

GEORGIA ENVIRONMENTAL PROTECTION DIVISION T.M.D.L. BASED WASTELOAD ALLOCATIONS

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Abstract. Georgia's Environmental Protection Division (EPD) is charged with developing and implementing Total Maximum Daily Loads (TMDLs) for waters placed on the state's biennial list of impaired waters (CWA Section 303(d) List). The requirements for this activity are based in the federal Clean Water Act (CWA), and are passed through to EPD as part of its biennial Performance Partnership Agreement with the U.S. Environmental Protection Agency (EPA). This paper briefly describes how the TMDL process impacts issuance of municipal and industrial National Pollutant Discharge Elimination System (NPDES) permits based on TMDLs calculated for individual impaired waters.

The TMDL Implementation Process

The five-year rotating basin and TMDL implementation process begins with collection of water quality data by EPD's Ambient Monitoring Program. These data are evaluated, and waters that violate water quality standards are placed on the state's 303(d) list of impaired waters. TMDLs are developed for these impaired waters using simulation models to determine how much of the pollutant causing impairment could 'safely' be discharged to the receiving water and still maintain water quality standards and designated uses. The TMDL is then divided among point sources (wasteload allocation) and nonpoint sources (load allocation). The next task, the focus of this paper, is the NPDES permitting process undertaken by EPD and how this process can impact wasteload allocations for municipal and industrial point sources discharging to impaired waters. Final action includes development of TMDL implementation plans either by EPD staff or by the state's Regional Development Centers under contract to EPD. These plans define methods of reducing nonpoint sources on a ten-year timetable.

Wasteload Allocation Procedures

The overall wasteload developed for impaired waters is the lynchpin for issuing NPDES permits to individual municipal and industrial dischargers. If TMDL modeling indicates reductions in point source wasteloads are required to meet water quality standards or designated uses the wasteloads for each discharger are reduced to meet the new numbers.

Actual reductions are implemented under one of two scenarios. When EPD receives requests for expansion from existing dischargers the new wasteloads issued to them will allow additional flow but will also require reduction of either pollutant concentrations or mass loadings for that facility to meet the TMDL requirement. In the second scenario, wasteload allocations for existing dischargers that do not seek expansion are addressed every five years during permit reissuance for that particular river basin. At this time, the new wasteload allocations based on pollutant reductions required by TMDL modeling are implemented through the NPDES permitting process.

Impacts on New Dischargers

The TMDL modeling and implementation process for wasteload allocations to impaired waters leaves no "assimilative capacity" for new discharges, and thus no additional discharges containing pollutants either causing or contributing to impairment are allowed. New dischargers may take several basic approaches that would enable them to generate, treat and dispose of wastewater. They could possibly become eligible for an NPDES permit by relocating the discharge to another unimpaired water body. They could consider developing an agreement with an existing discharger to accept and treat the new wastewater. Under this scenario, the existing discharger might be required to increase treatment levels to maintain its wasteload allocation. Lastly, the new discharger might seek to acquire all or part of an existing permitted discharge

whose wasteload allocation could be transferred to the proposed new facility. This latter example could include industries going out of business or whose need for a wasteload allocation has been reduced due to improvements in manufacturing processes.

“Real-World” Wasteload Trading Examples

Following are two examples of ‘trading’ underway in basins where lack of assimilative capacity prohibits issuance of new or expanded permits.

In the first, an industrial discharger agreed to transfer part of its flow to a municipal discharger that needed additional capacity. The municipality received the same (flow-weighted) biochemical oxygen demand (BOD) loading as the industry, but could treat this effluent more efficiently and apply the BOD ‘savings’ to increase its municipal service area and overall flow.

The second example is an offer by a municipality to purchase a wastewater treatment plant from a local industry with the intent of building a new advanced treatment plant that would provide a substantially higher level of treatment. The new plant would continue to treat the industrial flow as well as flow from a new municipal service area that is being rapidly

developed. This example is in the ‘work in progress’ category.

Other Possible Approaches

Other states and the EPA are experimenting with ‘pollutant credit trading’ between point and nonpoint sources. At present, EPD does not consider such requests for the simple reason that accurate measurements of pollutant concentrations and resultant loadings from nonpoint sources are very difficult to obtain. Thus, accurately documenting “trades” between point and nonpoint sources would be very difficult, if not impossible, at the present time. The technical validity and legality of NPDES permits based on wasteload allocations derived from this type of pollution credit trading would likely be subject to debate and potential litigation.

Conclusions

This paper has attempted to describe the current technical and administrative procedures used to address issuance of wasteload allocations to implement TMDLs based on current federal mandates and DNR Rules and Regulations for Water Quality Control.