

NOV 20 1975

Docket No. 50-313

Arkansas Power & Light Company  
ATTN: Mr. J. D. Phillips  
Senior Vice President  
Production, Transmission and  
Engineering  
Sixth and Pine Streets  
Pine Bluff, Arkansas 71601

Gentlemen:

The Commission has issued the enclosed Amendment No. 7 to Facility License No. DPR-51 for the Arkansas Nuclear One - Unit 1. This amendment includes Change No. 7 to the Technical Specifications and is in response to your request dated October 7, 1975.

This amendment changes the tendon surveillance frequency requirements to be consistent with Regulatory Guide 1.35, Revision 1 (June 1974). The two unrelated items in your October 7, 1975 request will be considered separately at a later date.

Copies of the related Safety Evaluation and the Federal Register Notice are also enclosed.

Sincerely,

Original Signed by  
Bartholomew C. Buckley

*for*

Dennis L. Ziemann, Chief  
Operating Reactors Branch #2  
Division of Reactor Licensing

Enclosures:

1. Amendment No. 7  
w/Change No. 7
2. Safety Evaluation
3. Federal Register Notice

cc w/enclosures  
See next page

*RL AT-1*

OFFICE	RL:ORB #2	RL:ORB #2	OELD	RL:ORB #2	TR
SURNAME	<i>RMDiggs</i>	<i>WEConverse</i>	<i>ah TOURTELLO</i>	<i>DLZiemann</i>	<i>RRMaccary</i>
DATE	11/6/75	11/06/75	11/10/75	11/10/75	11/7/75

NOV 20 1975

cc w/enclosures:

Horace Jewell  
House, Holms & Jewell  
1550 Tower Building  
Little Rock, Arkansas 72201

Mr. William Cavanaugh, III  
Production Department  
Post Office Box 551  
Little Rock, Arkansas 72203

Arkansas Polytechnic College  
Russellville, Arkansas 72801

Honorable Wayne Nordin  
Acting County Judge of Pope County  
Pope County Courthouse  
Russellville, Arkansas 72801

cc w/enclosures and cy of Arkansas's  
filing dtd. 10/7/75:

Mr. E. F. Wilson  
Bureau of Environmental  
Health Services  
4815 West Markham Street  
Little Rock, Arkansas 72201

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

ARKANSAS POWER & LIGHT COMPANY

DOCKET NO. 50-313

ARKANSAS NUCLEAR ONE - UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 7  
License No. DPR-51

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Arkansas Power & Light Company (the licensee) dated October 7, 1975 (as it relates to tendon surveillance), complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
  - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations; and
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.
2. Accordingly, the license is amended by a change to the Technical Specifications as indicated in the attachment to this license amendment and Paragraph 2.c(2) of Facility License No. DPR-51 is hereby amended to read as follows:



" (2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications, as revised by issued changes thereto through Change No. 7 ."

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

FOR THE NUCLEAR REGULATORY COMMISSION

Original Signed by  
Bartholomew C. Buckley

  
Dennis L. Ziemann, Chief  
Operating Reactors Branch #2  
Division of Reactor Licensing

Attachment:  
Change No. 7 to the  
Technical Specifications

Date of Issuance: NOV 20 1975

ATTACHMENT TO LICENSE AMENDMENT NO. 7  
CHANGE NO. 7 TO THE TECHNICAL SPECIFICATIONS  
FACILITY OPERATING LICENSE NO. DPR-51  
DOCKET NO. 50-513

Replace existing page 86 of the Technical Specifications with the attached revised page 86. The changed area on the revised page is reflected by a marginal line. Also, page 85 is enclosed as a matter of convenience in updating the Technical Specifications. There are no changes on this page.

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## 4.4.2 Structural Integrity

### Applicability

Applies to the structural integrity of the reactor building.

### Objective

To define the structural integrity of the reactor building.

### Specification

#### 4.4.2.1 Tendon Surveillance

For the tendon surveillance program, to be conducted over the life of the unit, twenty-one tendons shall be selected for periodic inspection for symptoms of material deterioration or force reduction. The surveillance tendons shall consist of ten hoop tendons, at least three in each of the three 240° sectors of the reactor building; five vertical tendons located at approximately equally spaced intervals; and six dome tendons, two in each of the three groups of dome tendons.

##### 4.4.2.1.1 Lift-Off

Lift-off readings shall be taken for all 21 surveillance tendons.

##### 4.4.2.1.2 Wire Inspection and Testing

A minimum of three surveillance tendons, one from each of the hoop, vertical, and dome families, shall be relaxed and one wire from each relaxed tendon shall be removed as a sample and visually inspected for corrosion or pitting. In addition, the applicable anchor assemblies shall be inspected for deleterious conditions, such as corrosion, cracks, missing wires and off size button heads. Tensile and elongation tests shall also be performed on a minimum of three specimens taken from the ends and middle of each of the wires. The specimens shall be the maximum length acceptable for the test apparatus to be used and shall include areas representative of significant corrosion or pitting.

After the wire removal, the tendons shall be retensioned to the stress level measured at the lift-off reading (and changes in shim thicknesses shall be recorded) and then checked by a final lift-off reading. The tendon elongation during retensioning shall be measured.

Should the inspection of one of the wires reveal any significant physical change (pitting or loss of area), additional wires shall be removed from the applicable surveillance tendons and inspected to determine the extent and cause change. The sheathing filler will be sampled and inspected for changes in physical appearance.

#### 4.4.2.2 Inspection Intervals and Reports

The inspection intervals, measured from the date of the initial structural test, shall be one year, three years, five years, and every five years thereafter or as modified based on experience. Tendon surveillance may be conducted during reactor operation provided design conditions regarding loss of adjacent tendons are satisfied at all times.

A quantitative analytical report covering results of each inspection shall be submitted (required by Technical Specification 6.7) and shall especially address the following conditions, should they develop:

- (1) Broken wires.
- (2) The force-time trend line for any tendon, when extrapolated, that extends beyond either the upper or lower bounds of the predicted design band.
- (3) Unexpected changes in tendon conditions or sheathing filler properties.

#### 4.4.2.3 End Anchorage Concrete Surveillance

- A. The end anchorages of the surveillance tendons and adjacent concrete surface will be inspected.
- B. The inspection interval will be one-half year and one year after the structural integrity test.
- C. The selected inspection location shall include:
  - (1) Four (4) locations on one buttress (hoop tendon anchorage)
  - (2) Two (2) locations on the top of the ring girder (vertical tendon anchorage).
  - (3) One (1) location on the ring girder (dome tendon anchorage).

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 7 TO FACILITY LICENSE NO. DPR-51

CHANGE NO. 7 TO THE TECHNICAL SPECIFICATIONS

ARKANSAS POWER & LIGHT COMPANY

ARKANSAS NUCLEAR ONE - UNIT 1

DOCKET NO. 50-313

INTRODUCTION

By letter dated October 7, 1975, Arkansas Power & Light Company (AP&L) requested an amendment to Facility License No. DPR-51 for Arkansas Nuclear One - Unit 1 (ANO-1). The request involves revisions to the Technical Specifications with regard to:

1. Establishing operating bands for the level and chemical concentration for the Borated Water Storage tank, the Sodium Thiosulfate tank, and the Sodium Hydroxide tank.
2. Shifting the emergency pond level specification and surveillance requirement from pond surface elevation and pond depth to pond depth only plus providing a time interval during which the minimum pond depth need not be maintained; and
3. Changing the tendon surveillance frequency requirement to be consistent with Regulatory Guide 1.35, Revision 1 (June 1974).

This evaluation concerns only item 3 above. Items 1 and 2 are unrelated and they will be evaluated at a later date.

DISCUSSION

The current Nuclear Regulatory Commission staff position regarding the inservice inspection of prestressed concrete (ungrouted tendon) reactor compartments is stated in Regulatory Guide 1.35, Revision 1 (June 1974), "Inservice Inspection of Ungrouted Tendons in Prestressed Concrete Containment Structures." This revision replaced the original Regulatory Guide 1.35, dated February 5, 1973. These guides differ in the following areas:

1. Revision 1 changes the tendon test frequency from 1, 2 and 3 years after the initial containment structural test (ICST), and every 5 years thereafter to 1, 3 and 5 years after the ICST and every 5 years thereafter.
2. The revision permits a reduction in the number of tendons tested if experience shows that there are no significant problems with the prestressing tendons, and
3. The revision alters the reporting requirements for defective or degraded tendons or anchorage hardware to conform with Regulatory Guide 1.16.

The ANO-1 specification and test procedure concerning containment tendons are found in Technical Specification 4.4.2.1 of Appendix A to Facility License DPR-51 and ANO-1 Operating Procedure No. 1304.91, Revision 1 (February 21, 1975), respectively.

#### EVALUATION

The ANO-1 tendon surveillance provisions set forth in Technical Specification 4.4.2.1 and Operating Procedure No. 1304.91, Revision 1 differ from the current NRC staff position on ungrouted tendon surveillance (Regulatory Guide 1.35, Revision 1), in the following respects:

1. The testing frequency corresponds to that of the original Regulatory Guide 1.35 (February 1973).
2. No provision is made to reduce the number of tendons to be tested as provided in Revision 1 to Regulatory Guide 1.35.
3. The reporting requirements differ from both the original and Revision 1 to Regulatory Guide 1.35 in that a tendon surveillance test report is required to be submitted following every test vice just those tests which uncover degraded tendons or associated equipment. The remainder of the reporting requirements for tendon surveillance are stipulated in Technical Specifications 1.8.5 and 6.12.3.1 (definition and reporting of abnormal events involving degradation of containment boundaries). Specification 6.12.4(b) requires a written report within 90 days after completing the tendon surveillance tests.

We find that the present ANO-1 tendon surveillance specifications discussed in items 2 and 3 above are more conservative than the requirements set forth in Regulatory Guide 1.35, Revision 1. Since the requested testing frequency of the tendon surveillance is equivalent to that required by the Regulatory Guide and since the remaining tendon surveillance requirements presently in effect are more conservative than the Regulatory Guide, we conclude that the requested change is acceptable.

#### CONCLUSION

We have concluded, based on the considerations discussed above, that: (1) because the change does not involve a significant increase in the probability or consequences of accidents previously considered and does not involve a significant decrease in a safety margin, the change does not involve a significant hazards consideration, (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (3) such activities will be conducted in compliance with the Commission's regulations and the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Date: NOV 28 1975

UNITED STATES NUCLEAR REGULATORY COMMISSION

DOCKET NO. 50-513

ARKANSAS POWER & LIGHT COMPANY

NOTICE OF ISSUANCE OF AMENDMENT TO FACILITY  
OPERATING LICENSE

Notice is hereby given that the U. S. Nuclear Regulatory Commission (the Commission) has issued Amendment No. 7 to Facility Operating License No. DPR-51, issued to Arkansas Power & Light Company (the licensee), which revised Technical Specifications for operation of the Arkansas Nuclear One - Unit 1 (the facility) located in Pope County, Arkansas. The amendment is effective as of its date of issuance.

The amendment revises the frequency for surveillance of the tendons in the facility's prestressed concrete containment in a manner equivalent to Regulatory Guide 1.35, Revision 1 - "Inservice Inspection of UngROUTed Tendons in Prestressed Concrete Containment Structures." The tendon test frequency is being changed from 1, 2 and 3 years after the initial containment structural test and every 5 years thereafter to 1, 3 and 5 years after the initial containment structural test and every 5 years thereafter.

That portion of the October 7, 1975 application for the amendment dealing with tendon surveillance complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations. The Commission had made appropriate findings as required by the Act and the Commission's rules and regulations in 10 CFR Chapter I, which are set forth in the license amendment. Prior public notice of this amendment is not required since the amendment does not involve a significant hazards consideration.

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For further details with respect to this action, see (1) the application for amendment dated October 7, 1975, (2) Amendment No. 7 to License No. DPR-51, with Change No. 7, and (3) the Commission's concurrently issued related Safety Evaluation. All of these items are available for public inspection at the Commission's Public Document Room, 1717 H Street, N. W., Washington, D. C. and at the Arkansas Polytechnic College, Russellville, Arkansas 72801. A copy of items (2) and (3) may be obtained upon request addressed to the U. S. Nuclear Regulatory Commission, Washington, D. C. 20555, Attention: Director, Division of Reactor Licensing.

Dated at Bethesda, Maryland, this **NOV 20 1975**

FOR THE NUCLEAR REGULATORY COMMISSION

Original Signed by  
Bartholomew C. Buckley

B. C. Buckley, Acting Chief  
Operating Reactors Branch #2  
Division of Reactor Licensing

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SURNAME →	<i>RMD</i> RMDiggs	<i>WCC</i> WEConverse	<i>TD</i> Tourtellotte	<i>DLZ</i> DLZiemann	<i>ASG</i> for L. Shao
DATE →	11/6/75	11/6/75	11/10/75	11/10/75	11/6/75

PRELIMINARY DETERMINATION

NOTICING OF PROPOSED LICENSING AMENDMENT

**Licensee:** Arkansas Nuclear One - Unit 1

**Request for:** Change to Tech Spec to alter Tendon Surveillance spec. frequency  
to conform with Reg. Guide 1.35, Rev. 1, June, 1974

**Request Date:** October 7, 1975 (third item)

- Proposed Action:** ( ) Pre-notice Recommended  
(X) Post-notice Recommended  
( ) Determination delayed pending completion of Safety Evaluation

**Basis for Decision:** Substantive changes to Reg. Guide 1.35 (2/73) were made via  
Reg. Guide 1.35, Rev. 1 (6/74). One change was to alter  
the testing frequency of reactor tendons from 1, 2, & 3  
years and every 5 years thereafter to 1, 3, & 5 years and  
every 5 years thereafter, all referenced to the original  
containment integrity test. AP&L (the licensee) has  
requested a tech. spec. change to take credit for this  
change in Reg. Guide 1.35. The remainder of the tendon  
testing provisions set forth by the licensee are at least  
as conservative as the requirements of Reg. Guide 1.35, Rev. 1.

(See attached page)

**CONCURRENCES:**

**DATE:**

1. W. E. Converse 11/09/75
2. D. L. Ziemann 11/4/75
3. K. R. Goller KRG 11/5
4. James P. Santella 11-12  
Office of Executive Legal Director

This change has been reviewed by the staff and found acceptable in consideration of Revision 1 to the Reg. Guide. The requested change does not constitute a reduction in safety margins nor does it involve an increase in the probability or consequences of an accident. Therefore, the proposed change to the tech. specs. does not involve a significant hazards consideration.