

DUKE POWER COMPANY

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VICE PRESIDENT
NUCLEAR PRODUCTION

September 22, 1986

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

ATTENTION: Mr. B.J. Youngblood, Director
PWR Directorate No. 4

Subject: McGuire Nuclear Station
Docket No. 50-369, 50-370

Dear Mr. Denton:

Discussions between our respective staffs in support of the F* criterion for steam generator tube plugging (reference McGuire license amendments 59 and 40 for Units 1 and 2, respectively) involved inquiries into our radiochemistry program at McGuire Nuclear Station for primary to secondary leakage detection and quantification. It was agreed in a telephone conference on August 12, 1986 between D. Hood, D. Sellers, and T. Sullivan of your staff and R. Gill, J. Day, and R. Michael of my staff that the radiochemistry information provided in that call would be supplied in a follow-up letter, but would not be required prior to issuance of the amendment; the subject information is provided herein.

The normal surveillance frequency is once weekly. If a significant change in the leak rate is observed, the surveillance is increased appropriately until the leak rate has stabilized, at which time weekly sampling is resumed. It has been generally observed that leak rate changes in steps.

The normal calculation is based upon the ratio of Xenon-133 in the off gas and in the primary coolant. Based upon 12 scfm offgas with 1×10^{-6} microcuries/ml Xe-133 and 0.1 microcuries/ml Xe-133 in the primary system, the leak rate is calculated to be 1.3 gallons per day. If the quantity of offgas is less than 12 scfm (typical is 8-12 scfm), the detection limit is proportionately lower. A leak rate of 5-10 gpd is sufficient to pinpoint the affected steam generator. If for some reason the Xenon calculation does not appear valid, a calculation based upon iodine may be employed.

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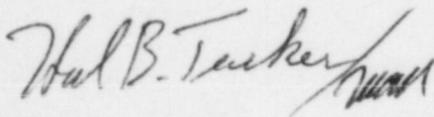
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Wendell Bond

Steam line monitors which alarm in the control room and the condenser evacuation system noble gas monitor which also alarms in the control room are available to detect any sudden change in leak rate between normal samplings if the leak is of a sufficient magnitude to be of concern.

It is in Duke's interest not only from a safety, but an economic standpoint as well to operate with minimum leakage due to possible secondary side (turbine) contamination, thus we consider the possibility of primary to secondary leakage an important issue.

Very truly yours,



Hal B. Tucker

JBD/83/jgm

xc: Darl Hood (NRC/ONRR)
E.J. Sullivan (NRC/ONRR)
W.T. Orders (NRC/MNS)