

TENNESSEE VALLEY AUTHORITY

KNOXVILLE, TENNESSEE 37902

AUG 29 1986

Mr. Bruce R. Barrett, Director
Water Management Division
U.S. Environmental Protection
Agency, Region IV
345 Courtland Street, NE.
Atlanta, Georgia 30365

Dear Mr. Barrett:

SEQUOYAH NUCLEAR PLANT - NPDES PERMIT NO. TN0026450 - NONRADIOLOGICAL
AQUATIC MONITORING PROGRAM

Enclosed are two copies of the report, "Aquatic Environmental Conditions in Chickamauga Reservoir During Operation of Sequoyah Nuclear Plant (SQN) - Fifth Annual Report (1985)." This report is submitted in accordance with part I., section B.1.c., and part III., section F., of the Sequoyah National Pollutant Discharge Elimination System Permit, and my June 25, 1985, letter to you. The enclosed report summarizes data collected January through December 1985.

Recommendations made in last year's report were implemented in July 1985 following your office's approval. The altered plan used in July provided strong evidence that decreases in phytoplankton and zooplankton densities from upstream to downstream of SQN in May and July (both low-flow periods) were largely due to SQN. Results from the altered plan also allowed these studies to be further refined to select specific conditions of river flow and plant operation necessary to complete evaluation of SQN effects on plankton.

The 1985 larval fish studies provided basically the same results as previous years--low entrainment rates for all species except freshwater drum. As a result, sampling for larvae other than freshwater drum was discontinued in spring 1986 (letter to EPA dated February 14, 1986), and this effort was redirected to evaluate effects of these high entrainment rates on the freshwater drum population in Chickamauga Reservoir. The results of cove rotenone studies and sampling for adult freshwater drum stocks in 1986 will be submitted to you by April 1, 1987. At that time, a recommendation about additional freshwater drum studies and cove rotenone reporting will be provided. TVA had originally planned (letter to EPA dated February 14, 1986) to conduct fish larvae studies in 1986; but because SQN did not operate in the spring and summer of 1986, these studies were not conducted.

The water quality data showed that the SQN diffusers redistribute the DO concentrations in the water column, at and downstream of SQN so that surface concentrations of DO are reduced and DO concentrations in the lower strata are increased. We plan to conduct studies to define the extent and duration of the DO reduction in the upper strata during spring and summer when SQN resumes operations. These results will be used to determine the potential for effect on aquatic biota. A workplan detailing these studies will be submitted to you by March 1, 1987.

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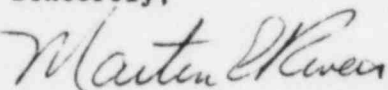
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SQN was shut down August 22, 1985, and has not been operational since that time. Therefore, we do not plan to submit an annual report in June 1987 on the plankton studies conducted during 1986. We prefer to wait until sufficient information from the recommended plankton studies has been gathered to further refine this evaluation before submitting another report on plankton. We would, however, provide a status report each January, starting in January 1988, that identifies the status of any remaining plankton studies.

We ask your concurrence with our recommendations so we can finalize plans for the future work. If you have any questions, please call Clyde W. Voigtlander at FTS 856-6655 or (615) 632-6655 in Knoxville, Tennessee.

Sincerely,



Martin E. Rivers, Director
Environmental Quality

Enclosures

cc (Enclosure):

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Continued on page 3

AUG 29 1986

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