

TENNESSEE VALLEY AUTHORITY

MAY 12 1988

Mr. Philip L. Stewart, Manager  
 Chattanooga Field Office  
 Division of Water Pollution Control  
 2501 Main Street  
 Chattanooga, Tennessee 37406

Dear Mr. Stewart:

WATTS BAR NUCLEAR PLANT (WBN) - NPDES PERMIT NO. TN0020168 - PROPOSED  
 CLEANOUT OF DIFFUSER PIPES

As discussed in my June 12, 1987 and April 19, 1988 letters, we are in the process of repairing the WBN cooling tower blowdown piping system. In addition to the work discussed in my April 19 letter, another aspect of the repair project which has recently been identified is the cleanout of the diffuser pipes. Scuba divers have inspected the diffuser pipes and found that the pipes are one-eighth to one-quarter full of debris which consists mostly of clam shells and silt. These pipes need to be cleaned out to improve the operation of the diffuser because the debris is partially covering the holes in the diffuser. We propose to do this by using a submersible trash pump to pump the silt and shells out of the diffuser pipes. We estimate that roughly 830 cubic feet or 80,000 pounds maximum of shells and sediment would be pumped out of the pipes over a two- to three-week period. Three alternatives were evaluated for the disposal of this material:

1. Discharge to river bottom.
2. Pump onto barge, barge to shore, and truck to landfill.
3. Pump to 35-acre yard holding pond (YHP).

Alternative 1 was ruled out as being environmentally unacceptable due to the presence of endangered mussels downstream of our diffuser discharge, i.e., sediment might cover up and hence kill some of these mussels. Alternative 2 is undesirable for several reasons. Special precautions and/or special setup of the barge would be required to prevent runoff of the pumped material back into the river, since the shells and sediment will be pumped as a dilute slurry. Also, dewatering of the slurry would be required before transport to a landfill could occur. The cost of hauling to the landfill would be another consideration, as well as the necessity of obtaining approval from another State division.

Alternative 3 is the most desirable from both an environmental and economic standpoint. Implementation of alternative 3 would require about 1,000 feet of temporary pipe to be routed from the diffusers to the YHP. The slurry would be discharged at the head end of the main portion of the pond, i.e., beside the dike that closes off the east end of the pond. The operation would take place over about a three-week period, roughly 10

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days of which would be pumping. It is estimated that approximately 2 million gallons per day would be pumped or about 20 million gallons total during the operation.

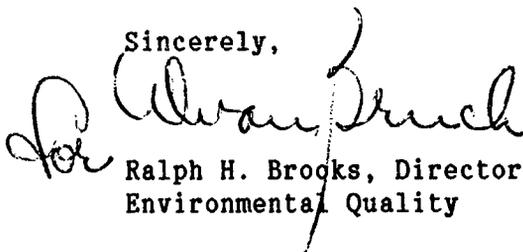
The leak testing of segment 3 has been completed and cooling water has been diverted back to the yard pond. It is planned to continue discharging over the YHP weir to the Tennessee River for at least the next three months during the leak testing of the diked end of the YHP (pending approval as requested in my April 19 letter). Thus the cooling water flow will be going to the pond during the cleanout of the diffuser pipes.

Since the YHP has a volume of about 72 million gallons at elevation 707 (the weir overflow elevation), the sediment and shells should have adequate time to settle out. The volume of this debris (830 cubic feet) will only make a miniscule reduction (less than 0.01 percent) in the holding pond's capacity. This proposed action should not affect our compliance with NPDES permit limitations on the holding pond.

One further aspect of the work involves the initial cleanout of large items which appear to be lodged in the diffusers, such as lumber, plastic, fiberglass cuttings, and other miscellaneous debris. We plan to remove these items by hand and dispose of them in the Rhea County Landfill since these items are routinely handled as regular (i.e., nonhazardous) solid waste.

In summary, we believe that alternative 3 is the most environmentally and economically attractive option available to us; and we request your approval so that this work may begin by June 1. Much of the necessary equipment will be in the Watts Bar area on another job at the end of May, and thus it would be most convenient if work could begin in early June. Thank you for your consideration in this matter. If your staff has any questions, please have them contact Madonna E. Martin at (615) 632-6695 in Knoxville.

Sincerely,

  
Ralph H. Brocks, Director  
Environmental Quality

cc: See Page 3

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Mr. Phillip L. Stewart

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