



# ARKANSAS POWER & LIGHT COMPANY

HELPING BUILD ARKANSAS

Little Rock, Arkansas  
January 3, 1969

Mr. Charles Long  
Atomic Energy Commission  
4915 St. Elmo Avenue  
Bethesda, Maryland

SUBJECT: ARKANSAS NUCLEAR ONE  
LINER ANCHORAGE TEST PROGRAM

Dear Mr. Long:

In compliance with agreements made by telephone between you and Mr. John P. White, I have attached 20 additional copies of the LINER ANCHORAGE TEST PROGRAM with its attached print.

Yours very truly,

Harlan T. Holmes  
Assistant Manager  
Production Department

HTH:aw

Attachments

8004230 577

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BC-313

REVISED W/AM DATE 12-11-68

LINER PLATE ANCHORAGE TEST PROGRAM

Purpose: To substantiate the analytical constants used in evaluating the adequacy of the liner plate anchorage system.

Procedure: Various configurations of liner plate anchorage will be cast in concrete to provide composite test specimens as shown in the attached drawing\* and as listed below:

Tension Tests

1. Two tests as shown with 4-12 fillet weld and two tests with angle vertical leg down.
2. Two tests as shown with 6-12 fillet weld and two tests with angle vertical leg down.
3. Two tests as shown, one 4-12 fillet weld and one 6-12 fillet weld, but with rotation restraining block removed.

Compression Tests:

1. Two tests as shown with 4-12 fillet weld.

The materials used in the test specimen will be similar to those that will be used in the actual structure. The steel plate will be ASTM A-442 or A-36 depending on availability. The concrete mix design will be nearly identical to that which will be furnished for the structure. The material supplier has not been selected as yet. However, it is felt that both the compression strength and modulus of elasticity can be well approximated in the test specimens with local materials. Physical properties of the steel and concrete will be obtained as follows:

Concrete - Six test cylinders will be required 2 @ 7 days, 2 at the predicted date of 5000 psi strength (test date), and 2 @ 28 days. Compression strength tests at 7 days, test date, and 28 days will be done in accordance with ASTM C-39. Modulus of elasticity tests at 28 days will be done in accordance with ASTM C-469.

\* Reference Dwg. 6600-C-199



Results to be obtained:

The results of the tests will be a series of load versus displacement plots. From these plots it will be possible to obtain the following information:

- a. Spring Constant - Linear and Non-Linear
- b. Ultimate Load Capacity
- c. Ultimate Displacement Capacity
- d. Total Energy available in the System.