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

FEB 9 1979

Docket Nos. 50-369
and 50-370

Mr. William O. Parker, Jr.
Vice President, Steam Production
Duke Power Company
P. O. Box 2178
422 South Church Street
Charlotte, North Carolina 28242

Dear Mr. Parker:

SUBJECT: AUGMENTED INSERVICE INSPECTION FOR PIPE RUPTURE PROTECTION
(McGuire Nuclear Station, Units 1 & 2)

On January 18, 1979, we met with representatives of your organization to discuss your proposed use of augmented inservice inspection, supplemented by enhanced local leak detection, to satisfy the requirements of General Design Criterion 4 (GDC-4) for a very limited number of locations in the McGuire piping systems. This meeting resulted in the following specific requirements:

1. The applicant will document its meeting presentation, including a discussion of: (a) postulated break locations evaluated for the dynamic effects of pipe whip and jet impingement (about 200-300 locations); (b) utilization of conventional methods of meeting GDC-4; (c) the reasons why conventional methods are not feasible for six locations; and (d) the proposed use of augmented ISI utilizing improved examination techniques in combination with enhanced leak detection for these six locations.
2. The applicant shall further demonstrate that the McGuire piping system design meets General Design Criterion 4 (see Item 1) by providing analyses that show, for the 10 inch accumulator line break; that:
 - a. the impinged 16" feedwater line falls within the faulted stress limit (jet force, pressure, temperature, and dead weight loads)
 - b. failure of the 2" steam generator blowdown line (along with the 10" accumulator line) does not result in exceeding the containment design pressure.

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FEB 9 1979

NOTE: This can be accomplished with a complete computer analysis. However, if a comparison of mass and energy release rates shows that the combination of the two-inch and 10-inch breaks are less severe than the design basis break, we would consider this to be satisfactory.

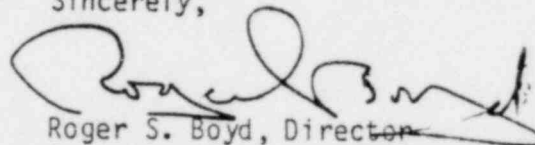
- c. the consequences of the failure of the impinged 6" hot leg injection line (along with the 10" accumulator line) are acceptable under 10 CFR Part 50, Appendix K, using qualitative reasoning in light of other LOCA evaluations for this plant.
3. The applicant will provide an acoustic emission leak detection capability for each of the six postulated break locations noted in Item 1 above. We require that final design of the system, including a description of the proposed acceptance standards and plant corrective action, be submitted for our approval three months prior to initial fuel loading and that the leak detection system be fully operational prior to exceeding 1% power.

The staff agreed that based upon acceptable responses to the above items, a normal ASME Section XI inservice inspection frequency for the code weld areas, for each of the six postulated break locations, would be satisfactory pursuant to the baseline data and specific procedures for future examination.

In order that we may complete our review of this matter in a timely manner, we request that you provide a full and satisfactory response by March 12, 1979.

If you have any questions regarding this matter, please contact us.

Sincerely,



Roger S. Boyd, Director
Division of Project Management
Office of Nuclear Reactor Regulation

ccs: See next pages

FEB 9 1979

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FEB 9 1979

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