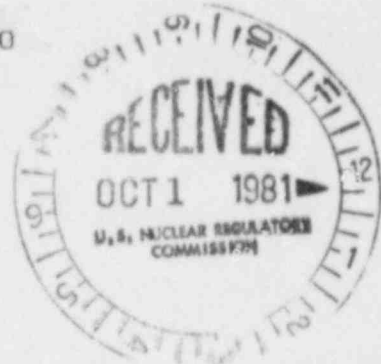




ARKANSAS POWER & LIGHT COMPANY  
POST OFFICE BOX 551 LITTLE ROCK, ARKANSAS 72203 (501) 371-4000

September 24, 1981



ICAN098109

Director of Nuclear Reactor Regulation  
ATTN: Mr. J. F. Stolz, Chief  
Light Water Reactors Branch #1  
U. S. Nuclear Regulatory Commission  
Washington, D. C. 20555

Subject: Arkansas Nuclear One - Unit 1  
Docket No. 50-313  
License No. DPR-51  
Inspection of Westinghouse  
Low Pressure Turbine Rotors  
(File: 0285, 1510.1)

Gentlemen:

The purpose of this letter is to respond to NRC's August 20, 1981 request for AP&L's commitment to use certain criteria for future low-pressure turbine disc inspections.

By letter dated February 25, 1980, NRC informed AP&L that stress corrosion cracks were being found in the keyway and bore areas of low-pressure discs in Westinghouse low-pressure turbines. Because NRC considered these cracks to increase the probability of disc failure, we were requested to perform ultrasonic inspections on our low-pressure discs and justify that ANO-1 could continue to operate safely.

By letter dated August 20, 1981, NRC informed AP&L that all Westinghouse low-pressure turbines at nuclear power plants had now been inspected, at least once, for keyway and bore cracks, and indications were that one or both types of these cracks were found at twenty plants. NRC felt that sufficient operating experience existed to indicate that crack initiation and growth were related to disc temperature and material characteristics. As such, you indicated that you believed it prudent for AP&L to continue inspecting our low-pressure turbine discs on a schedule designed to minimize the probability that a crack will form and grow to a depth that would cause a disc to rupture.

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To this end, you indicated that Westinghouse had developed a method to determine safe inspection and re-inspection frequencies and had submitted this information to the NRC for review in a proprietary memorandum (MSTG-1-P) dated June, 1981. An attached "Safety Evaluation Report" to

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MEMBER MIDDLE SOUTH UTILITIES SYSTEM

your August 20, 1981 letter concluded that inspection schedules based on the recommendations in the Westinghouse Memorandum MSTG-1-P will provide an acceptably high degree of assurance that discs would be inspected before cracks could grow to a size that could cause disc failure at speeds up to design speed. Accordingly, you listed four criteria in your Safety Evaluation for an acceptable inspection schedule and requested that AP&L commit to use these criteria for future disc inspections.

These criteria are as follows:

- 1) New discs should be inspected at the first refueling outage, or before any postulated crack would grow to more than 1/2 the critical depth.
- 2) Discs previously inspected and found to be free of cracks or that have been repaired to eliminate all indications should be reinspected using the same criterion as for new discs, calculating crack growth from the time of the last inspection.
- 3) Discs operating with known and measured cracks should be reinspected before 1/2 the time calculated for any crack to grow to 1/2 the critical crack depth.
- 4) These inspection schedules may be varied to coincide with scheduled outages. Westinghouse recommendations in this regard should be followed.

You requested our response to your request within thirty (30) days of our receipt of your letter, which would be September 24, 1981.

After consultation with Westinghouse, they confirmed to AP&L in their September 15, 1981 letter that they are now supplying AP&L with recommended inspection intervals which comply with the above criteria. AP&L agrees with NRC's conclusion in your August 20, 1981 letter that inspection intervals based on the Westinghouse Memorandum MSTG-1-P, June 1981 (Proprietary) will provide an acceptably high degree of assurance that discs will be inspected before cracks can grow to a size that could cause disc failure. Therefore, AP&L hereby commits to use the four criteria suggested by NRC in your Safety Evaluation Report for our future disc inspections.

Very truly yours,

*David C. Trimble*

David C. Trimble  
Manager, Licensing

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