

Testimony on Pennsylvania's Chesapeake Bay Compliance Plan
Senate Republican Policy Committee
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Department of Environmental Protection
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INTRODUCTION

Chairman Corman and members of the Senate Republican Policy Committee, thank you for the opportunity to appear before you today so the department may outline the elements of Pennsylvania's Chesapeake Bay Compliance Plan. We appreciate the opportunity to work with you on this important matter and to help clarify the complex issues involved.

The commonwealth's obligations to improve water quality in the Chesapeake Bay watershed are derived from a federal mandate under the Clean Water Act, and in working to meet those requirements, the state has devised a compliance plan that achieves reductions to the levels of nitrogen, phosphorus and sediments flowing into the basin's waterways. Pennsylvania must achieve the mandatory nutrient reductions for point sources and non-point sources alike, while providing new compliance flexibility.

While there is no doubt that meeting those federal requirements will be a challenge to Pennsylvania, it is also the case that our compliance plan is fair to all sources of bay pollution and, through an extensive stakeholder involvement process, largely reflects the input of those it affects. Point sources of pollution are required to reduce pollution in accord with the proportionate share of the problem for which they are responsible, while nonpoint sources, including agriculture and real estate development, face equally exacting pollution reduction mandates in proportion to their larger contributions to the problem. My testimony today will also outline how Pennsylvania's Chesapeake Bay Compliance Plan takes into account pollution reductions mandated in other sectors like power plants and motor vehicles.

BACKGROUND

The Chesapeake Bay is polluted from nutrients discharged into its tributaries, and in 2005 new water quality standards under the federal Clean Water Act to address this pollution came into effect. To meet these new requirements under federal law, the U.S. Environmental Protection Agency and the affected states developed a maximum nutrient load, or "cap load," for each major tributary. As a result, sewage treatment plants and others discharging nutrients to Pennsylvania's bay tributaries must cap those discharges or they will be in violation of the downstream water quality standards, under federal law.

In anticipation of these new federal requirements, DEP developed a Chesapeake Bay Tributary Strategy in December 2004. This strategy was formulated after more than 100 stakeholder meetings across the state, and included specific initiatives to address reductions from point sources (i.e. sewage treatment plants and industrial facilities) and non-point sources (i.e. farms, urban run-off, and real estate developments) to attain the cap loads assigned to Pennsylvania, in proportion to their relative contributions to the nutrient pollution of the bay. The strategy did not

prescribe mandatory requirements, but rather described how the new legal obligations could be met through a combination of actions, in various sectors that contribute pollution to the bay. However, that catalogue of measures has now led to the development of a mandatory compliance plan. The federal requirements that are driving Pennsylvania's obligations are very real and very specific. If the commonwealth does not implement its compliance plan now, the U.S. Environmental Protection Agency (EPA) is obligated to dictate a compliance regime to the commonwealth through a bay-wide total maximum daily load (TMDL).

For some time, Pennsylvania has been active in seeking a multi-state solution to the pollution problems in the Bay. For instance, Governor Tom Ridge signed the Chesapeake 2000 Agreement on June 28, 2000, committing Pennsylvania to help remove the Chesapeake Bay from the federal Clean Water Act's list of impaired waters by 2010. Our partners in this commitment include all the jurisdictions in the Chesapeake Bay watershed, including Delaware, Maryland, New York, Virginia, West Virginia and the District of Columbia, as well as EPA and the Chesapeake Bay Commission. Governor Ridge took on this voluntary commitment in order to avoid the mandatory TMDL action by EPA, and our compliance plan today is designed to achieve that very same objective.

REFOCUSED EFFORTS

In light of the August 2005 mandatory federal Clean Water Act standard, in January 2006, the department refocused and expanded the standing DEP Chesapeake Bay Steering Committee comprised of representatives from various stakeholders, including the local government associations, agricultural community, and the Pennsylvania Municipal Authorities Association (PMAA) to continue discussing the wide variety of issues surrounding the strategy and to consider possible new approaches to meeting our federally driven water quality obligations. The steering committee formed several workgroups to allow for more targeted discussion on specific aspects of the strategy and to provide feedback to the larger committee on issues they identified.

After receiving input from more than 150 public meetings, we made significant changes to the 2004 tributary strategy, converting it into the compliance plan necessitated by the 2005 Clean Water Act standards. The plan includes new permitting requirements for sewage treatment plants, new regulations controlling agricultural run-off, and a detailed nutrient trading policy.

POINT SOURCE PLAN

A point source work group was formed to address concerns arising over implementation of nutrient reduction requirements for point source sewage dischargers.

This 35-member workgroup held many meetings between February and July 2006 to discuss options and alternatives to the tributary strategy. The workgroup provided recommendations for changes to the department's strategy in July 2006, and by November of that same year, the steering committee had agreed to almost all of the recommendations. The department conducted its own analysis and agreed with the recommendations. The department is now implementing those very same recommendations. As a result, today's compliance plan reflects the considerable input of stakeholders and is based almost wholly on the recommendations for changes to the original tributary strategy as made by the point source workgroup.

It is important to note that Pennsylvania's compliance plan does not require treatment plant upgrades for nutrient reduction, nor is the commonwealth requiring compliance by every facility at the same time. For example, we have provided sewage treatment plants the option of using our trading program as a means to meet the new federal requirements. Other options include sharing the cost of a single nutrient upgrade with neighboring communities, septic system offsets and spray irrigation. Incurring capital costs to upgrade is the choice of the facility, and a phased approach to reaching compliance is being implemented.

As you know, we are now issuing permits to the first phase of permittees—the largest 63 sewage treatment plant contributors of nutrients in Pennsylvania's to the bay watershed. We are proceeding in this way exactly in accord with the recommendations made by PMAA and approved by the point source workgroup in early 2006. We sent letters to those plants requesting that they submit a plan to the department for complying with the new federal requirements. We spent several months reviewing those plans and discussing them with plant managers. By and large, we incorporated their plans into the permits now being issued by the department. Therefore, the permits the department is issuing to these sewage treatment plants are based on those very plans sent to the department in 2007, using an overall approach they recommended to us in 2006.

The department agrees that compliance with our federal obligations will be costly. With regard to the estimated costs, it is important that we clarify the nature of the figures that have been reported widely. It has been written that DEP has consistently stated a figure of \$190 million while the municipal authorities association is citing a figure of \$1 billion or more.

The estimate of \$190 million was developed in 2005, and at that time was based on the allocation method proposed in the original tributary strategy, and included an assumption that facilities would leverage unused capacity to meet requirements or trade instead of upgrading if trading was cheaper. PMAA asked for and was successful in having the steering committee recommend a different approach. The point source work group developed costs estimates associated with their allocation strategy, and estimated that the new allocation method would yield a range of costs from hundreds of millions of dollars to more than \$1 billion. Importantly, the group concluded that \$620 million represented the "best available estimate." It is still important to remember that this figure assumes that just about every authority chooses to upgrade, and is not interested in other, more cost-effective options that may be available, such as nutrient trading. The department and PennVest, however, are requiring municipalities seeking PennVest support to demonstrate that they have pursued least cost alternatives.

Under Pennsylvania's current compliance plan, each treatment facility has been given the opportunity to choose the most cost-effective method of nutrient management to achieve their assigned cap load, and our three-phased approach will allow these choices to be made over the next 8 years, thus spreading out the overall costs annually. For example, Mt. Joy Borough availed itself of trading options, finding that an investment of \$2.9 million in plant improvements would allow the facility to reduce nitrogen to 10 milligrams per liter (mg/l) at a cost per pound of \$8.23. If the facility were to undertake further improvements to reach their new cap load based on 6 mg/l, the cost per pound for treatment would have increased to \$12.75. Instead, they partnered with a local farmer to convert 900 acres to no-till, for \$3.81 per pound. Trading reduced Mt. Joy's annual projected cost for nutrient treatment from \$382,500 per year to \$248,000 per year—a 35 percent reduction in cost.

That being said, public funding needs for upgrading Pennsylvania's water infrastructure stretch beyond complying with nutrient requirements. According to the federal 2004 Clean Water Needs Survey, nearly \$8 billion is needed for sewage collection, conveyance and treatment infrastructure in Pennsylvania. Combined and sanitary sewer overflows, leaking and deteriorated collection systems, deferred rehabilitation and replacement work, and shortage of treatment capacity all plague our aging water infrastructure.

There is no question that a major investment in Pennsylvania's infrastructure is needed statewide. Recent steep cuts by Congress and the Bush administration to the federal Clean Water State Revolving Fund, which has been a significant part of our water quality improvement efforts for two decades, erode our ability to tackle these serious environmental and economic infrastructure challenges facing all of our communities, as well as the Chesapeake Bay. To put it into perspective, Pennsylvania's share of this program has been cut by nearly half in the last three years, down \$30 million to \$27 million, while the president's fiscal year 2009 budget calls for another \$330 million in cuts to the U.S. Environmental Protection Agency—largely aimed at wastewater projects. The president's FY 2009 budget requested only \$555 million for the Clean Water State Revolving Fund, which would be the lowest level of funding for the program in its history if enacted.

That figure includes \$134 million less for states to ensure their residents have access to clean water and dependable services. In recent years and in response to the federal cut backs, state programs like PennVest, PennWorks and Growing Greener have invested between \$150 and \$200 million in grants and low interest loans each year, but it is not enough. Governor Rendell has urged the White House and Congress to restore these vital water infrastructure dollars. Simultaneously, the Governor is addressing this issue on a state level, and will soon issue an executive order establishing the Sustainable Water Infrastructure Task Force. This high-level group will consist of representatives from the legislature, local governments, commonwealth agencies, professional organizations and environmental groups. The task force is to prepare a report by October 1, 2008 that analyzes issues related to cost-effective and sustained investment in our water and sewer infrastructure, including investigation of potential funding sources and financing options with the goal of including these recommendations in the Governor's fiscal year 2009-10 budget proposal.

Pennsylvania needs a comprehensive strategy to insure the long-term sustainability of its water infrastructure that considers not only the initial capital investment in construction, but also the long-term technical, managerial and financial capability of Pennsylvania's water infrastructure to operate in the most cost-effective manner to protect public health, safety and the environment. The Sustainable Water Infrastructure Task Force will be responsible for developing such a strategy.

NONPOINT SOURCE PLAN

It is also important to note that Pennsylvania's Chesapeake Bay Compliance Plan addresses the necessary nutrient reductions in proportion to the relative contribution from point sources and non-point sources. This plan is equitable as it requires pollution reductions in like measure to the contribution to pollution made by the regulated entity. For example, since non-point sources contribute around 86% of the nitrogen load to the bay from Pennsylvania, they are responsible

for 86% of the solution to the nitrogen problem. And agriculture's contribution to the bay cleanup is mandatory and enforced through permits and regulations just as the requirements for sewage treatment plants.

Pennsylvania leads the Chesapeake Bay states in measures critical to the restoration of the nation's largest estuary. EPA's most recent calculations show Pennsylvania farmers can proudly lay claim to more than half of all the nitrogen reductions made by agriculture anywhere in the multi-state watershed. This leadership derives from the commonwealth's set of agricultural stewardship firsts: the first mandatory farm nutrient management plans, the first nutrient management program to regulate nitrogen and phosphorus, the first bay state permanently to preserve 20 percent of land in the watershed, and the first EPA-approved concentrated animal feeding operation regulatory program.

Pennsylvania has also met its riparian forest buffer goal of 600 miles by 2010 ahead of schedule. We lead the bay states in the planting of riparian forest buffers, and through 2007, Pennsylvania has restored 3,212 miles of riparian forest buffers over a 35-foot-wide area in the bay watershed. Additionally, as recognized by the American Farmland Trust, Pennsylvania leads the nation in the number of farms and acres preserved. Since the program began in 1988 through February 2008, a total of 382,845 acres on 3,450 farms have been protected.

Agriculture

The commonwealth has enacted extensive water quality regulations instituting sweeping changes for farmers that have resulted in more than 5,000 farms with mandated nutrient management plans, thus increasing the number of highly regulated farms in Pennsylvania by 400 percent. These farms are responsible for about 50% of the manure generated in the state.

Revisions to our water quality regulations in 2005 strengthen existing requirements for pollution control and prevention at all agricultural operations that are not subject to NPDES permit requirements. Those revisions include provisions requiring buffers and setbacks at many farms across the Bay watershed. These regulatory revisions are further supported by the ACRE legislation signed into law in July 2004.

In addition, extensive revisions to the nutrient management regulations, including new requirements addressing phosphorus and nitrogen application, significantly increasing the regulation of exported manure and dramatically increasing the number of highly regulated farms, were approved by the State Conservation Committee in 2005 and are now being implemented.

Pennsylvania has also implemented a variety of cost-share programs to support even more nutrient reductions in the bay. Since 1999, Pennsylvania has invested \$20 million in state funds and \$83 million in federal funds to build the largest Conservation Resource Enhancement Program (CREP) in the entire nation, covering 265,000 acres. Pennsylvania's CREP program targets key edge-of-stream best management practices to maximize water quality.

It is vitally important to direct funding opportunities toward efficient solutions to priority problems. Consistent with that approach, 38 county conservation districts in the Susquehanna and Potomac watersheds have developed County Implementation Plans that emphasize water quality results through application of best management practices that are consistent with the

Chesapeake Bay Compliance Plan. The implementation plans are used to direct federal funds to support the most efficient management practices in priority watersheds.

In 2007, Pennsylvania enacted Act 55, which created the Resource Enhancement and Protection Program (REAP). REAP, which is a \$10 million tax credit initiative, allows farmers and businesses to earn tax credits in exchange for best management practices on agricultural operations that will enhance farm production and protect natural resources. As of the week of January 14, Pennsylvania's farmers had submitted applications—more than 230 in total—exceeding the \$10 million allocated to the program.

The requirements and success related to agriculture just outlined coupled with developed Total Maximum Daily Loads (TMDLs) also assist with the implementation of the Compliance Plan. TMDL's are quantitative pollutant reduction goals and must be established for all impaired watersheds. To date, we have developed TMDLs covering 1,654 miles of streams in the Chesapeake Bay basin. The TMDLs are a roadmap for cleaning up our local waters as well as for restoring the Chesapeake Bay.

Real Estate

The new legal requirements under federal law impose constraints on our ability to allow for new development, which are also addressed in the compliance plan. The point source cap loads for nitrogen and phosphorus described earlier have been allocated to individual point sources in NPDES permits. Given the nutrient reductions needed from existing point sources, the Chesapeake Bay Compliance Plan contains no "reserve" nitrogen or phosphorus loads for new point source discharges or for existing discharges that propose to expand beyond their new load limits. New real estate developments, therefore, need fully to offset their nutrient discharges if they create a new discharge or cannot find capacity in an existing plant.

The compliance plan affords several options to real estate developers to meet their requirements, such as land application of effluent, recycle and reuse of treated wastewater, acquiring offsets for loads from replacement, reduction or retirement of existing nutrient sources, or the purchasing of nutrient reduction credits. Real estate developments increasingly are moving forward on the basis of acquiring nutrient credits. For example, the department recently approved an NPDES permit for the Preserve at Dunn Lake resort community in Ararat Township, Susquehanna County. The developer entered into a contract with the Red Barn Trading Company, a Lancaster firm that represents farmers who agree to remove manure from their fields and ship it to areas outside of the Chesapeake Bay watershed. The manure would be used as a soil conditioner in nutrient deficient areas outside of the watershed.

Stormwater

Development activities that change land surface features alter stormwater runoff characteristics. Unmanaged changes in stormwater runoff volume, rate and water quality to a receiving stream can constitute pollution that is regulated under the federal Clean Water Act, as well as the Pennsylvania Storm Water Management Act and Clean Streams Law.

Federal regulations required 242 municipalities in Pennsylvania's Chesapeake Bay basin to obtain NPDES permits for their stormwater discharges. The permits obligate those

municipalities to reduce the discharge of pollutants by implementing a series of minimum control measures. The department also has integrated post construction stormwater planning into NPDES stormwater construction permitting to ensure water quality standards are met after construction has been completed. This approach will reduce pollutant loading to streams, recharge groundwater tables, enhance stream base flows during droughts, and reduce the threat of flooding and stream bank erosion during storm events.

Pennsylvania's Act 167 stormwater management planning program is being used to assist with the implementation of the federal NPDES municipal separate storm sewer systems program. Act 167 requires counties to develop a watershed stormwater management plan for each watershed located in the county in consultation with the municipalities located in each watershed. DEP's 2006 stormwater management best management practice manual is also an effective tool to properly manage stormwater. The manual includes low-impact development and better site design best management practice approaches. These programs have been designed to protect Pennsylvania stream water quality, which in turn protects the bay.

OTHER SOURCES

Power Plants and Vehicles

The strategy to clean up the Susquehanna and Potomac basins and the Chesapeake Bay also addresses air sources of nitrogen. Consistent with the federal Clean Air Act, mandated reductions in nitrogen oxide emissions will translate into a reduction of nitrogen loading to the bay by about 3.7 million pounds per year. Key components of the strategy include the use of reasonably available technology, enhanced standards for light duty vehicles, and reducing non-utility sources. In 2006, Pennsylvania's Clean Vehicles Program regulation was finalized. Nitrogen pollution from cars and light duty trucks would be reduced beyond federal standards under this program, such that it too helps the commonwealth achieve our pollution reduction obligations.

TRADING AND OTHER OPTIONS

In order to provide more flexibility to facilities that need to meet nutrient reduction obligations, we have worked to develop a variety of compliance alternatives. These alternatives provide facilities options that have the potential to reduce compliance costs substantially. Facilities may have unused capacity, or may find that optimizing their current operations will allow them to meet their permit requirements. Additionally, facilities that hook-up on-lot systems after January 1, 2003 can receive an offset of 25 pounds of nitrogen for retiring the on-lot system and connecting it to the sewage treatment plant.

Pennsylvania has been leading the way in developing a nutrient trading program and is one of the first programs in the country to have both non-point source and point source trading. Harnessing market forces can be an effective way to achieve environmental regulatory goals at less expense than traditional command and control regulations. Market-based programs such as trading provide incentives for entities to create credits by going beyond any statutory or regulatory obligations.

Pennsylvania's nutrient credit trading program is built upon the core elements prescribed for any valid trading program- credits can only be generated for nutrient reductions above and beyond those required for regulatory compliance. We have caps on the total tradable credits for non-point sources at the excess level available in the watershed from best management practices beyond those needed to meet compliance goals.

The nutrient trading policy was finalized in December 2006. Since the publication of the policy, the department has received 37 proposals that have been submitted for review to generate nutrient reduction credits in the Chesapeake Bay watershed. Of those, 27 have been approved, three are in review, one has been withdrawn, and the remaining will need additional clarification prior to approval. Through the proposal approvals potentially 476,359 nitrogen credits, 57,996 phosphorous credits and 129 sediment credits could be generated and sold. Three contracts for credits have also been entered into, including Lancaster County Conservation District, which submitted a three-year contract for the application of nitrogen credits on behalf of Brubaker Farms and Mount Joy Borough Authority; and Red Barn Trading Company has signed two sales contracts for credits with developers in Susquehanna and Perry counties.

Note that PennVest is now providing support to the trading program. Almost three years ago, PennVest posed a question to EPA regarding the trading of nutrient reduction credits and the use of the Clean Water State Revolving Fund (CWSRF). The trading program provides PennVest with the opportunity to fund more cost-effective solutions to nutrient discharge problems. PennVest has received approval from EPA and at their October 23, 2007 board meeting they were authorized to invest up to \$50 million in funds received through the CWSRF to create a nutrient trading program.

The bottom line here is that trading is no longer just an idea. It is an approved method of compliance that cuts costs and now is memorialized in final department-issued permits.

CONCLUSION

Our original tributary strategy in 2004 has been revised with the input of many stakeholders and is now our compliance plan to meet federally mandated pollution reduction obligations. The plan details how we will meet the challenges to come and build on the gains we already have made to provide cleaner water resources at home and ultimately deliver cleaner water downstream.

Federal dollars need to be restored to the purpose of improving degraded water systems. The Governor has led this call nationally, while he also is calling upon leaders across Pennsylvania to identify funding needs and solutions, as well.

Our compliance burden is a weighty one, and it comes with a cost across Pennsylvania's economy. It nevertheless is a fair and balance plan that reflects the extensive input of every affected sector. Pennsylvania's environment and economy will benefit from this effort as we restore water resources that are vital to our future.

I thank you for your attention, Chairman Corman and members of the committee. I would be happy to answer any questions you have at this time.