STATE OF GEORGIA

TMDL IMPLEMENTATION PLAN FOR LAKE SINCLAIR

TEMPERATURE

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TMDL Implementation Plans are platforms for establishing a course of actions to restore the quality of impaired water bodies in a watershed. They are intended as a continuing process that may be revised as new conditions and information warrant. Procedures will be developed to track and evaluate the implementation of the management practices and activities identified in the plans. Once restored, appropriate management practices and activities will be continued to maintain the water bodies.

INTRODUCTION

Lake Sinclair is located in the Oconee River Basin in Putnam, Baldwin and Hancock Counties. The lake is on the state 303(d) list for temperature. The applicable Georgia water quality standard for temperature states that at no time shall the water temperature exceed 90°F and at no time is the temperature of the receiving water to be increased more than 5°F above intake temperature. A review of the reported monitoring data for the Georgia Power Company Plant Branch facility indicated excedences of this instream water quality criteria. Plant Branch withdraws cooling water from the Little River Arm of Lake Sinclair and then discharges to the Beaverdam Creek embayment of Lake Sinclair. The Lake is, in part, listed for temperature due to the thermal discharge from this plant. However, Georgia Power has shown that the water quality standard may also be exceeded due to meteorological conditions. Since the meteorological source is not controllable, the Georgia Power plant will be given a thermal wasteload allocation that is consistent with the State's existing water quality criteria for temperature. The wasteload allocation is expressed as that discharge which will result in a daily maximum temperature of 90°F, or no more than 5°F above intake temperature, as measured at defined compliance points.

DISCUSSION OF POLLUTANT

An increase in water temperature that adversely affects aquatic organisms is known as thermal pollution. Thermal pollution can have numerous effects on an aquatic ecosystem, including a decreased capacity for dissolved oxygen in the water column and interference with the reproduction process, increase in vulnerability to disease and direct mortality of fish and other aquatic organisms.

PLAN FOR TMDL IMPLEMENTATION

TMDL implementation will be handled through the NPDES permitting process. The Plant Branch NPDES permit (GA0026051) already implements the TMDL because the water quality based effluent limitations are fully consistent with the wasteload allocation in the TMDL. The TMDL assumes that Georgia Power will meet the effluent limitations through a compliance schedule in the NPDES permit that requires compliance with the wasteload limits in the TMDL on or before October 2005. The permit does contain an interim effluent temperature limitation of a 108°F daily maximum/ 18°F rise across the plant that is effective until October 2005. After the compliance schedule has expired (October 2005), the effluent temperature limitation reverts back to the water quality standard unless a Section 316(a) variance is approved .

Georgia Power intends to request an alternative effluent limitation for temperature for the Plant Branch NPDES discharge pursuant to Section 316(a) of the Clean Water Act. With this in mind, EPA intends to reconsider the TMDL prior to the time the Plant Branch NPDES permit is to be renewed and to revise the TMDL as necessary based on information gathered by Georgia Power that may better characterize the thermal load into Lake Sinclair.

MONITORING PLAN

During the period beginning on the effective date of the Plant Branch NPDES permit and lasting through 59 months (October 2005), Georgia Power is required by the permit to sample the final combined discharge on a daily basis. After October 2005, the end point of the compliance schedule, Georgia Power will be required to return to the original permit requirement of sampling the Final Combined Discharge once per week.

REFERENCE

Chiras, D. D., and Oliver S. Owen. 1995. Natural Resource Conservation: Management for a Sustainable Future, 6th edition. Prentice-Hall, Inc., Englewood Cliff, New Jersey. 586pp.