TENNESSEE VALLEY AUTHORITY
CHATTANOOGA, TENNESSEE 37401
400 Chestnut Street Tower II

February 7, 1984

Director of Nuclear Reactor Regulation
Attention: Ms. E. Adensam, Chief
Licensing Branch No. 4
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Ms. Adensam:

In the Matter of the Application of) Docket Nos. 50-390
Tennessee Valley Authority)

TVA has been informally requested to provide information describing how the limiting tank concentration value (multiple of maximum permissible concentration (MPC)) was determined in the expression $\sum_i \frac{C_i}{MPC_i} \leq 9200$ as specified in the draft Watts Bar Nuclear Plant unit 1 Technical Specifications Limiting Condition for Operation 3.11.1.4. The enclosure to this letter provides the requested information.

If you have any questions concerning this matter, please get in touch with D. B. Ellis at FTS 858-2681.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

L. M. Mills, Manager
Nuclear Licensing

Sworn to and subscribed before me
this 7th day of February 1984
Paulette H. White
Notary Public
My Commission Expires 9-5-84

Enclosure
cc: U.S. Nuclear Regulatory Commission (Enclosure)
Region II
Attn: Mr. James P. O'Reilly, Regional Administrator
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30303

8402140195 840207
PDR ADOCK 05000390
Q PDR

B001
1/1

ENCLOSURE

LIMITING TANK CONCENTRATIONS
DRAFT WBN UNIT 1 TECHNICAL SPECIFICATIONS LCO 3.11.1.4

The standardized Radiological Effluent Technical Specifications (RETS) require all outdoor radwaste storage tanks (that do not have overflows or are not diked to prevent runoff) to have their contents limited such that an uncontrolled release of the contents would not result in short-term concentrations at the nearest potable water supply greater than those concentrations listed in 10 CFR 20, Appendix B, Table II, Column 2. General guidance by the Nuclear Regulatory Commission for compliance was to determine a curie content limit for each tank. However, as the radionuclide mix changed, it would be possible to have an inventory in a tank that if released could exceed 10 CFR 20 concentrations at the nearest potable water supply. A storage tank should not have an inventory that could not be dispersed to 1 MPC at the nearest water supply. The limiting case based on dispersion would be the largest tank. The number of times (C_o/C_m) a tank volume can be diluted before reaching the first water supply was estimated, and the number in the RETS is the inverse of the dispersion coefficient for the largest tank.

The largest tank at the Watts Bar Nuclear Plant is the condensate storage tank (376,000 gal). The dilution coefficient is independent of riverflow for a slug release (duration $\leq$ 24 hr). The resulting limiting tank concentration (multiple of MPC) for WBN is 9,171. This was rounded to 9,200.