

March 19, 1997

Mr. Oliver D. Kingsley, Jr.
President, TVA Nuclear and
Chief Nuclear Officer
Tennessee Valley Authority
6A Lookout Place
1101 Market Street
Chattanooga, Tennessee 37402-2801

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION REGARDING SPENT FUEL POOL RERACK
FOR THE WATTS BAR NUCLEAR PLANT, UNIT 1 (TAC NO. M96930)

Dear Mr. Kingsley:

The NRC staff is continuing its review of the Tennessee Valley Authority's (TVA) application of October 23, 1996 for amendment of the Technical Specifications (TS) for Watts Bar Nuclear Plant, Unit 1. The amendment would allow an increase in the spent fuel pool storage capacity and an increase from 3.5 to 5.0 percent enrichment for the fuel to be stored in the spent fuel pool. Additional information, as identified in the enclosure, is requested to enable us to continue the review.

Sincerely,

Original signed by
Robert E. Martin, Senior Project Manager
Project Directorate II-3
Division of Reactor Projects I/II
Office of Nuclear Reactor Regulation

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Docket Nos. 50-390 and 50-391

Enclosure: Request for Additional Information

cc w/enclosure: See next page

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Mr. Oliver D. Kingsley, Jr.
Tennessee Valley Authority

cc:

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Rhea County Courthouse
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County Executive
Meigs County Courthouse
Decatur, TN 37322

Mr. Michael H. Mobley, Director
Division of Radiological Health
3rd Floor, L and C Annex
401 Church Street
Nashville, TN 37243-1532

REQUEST FOR ADDITIONAL INFORMATION

TENNESSEE VALLEY AUTHORITY

WATTS BAR NUCLEAR PLANT

DOCKET NUMBER 50-390

PLANT SYSTEMS

1. Provide and justify the values for the following 1993 ANS 5.1 input parameters to enable an independent assessment of the pool decay heat loads:

- a. δQ (net recoverable energy) = ??? MeV/fission)
- b. δP (net power from fissioning of nuclide) = ??? (MeV/fission)
- c. Fractional fission product for: U235, U238, Pu239 and Pu241
- d. R-factor (the actinide production multiplier)
- e. G-factor (a decay heat multiplier to account for the effect of neutron capture in fission products)
- f. Si (a multiplier applied to the G-factor equation)
- g. Power history (length of full-power operation before shutdown)

2. Provide additional information that would justify operation of the spent fuel pool and its associated systems at the new calculated pool temperatures. The requested information should address the ability of the equipment, systems and pool to perform their intended functions at the new temperatures. Information on the structural aspects of the pool and its systems should be included.

3. Provide a discussion of the procedures to be utilized by the site staff to monitor and control the pool water temperature and the decay heat load so as to remain within the design basis limiting values for routine refuelings and the maximum heat load cases. Include discussion of the location of needed instrumentation, means of monitoring it and integration of operations staff activities with engineering staff activities in order to implement the procedure(s).

RADIOLOGICAL PROTECTION

Tennessee Valley Authority's letter dated February 10, 1997 provided additional information on radiological protection. Please provide the numerical values for the doses mentioned in the comparison between Regulatory Guide 1.25 and NUREG/CR-5009.

ENCLOSURE