The Bay TMDL and implications for MDOT

Establishment of TMDL

EPA is in the process of establishing federal TMDLs[1] for the tidal segments of the Bay and its tidal tributaries for excess nutrients (nitrogen and phosphorus) and sediments. This action will satisfy **consent decrees** issued in 1999 and 2000 in Virginia and D.C. that required **a Bay TMDL by May 2011** if the Bay could not be removed from the list of impaired waters. The Bay TMDL will create, in effect, an overlay TMDL that will be added to any TMDLs already in place on any of the affected water segments for local conditions.

EPA expects to establish the Bay TMDL by **December 2010** despite several delays in finalizing the target load reductions. States are to work with preliminary target loads pending the issuance of final loads. EPA provided preliminary allocations for the major basins in the Bay Watershed in October 2009. MDE will sub-allocate Maryland's loads to the County scale.

Each state will be required to develop a Phase I **Watershed Implementation Plan (WIP)** containing the programs and actions necessary to meet the allocated reductions, including offsetting any new or increased loads from anticipated population growth and land use changes. In Maryland the WIPs are being developed by the agencies with responsibility for several different types of activities that affect water quality. These are DNR, the lead agency for Chesapeake Bay Restoration, MDE, MDA and MDP.

In accordance with the President's Executive Order 13508 to create a new accountability framework, the WIPs will identify a schedule for achieving the load reductions needed to meet the Water Quality Standards, including dates for enhancing programs and implementing key actions to achieve those reductions. **All actions are to be completely implemented and all control measures in place no later than 2025.** (Maryland had earlier committed to 2020.) EPA will assess progress toward this goal through the adoption of **2-year milestones**. Under these milestones EPA expects each State to commit to the implementation of specific actions to meet specific incremental goals every two years. Such **actions** could include **adopting new regulatory authorities, improving compliance with existing regulations, securing new resources for cost-share programs, and issuing NPDES[2] permits with more stringent effluent limits.**

States are to submit draft **Phase I WIPs by June 2010**, including target load reductions by source sector (permitted point source, non-point source) and bay drainage segment. Phase II

[1] TMDL= Total Maximum Daily Load. The Clean Water Act (CWA) required that States adopt Water Quality Standards based on a "designated use" (ie, drinking water, swimming/fishing, shellfish breeding, etc.) for all waters within their jurisdiction. If a waterbody did not meet the standard set for it, it was placed on the list of "impaired" waters (CWA 303,d list). A waterbody can be impaired by more than one pollutant. For all impaired waters, a TMDL must be developed for each pollutant that keeps it from meeting its standard.

[2] NPDES= National Pollutant Discharge Elimination System. NPDES permits are issued by MDE for wastewater and stomrwater control. Stormwater permits are issued for construction projects and for the operation and maintenance of stormwater management systems (MS4s) and for the operation of "industrial" sites.

WIPs will have greater sector, geographic and program specificity. Phase II WIPs are to be in place by the time the TMDL is issued. EPA has committed to impose **consequences** on States that do not meet the obligations committed to in their WIPs and 2-year milestones. WIPs will be updated in 2017 (Phase III) to reflect actions necessary to reach complete implementation by 2025.

Impacts on MDOT

The primary impact of this process on most MDOT administrations will be through MDE's regulatory programs. The requirements of these programs will be expanded to meet the commitments in Maryland's 2-year milestones**. If MDE does not meet its milestones through its expanded program requirements, EPA will take further actions, such as increasing the load reduction allocations assigned to point sources, limiting new discharges or objecting to MDE-issued NPDES permits.**

Stormwater runoff from both new and existing facilities is regulated by means of permits issued by MDE under the federal NPDES program. These permits will be the primary mechanism used to enforce any load reductions allocated to urban stormwater sources. MDE has already adopted regulations changing and increasing requirements for stormwater management on new construction and has issued a new more stringent "General Permit for Stormwater Associated with Construction Activity". MDE has also already proposed as a contingency measure adding a new requirement to that permit that each acre of new development be offset by retrofitting two acres of pre-1985 land for stormwater management.

In addition to the approvals and permits issued for construction, the modals have varying types of operating permits. SHA has a Phase I permit to operate a Municipal Separate Storm Sewer System (MS4) covering their systems in central Maryland. These types of permits are issued every 5 years to local governments and State Highway Administrations. One of the permit requirements is to retrofit some portion of the existing system to meet the new stormwater standards.

MDE intends to require increased retrofitting in MS4 permits. One proposal was to treat, through retrofitting, 20% of each permit holder's land where stormwater is not currently treated. SHA's MS4 permit is up for renewal in October 2010. As an example of costs, assuming an untreated area as great as 22,500 acres, SHA could be required to retrofit approximately 4,500 acres of impervious surface every five years. While costs of retrofitting vary widely due to differing conditions, at an average cost of $100,000/acre, it is likely that the cost of complying with this requirement could approach $450 million in each permit cycle or $90 million per year. These are costs for construction only. In many cases retrofitting requires the purchase of additional land. Again, costs vary by area, but this could add another $50 million per year.

The other modals have Phase II operating permits, and in some cases, Phase I industrial permits. These permits currently do not include requirements for retrofitting, **but this is the type of expansion that MDE could consider to meet the requirements of the WIPs.** There are also large areas of the State, notably the Eastern Shore, where SHA has facilities that are not covered under its MS4 permit. MDE could choose to implement a new stormwater permit process or

some other regulatory mechanism to cover areas not currently covered by the NPDES program. Such expansions are possible under EPA's existing authority.

EPA also outlined several further steps that could be taken in the event that the States are not meeting the requirements of the WIPs that could directly affect MDOT. Currently Maryland has narrative or programmatic rather than numeric criteria for achieving water quality standards. If EPA determined that the State's criteria were not sufficient, **they may chose to promulgate numeric criteria for nutrients.** This would require a significant water quality monitoring program to track compliance at the outfall level. EPA stated that they would be examining opportunities for the use of the "imminent and substantial endangerment authority" in cases where states are not meeting the goals. It is very likely that enforcement will become more stringent on construction and industrial sites and incidents of non-compliance will be more likely to be immediately treated as violations.

EPA also noted that they will engage in discussions with U.S. DOT, as part of the Federal Leadership Committee established by the President's Executive Order, to determine if additional actions could be taken by DOT to ensure that the Bay TMDL requirements are met.

Bay TMDL Schedule

June 2010: States are to submit draft **Phase I WIPs**

August 1, 2010: States are to resubmit after EPA comment and revision.

August 15 2010: EPA to publish Draft Bay TMDL and State WIPs

August 15 to Oct. 15: Public comment period.

Nov. 1 2010: States are to submit Final WIPs.

Dec. 31 2010: EPA to publish the final Bay TMDL

June 2011: Draft Phase II WIPs will be submitted to EPA.

Nov. 1, 2011: States to incorporate final target loads into their plans and submit final Phase II WIPs to EPA.