

Docket File

Docket No. 298

August 24, 1981

Mr. J. M. Pilant, Director
Licensing & Quality Assurance
Nebraska Public Power District
P. O. Box 499
Columbus, Nebraska 68601



Dear Mr. Pilant:

By letter dated February 25, 1980 we informed all licensee/users of Westinghouse low-pressure turbines that stress corrosion cracks were being found in the keyway and bore areas of low-pressure discs. Because these cracks were considered to increase the probability of disc failure we requested that you perform ultrasonic inspections on your low-pressure discs and justify that your plant could continue to operate safely.

All Westinghouse low-pressure turbines at operating nuclear power plants have now been inspected, at least once, for keyway and bore cracks. Indication of one or both types of these cracks has been found at 20 plants. Although all factors related to cracking have not been positively established, operating experience indicates that crack initiation and growth are related to disc temperature and material characteristics. Westinghouse is continuing to evaluate the effect of other manufacturing and operational variables.

Until a satisfactory solution can be found we believe that it would be prudent for you to continue inspecting your 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. Westinghouse has developed a method to determine safe inspection and re-inspection frequencies and has submitted this information in Memorandum MSTG-1-P, June 1981 (Proprietary) for review by the NRC staff.

Our appraisal of the Westinghouse approach is presented in the enclosed Safety Evaluation. We conclude that inspection schedules based on the recommendations in the Westinghouse Memorandum 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 at speeds up to design speed. In our Safety Evaluation we list four criteria for an acceptable inspection schedule. I request that you commit to use these criteria for future disc inspections. We believe that such a commitment will reduce the probability for a safety problem to such a degree that the NRC staff would no longer need to monitor your turbine inspections except through the normal activities of our Office of Inspection and Enforcement. Your commitment would also eliminate the need for you to report these inspection results to the staff or to transmit the computerized disc data sheets that are prepared by Westinghouse.

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Your response to this request should be submitted within 30 days of receipt of this letter.

I also take this opportunity to advise you that on June 11, 1981 Westinghouse transmitted two proprietary reports related to turbine missiles for NRC staff review and evaluation. We have been advised by Westinghouse that the methodology described in these reports was used to provide its customers with estimates of the probability of disc rupture from stress corrosion cracking and with analyses of potential missile energies. We shall provide Westinghouse with our evaluation of this methodology as soon as our resources permit.

Sincerely,

Thomas A. Ippolito, Chief
Operating Reactors Branch #2
Division of Licensing

Enclosure:
Safety Evaluation

cc w/enclosure

See next page

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Mr. J. M. Pilant
Nebraska Public Power District

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