

DUKE POWER COMPANY

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April 5, 1985

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Attention: Ms. E. G. Adensam, Chief
Licensing Branch No. 4

Subject: McGuire Nuclear Station, Unit 1
Docket No. 50-369

Dear Mr. Denton:

Pursuant to 10 CFR50, Appendix H, please find attached a report entitled "Analysis of Capsule U from the Duke Power Company McGuire Unit 1 Reactor Vessel Radiation Surveillance Program", WCAP-10786.

Based on an initial and preliminary review of the results of this capsule evaluation, it appears that the present heatup and cooldown curves in Technical Specification will need to be revised.

Plant heatup and cooldown operating limits generated as part of this report differ from the original 10 year plant operating limits identified in the plant technical specifications. The new limits are based on a 10 EFPY neutron fluence of 3.89×10^{18} n/cm² and RT_{NDT} of 178°F whereas the technical specification limits are based on a fluence of 2.14×10^{18} n/cm² and an RT_{NDT} of 124°F. This difference occurs because Regulatory Guide 1.99 Revision 1 was used to predict radiation damage for the new limit curves whereas Westinghouse prediction methods were used for developing the original limit curves. In addition, neutron fluence values for the limiting weld location have been updated using the latest state of the art dosimetry methods (energy groups, cross sections, etc.). It should also be noted that in the original analysis the capsules located at 56 and 58.5° were assumed to provide shielding for the critical longitudinal weld seam located at 60°. However, in the new analysis the capsules were not considered as providing shielding because they only shield approximately 30 inches of 106 inch long weld seam located at 60°.

Although new plant operating limits have now been developed for the plant, the old operating limit curves have been determined to be appropriate for up to 4.86 EFPY. McGuire Unit 1 has operated for approximately 2 EFPY to date.

Duke is continuing to review the results contained in this report. If determined to be necessary, a proposed Technical Specification revision will be submitted in a timely manner so as to allow NRC sufficient time to review and approve prior to the present Technical Specification curves becoming non-conservative.

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If there are any questions regarding this, please advise.

Very truly yours,

H.B. Tucker

Hal B. Tucker

RLG/mjf

Attachment

cc: Dr. J. Nelson Grace, Regional Administrator
U. S. Nuclear Regulatory Commission
Region II
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Atlanta, Georgia 30323

W. T. Orders
Senior Resident Inspector
McGuire Nuclear Station

Mr. Darl Hood, Project Manager
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