

docket

DEC 26 1973

Docket No. ✓ 50-313

Arkansas Power & Light Company
ATTN: Mr. J. D. Phillips
Vice President &
Chief Engineer
Sixth & Pine Streets
Pine Bluff, Arkansas 71601

Gentlemen:

In our letter to you of December 14, 1972 we requested that you provide us with analyses and other relevant information needed to evaluate the consequences of a high energy line rupture outside containment in Arkansas Nuclear One, Unit 1. That letter furnished criteria you could follow in evaluating the effects of such a line rupture. We have evaluated your responses as presented in Amendments 36 and 38 to the Final Safety Analysis Report. We are satisfied that you have conducted analyses and made design changes as necessary in accordance with the criteria given in our December 14, 1972 letter. Moreover, we consider that you are committed to an acceptable schedule for completion of the plant modifications since your letter of April 23, 1973 commits to do so before the plant is taken above 1% power.

We have, however, one remaining reservation about the complete acceptability of the proposed resolutions. In two locations the large main feedwater and main steam lines are arranged in such a way that a guillotine break at a weld might cause unpredictable failure of major building structures. The welds in question are designated in Amendment No. 38 as follows:

<u>Am. 38 Figure</u>	<u>System</u>	<u>Weld No.</u>
A - 7	Main Steam	55
	Main Steam	56
A - 8	Main Steam	6
	Main Steam	7
A - 15	Main Feedwater	23
	Main Feedwater	24

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We recognize that these six welds are not terminal points or high stress joints as defined in the enclosure to our December 14, 1972 letter. However, your analysis in Amendment No. 38 indicates that these welds will be subject to 37% to 51% of allowable stress ($S_h + S_A$), a considerable level of stress.

At these welds the piping is arranged so that, upon a guillotine break, the piping could be forced apart and the full force of the blowdown released to the compartment involved. In the case of the main steam system, we expect that the steam line tunnel might fail due to overpressure. Full pressure release from the main feedwater system welds noted probably would cause structural failure of the South piping penetration room. Although neither of these postulated structural failures is evidently an accident more serious in consequence than the design basis for ANO-1, we consider it prudent for you to take reasonable steps to further reduce the possibility of their occurrence. Therefore, we will require that you provide additional surveillance of the welds mentioned above to ensure their integrity during the operating life of the plant. An acceptable technical specification for this surveillance is presented in the enclosure to this letter. We expect to include these or equivalent requirements in the Technical Specifications for the operating license of Arkansas Nuclear One, Unit 1.

Sincerely,

Original Signed

Voss A. Moore, Assistant Director
for Light Water Reactors 2
Directorate of Licensing

Enclosure:
Technical Specification

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

Mr. William Cavanaugh, III
Production Department
P. O. Box 551
Little Rock, Arkansas 72203

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TECHNICAL SPECIFICATIONSAugmented Inservice Inspection Program for High Energy Lines Outside of ContainmentApplicability

Applies to welds in piping systems located outside of containment where protection from the consequences of postulated ruptures is not provided by a system of pipe whip restraints, jet impingement barriers, protective enclosures and/or other measures designed specifically to cope with such ruptures.

For Arkansas Nuclear One, Unit 1, this specification applies to six welds in the main steam and main feedwater lines identified as welds 6, 7, 23, 24, 55 and 56 on Figures A-7, A-8 and A-15 of the Final Safety Analysis Report.

Objective

To provide assurance of the continued integrity of the piping systems over their service lifetime.

Specifications

- A. At the first refueling outage period, a volumetric examination shall be performed with 100 percent inspection of each weld in accordance with the requirement of ASME Section XI Code, Inservice Inspection of Nuclear Power Plant Components, to establish system integrity and baseline data.
- B. The inservice inspection at each weld shall be performed in accordance with the requirements of ASME Section XI Code, Inservice Inspection of Nuclear Power Plant Components, with the following schedule:
(The inspection intervals identified below sequentially follow the baseline examination of A above).