 CFR Part 54.

The ANO-1 renewal application included a supplement to the Updated Final Safety Analysis Report (UFSAR), as required by 10 CFR 54.21(d). The applicant revised the UFSAR supplement in a letter dated March 14, 2001, which superseded the version in the license renewal application. The revised UFSAR supplement contains a summary description of the programs and activities for managing the effects of aging and evaluating time-limited aging analyses for the period of extended operation. The staff reviewed the revised UFSAR supplement, and found that it meets the requirements of 10 CFR 54.21(d). The applicant will include this supplement in its UFSAR prior to issuance of the renewed license; therefore, unlike previous renewed licenses, the proposed ANO-1 renewed license does not include a condition requiring change controls until the next formal update to the UFSAR. Since future changes to the UFSAR will be made in accordance with 10 CFR 50.59, the NRC is assured that these programs, maintenance activities, and inspection procedures will be adequately controlled.

The UFSAR supplement also identifies future actions. Throughout NUREG-1743, the staff describes various schedules for future actions. The staff has determined that the future actions to manage aging effectively are not required for operation during the existing license term; however, they must be completed before entering the period of extended operation. The proposed renewed license includes a license condition for the completion of these future actions. The applicant can change the schedules for these actions without prior NRC approval, provided the actions are completed in accordance with the license condition.

On the basis of its safety evaluation, as described in NUREG-1743, the staff, as provided in 10 CFR 54.29, concludes the following:

- (1) actions have been identified and have been or will be taken with respect to managing the effects of aging during the period of extended operation on the functionality of structures and components that have been identified to require an aging management review under 10 CFR 54.21(a)(1), and
- (2) actions have been identified and have been or will be taken with respect to time-limited aging analyses that have been identified to require review under 10 CFR 54.21(c).

Accordingly, the staff finds that there is reasonable assurance that the activities authorized by the renewed license will continue to be conducted in accordance with the current licensing basis for ANO-1.

As part of the review of the license renewal application, Region IV conducted two inspections at ANO-1 with support from Region II and NRR. The inspections were conducted in accordance with Inspection Manual Chapter 2516, "Policy and Guidance for the License Renewal Inspection Programs," and Inspection Procedure 71002, "License Renewal Inspection." As described in the memorandum from Ellis W. Merschoff, Regional Administrator NRC Region IV, dated May 7, 2001 (Reference 3), the results of these two inspections verified that there is reasonable assurance that the contents of the application, aging management programs, implementation, and other activities related to license renewal for ANO-1 are in accordance with docketed commitments and regulatory requirements.

Following the issuance of the safety evaluation report (SER) with open items on January 10, 2001 (Reference 4), the staff and applicant briefed the Advisory Committee on Reactor Safeguards (ACRS) Subcommittee on Plant License Renewal on February 22, 2001, and the ACRS Full Committee on May 10, 2001, on the SER. On May 16, 2001, the ACRS issued its "Report on the Safety Aspects of the License Renewal Application for the Arkansas Nuclear One, Units 1," documenting its review of the license renewal application and the SER. In its report (included in Chapter 5 of NUREG-1743, Reference 2), the ACRS concluded that the applicant has properly identified the systems, structures, and components (SSCs) that are subject to aging management programs according to the requirements of 10 CFR Part 54; that possible aging mechanisms associated with passive, long-lived SSCs have been appropriately identified; and, that the programs instituted to manage aging-related degradation of the identified SSCs are appropriate and provide reasonable assurance that ANO-1 can be operated in accordance with its current licensing basis for the period of the extended license without undue risk to the health and safety of the public.

The staff performed its environmental review of the ANO-1 license renewal application in accordance with 10 CFR Part 51, using the guidance described in NUREG-1555, Supplement 1, the "Standard Review Plan for Environmental Reviews for Nuclear Power Plants, Supplement 1: Operating License Renewal," dated March 2000. As required by 10 CFR 51.26, on March 10, 2000, the staff published a Notice of Intent (65 FR 13061) to prepare an environmental impact statement (EIS) and conduct scoping; this initiated a 60-day scoping period. The EIS, prepared by the staff for the ANO-1 plant-specific review, is Supplement 3 to the Generic Environmental Impact Statement (GEIS), NUREG-1437, that was codified in 10 CFR Part 51 for license renewal. Two public scoping meetings were held in April 2000 in Russellville, Arkansas. The staff also visited ANO-1 in April 2000, reviewed the comments received during scoping, reviewed related documents, and consulted with Federal, State, and local agencies. On October 5, 2000, the staff issued a draft of the SEIS (Supplement 3 to NUREG-1437), which contained the preliminary results and recommendations of the staff's evaluation. With the publication of the Environmental Protection Agency Notice of Filing of the draft SEIS (65 FR 63076 issued on October 20, 2000), the NRC initiated a 75-day public comment period on the preliminary results of the staff's review.

During the comment period, two public meetings were held in Russellville, Arkansas, in November 2000. During these meetings, the staff described the approach and results of the NRC environmental review and answered questions to assist members of the public to formulate their comments. The comment period for the draft SEIS ended on January 4, 2001.

The staff evaluated the comments received on the draft SEIS and completed its analysis, considering and weighing the environmental effects of the proposed action, the environmental impacts of alternatives to the proposed action, and the alternatives available for reducing or avoiding adverse effects. The final version of the SEIS regarding ANO-1 was issued on April 5, 2001 (Reference 5). Disposition of the public comments are contained in Appendix A of the SEIS. As discussed in Section 9.3 of the SEIS, the staff determined that on the basis of (1) the analysis and findings in the "Generic Environmental Impact Statement for License Renewal of Nuclear Power Plants," NUREG-1437; (2) the Environmental Report submitted by the applicant; (3) consultation with other Federal, State, and local agencies; (4) the staff's own independent review; and, (5) the staff's consideration of public comments, the adverse environmental impacts of license renewal for ANO-1 are not so great that preserving the option of license renewal for energy planning decision makers would be unreasonable.

In accordance with 10 CFR 54.19(b), license renewal applications include "conforming changes to the standard indemnity agreement, 10 CFR 140.92, Appendix B, to account for the expiration term of the proposed renewed license." The staff intends to keep the same license number on issuance of the renewed license. Therefore, there is no need to make conforming changes to the indemnity agreement, and the requirements of 10 CFR 54.19(b) have been met.

As a result of the staff's review of the applicant's license renewal application, the staff recommends that the Commission authorize the Director of NRR to make the appropriate findings and then issue the renewed operating license for ANO-1 for an additional 20 years.

COORDINATION:

The Office of the General Counsel has reviewed this paper and has no legal objections to its content.

RECOMMENDATION:

That the Commission:

1. Authorize the Director of NRR to renew the operating license for ANO-1, upon making the appropriate findings on safety and environmental matters.

2. Note that the staff will make any necessary conforming changes to the renewed license as a result of any pending licensing actions while the Commission is considering the staff's recommendations.

/RA by William F. Kane Acting For/

William D. Travers
Executive Director
for Operations

Attachment: Renewed License for Arkansas Nuclear One, Unit 1.

References:

1. "Arkansas Nuclear One, Unit1, License Renewal Application," dated January 31, 2000, Accession Number ML003679667.
2. "NUREG-1743, Safety Evaluation Report Related to the License Renewal of Arkansas Nuclear One, Unit 1," dated June 2001.
3. Regional Administrator Letter on "Arkansas Nuclear One, Unit 1, License Renewal Application," dated May 7, 2001, Accession Number ML011270378.
4. "Safety Evaluation Report Related to the License Renewal of Arkansas Nuclear One, Unit 1," dated April 12, 2001, Accession Number ML011020554.
5. "Generic Environmental Impact Statement for License Renewal of Nuclear Plants Regarding the Arkansas Nuclear One, Unit 1, Final Report," NUREG 1437, Supplement 3, Accession Number ML011160446.



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

ENTERGY ARKANSAS, INC.

ENTERGY OPERATIONS, INC.

DOCKET NO. 50-313

ARKANSAS NUCLEAR ONE, UNIT 1

FACILITY OPERATING LICENSE

License No. DPR-51

1. The Nuclear Regulatory Commission (the Commission) having previously made the findings set forth in License No. DRP-51 issued on May 21, 1974, has now found that:
 - a. The application to renew License No. DRP-51 filed by Entergy Arkansas, Inc. and Entergy Operations, 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. Actions have been identified and have been or will be taken with respect to (1) managing the effects of aging during the period of extended operation on the functionality of structures and components that have been identified to require review under 10 CFR 54.21(a)(1) and (2) time-limited aging analyses that have been identified to require review under 10 CFR 54.21(c), such that there is reasonable assurance that the activities authorized by the renewed license will continue to be conducted in accordance with the current licensing basis, as defined in 10 CFR 54.3, for the Arkansas Nuclear One, Unit 1, plant and that any changes made to the plant's current licensing basis in order to comply with 10 CFR 54.29(a) are in accord with the Act and the Commission's regulations;
 - 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 renewed 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 renewed 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 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. The renewed Facility Operating License No. DPR-51 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, "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. 214, 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, 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 plan, which contains Safeguards Information protected under 10 CFR 73.21, is entitled: "Arkansas Nuclear One Industrial Security Plan," with revisions submitted through August 2, 1995. The Industrial Security Plan also includes the requirements for guard training and qualification in Appendix A and the safeguards contingency events in Chapter 7. 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. This program shall include the following:

1. Training of personnel,
2. Procedures for monitoring, and

(7) 3. Provisions for maintenance of sampling and analysis equipment.
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.

(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&L ¹ 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.

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.

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.
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

Samuel J. Collins, Director
Office of Nuclear Reactor Regulation

Attachment:
Appendix A - Technical Specifications
Renewed License No. DRP-51

Date of Issuance: