

Legislative Budget and Finance Committee

**A Cost Effective Alternative Approach to Meeting
Pennsylvania's Chesapeake Bay Nutrient Reduction Targets**

**Presentation by Philip Durgin at May 6, 2015, Meeting
of the Senate Majority Policy Committee**

In 2012, our Committee was asked to conduct a study of an alternative approach for how the Commonwealth can meet the nutrient reduction targets the U.S. EPA has established for Pennsylvania with regard to the Chesapeake Bay. We released our report in January 2013, and I really have not been following this issue closely since then, so I apologize if some of the information I present is outdated.

At the time we did our study, we found that good progress had been made by Pennsylvania's sewage treatment plants in their nutrient reductions, and for the most part, these facilities were near, or had already achieved, their reduction targets for 2017. The EPA had, however, expressed concerns over the agriculture and urban storm water sectors and, in particular, that the nitrogen targets set for agriculture would not be met under the current plan. While it was unclear what would happen if Pennsylvania failed to meet its nutrient reduction targets, the EPA has indicated it might impose additional reductions on wastewater treatment plants as a way to compensate for the failure to achieve targets in other sectors. Achieving these additional reductions over what has already been achieved in the wastewater sector would be very expensive.

The purpose of this study, therefore, was to assess whether a competitive RFP, or Request for Proposal, program--under which firms could submit bids for nitrogen reduction credits--could be a cost effective approach to Pennsylvania meeting its nutrient reduction targets. We also provide a general outline of how such a program might work.

Under the program as we outlined it in our report, the Pennsylvania Department of Environmental Protection would determine how many additional pounds of nitrogen need to be removed to achieve its biennial reduction targets. So this was a program that would supplement, not replace, all the efforts that are already ongoing.

DEP would then develop a formula for scoring the proposals they receive. The cost per pound of nitrogen removed would be the formula's starting point, but we recommended consideration also be given to other environmental and economic benefits the project could achieve, such as reducing phosphorous pollution in local streams or providing flood control benefits. PENNVEST would then enter into long-term contracts to purchase nitrogen credits from the selected bidders, but payments would not be made until after the credits were achieved and verified.

We found such a program could provide significant cost savings in achieving the Commonwealth's nitrogen reduction goals. We estimated that, using what are known as best management practices (BMPs), achieving the required nitrogen re-

ductions for agriculture and urban runoff from impervious surfaces such as streets and parking lots would cost about \$630 million in 2015 and about \$1.8 billion in 2025. We estimated a competitive RFP program could achieve these same levels of reductions at a cost of about \$110 million in 2015 and \$255 million in 2025, which is a savings of over 80 percent.

The savings occur because agricultural best management practices, such as continuous no-till planting and planting grass or forest buffers along stream banks, have costs that average about \$54 per year for every pound of nitrogen removed. Urban stormwater best management practices, such as creating detention ponds, are even more expensive, with annual costs averaging about \$386 per pound of nitrogen removed. In contrast, we estimate a competitive RFP program could likely achieve nitrogen reductions at a cost of about \$11 per pound.

The report identifies a number of other issues, both pro and con, that should be considered in a plan that relies heavily on capital-intensive advanced technologies for nutrient reductions. Two of these issues are how smaller farms might participate in the program and the tangential benefits than can be derived by proceeding with the more traditional approaches, such as the impetus the Chesapeake Bay requirements provide to local governments to make needed structural repairs and upgrades to existing urban storm water systems.

Of course, there is also the issue of how the Commonwealth would fund such a program. In 2010, the Commonwealth spent about \$187 million statewide (both state and federal funds) in managing pollution from “nonpoint” sources, such as runoff from streets and agricultural land. It is possible that some of this money could be redirected to a competitive RFP program, but in all likelihood, a new source of funding would need to be found.

The report makes no recommendations, but we do point out that Maryland has enacted a “flush tax” of \$5 per month (\$60 per year) for all residential homeowners within the Chesapeake watershed. They also have an “equivalent dwelling unit” fee for non-residential users. If Pennsylvania were to collect a similar amount—\$5 a month—from all 1.84 million Pennsylvania households living within the Chesapeake Bay region, it would generate about \$110 million annually.

As you might imagine, the municipal wastewater authorities are not thrilled at the prospect of having to impose and collect this type of a fee, especially given the increases they have already had to pass through to their customers for prior upgrades. But, as I mentioned earlier, there is a very real possibility that the EPA might impose even stricter requirements on wastewater treatment plants if the Commonwealth fails to meet its overall goals, so they are in a difficult position either way.

Thank you.