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EPA Expectations for Pennsylvania's Phase III Watershed Implementation Plan

Background

The Chesapeake Bay and its watershed are incredibly significant national resources, supporting approximately 18 million people, and an estimated $1 trillion of economic activity. For an upstream jurisdiction in the nation's largest estuary, Pennsylvania has a significant impact on the Bay and much of its watershed, and has a pivotal role in the ongoing restoration effort. The Susquehanna River provides about 50 percent of the freshwater flows to the estuary, about half of the nitrogen, and more than a quarter of the phosphorus flowing into it. Through a combination of regulatory controls and voluntary actions in urban/suburban and agricultural settings, Pennsylvania has reduced its loadings of nitrogen to the Bay by 11 million pounds over the past 30 years (since 1985). These reduction estimates are based upon simulations using the Chesapeake Bay Decisions Support Tools utilizing Phase 5.3.2 of the Watershed Modeling Tools.

The Commonwealth faces a number of serious challenges in meeting its commitments to achieve the pollutant reductions called for in the Chesapeake Bay Total Maximum Daily Load (Bay TMDL) including limited resources to effectively implement regulatory programs. Pennsylvania recently reaffirmed these commitments as a signatory of the 2014 *Chesapeake Bay Watershed Agreement* and in 2016 with the release of the Pennsylvania Chesapeake Bay Restoration Strategy. The Chesapeake Bay Restoration Strategy informed Pennsylvania's 2016-2017 milestones and details Pennsylvania's commitment to increase compliance with state agricultural regulations and to improve tracking of non-cost shared agricultural conservation practices. Additional commitments from Pennsylvania's Restoration Strategy include improving implementation reporting and data tracking systems, creating a Chesapeake Bay Program office, obtaining additional resources to improve water quality, and identifying legislative, programmatic, or regulatory changes necessary to meet the pollution reduction goals by 2025.

Through the Bay TMDL, the Commonwealth is responsible for reducing an additional 34 million pounds of nitrogen in the next nine years. In short, Pennsylvania is only about 10 percent of the way towards its 2025 nitrogen goal, and thus about 35 percent below its 2015 target. The Chesapeake Bay Program partnership decision support tools allow the Commonwealth to develop various scenarios to demonstrate a combination of cost effective practices with the intent to achieve the 2025 nutrient and sediment pollutant load reduction goals. Pennsylvania can use the scenarios to determine innovative financing mechanisms to make the effort affordable using all available tools.

The Commonwealth faces its own home-grown incentives to act: impaired water quality conditions in local streams, lakes, and rivers; increased nuisance algae in the Susquehanna River; and high nitrate levels with health implications for local drinking water supplies.

With these concerns in mind, EPA articulates the following specific expectations to guide Pennsylvania's development of a Phase III Watershed Implementation Plan (WIP) that would outline the actions, document the necessary financial commitments, and provide assurance to the citizens of Pennsylvania, other Chesapeake Bay watershed jurisdictions, and all who depend on a healthy Chesapeake Bay, that Pennsylvania will meet its nutrient and sediment goals under the Bay TMDL.

EPA Expectations

EPA expects that Pennsylvania's Phase III WIP will include the technical details (Best Management Practice (BMP) input deck) and evidence of public stakeholder engagement necessary to show it will meet its 2025 goals. The Phase III WIP should include:

- **Local planning goals**, showing how the Phase III WIP goals will be achieved through action at county, municipal, and/or sub-watershed scales — especially in priority areas in the Susquehanna and Potomac River watersheds where the most impact to the Bay and local water quality can be achieved. A wealth of decision support tools and high-resolution information is now available to assist in identifying sources of nutrients and sediment, determining appropriate practices to reduce pollution flows, and calculating costs associated with selected actions such as the Chesapeake Bay Facility Assessment Scenario Tool (BayFAST). In addition, the U.S. Geological Survey (USGS) identified sources of nitrogen, phosphorus, and sediment within the Chesapeake Bay that can help Pennsylvania and its local partners determine where to target their efforts using the SPARROW tool;
- **Demonstrated collaboration** among local governments, state agencies, watershed and other citizen organizations, academic institutions, agricultural sector leaders, farmers, stormwater utilities, and others as partners in identifying, planning for, and implementing the agricultural and urban stormwater actions needed to meet Pennsylvania's 2025 Bay TMDL goals;
- **Documentation of programmatic, policy, legislative, and regulatory changes** needed to implement Pennsylvania's Phase III WIP and meet Bay TMDL goals, including but not limited to:
    - Publicly identifying priority practices and priority watersheds to target resources and implementation to maximize nutrient and sediment pollutant load reductions;

- A strategy for implementation of initiatives, including Agriculture Recognition Programs and Agricultural Certainty, designed to implement nutrient management planning and other priority agricultural BMPs;
- Restrictions on manure application during winter months to protect drinking water sources and ensure local and Chesapeake Bay water quality protection;
- Ensure compliance with and full implementation of state nutrient and sediment pollutant load reduction regulations;
- Continued investigation and study of manure treatment technologies for areas of manure imbalance; and
- A strategy outlining how Pennsylvania will address its portion of the increased nutrient and sediment loads no longer trapped by the Conowingo Dam and reservoir; the apportionment of loads will be determined in the spring of 2017 by the Chesapeake Bay Program partnership's Principals' Staff Committee.

- **Demonstration of the level of the staff, partnerships, and financial resources needed** to fully implement the practices, treatments, and technologies necessary to achieve Pennsylvania's Phase III WIP planning targets. Numerous studies, including papers produced by the Pennsylvania State University, demonstrate that significant cost savings can be achieved through common-sense and innovative approaches, including but not limited to:
  - **Effective targeting** — especially in the agricultural sector (representing about 90 percent of nitrogen-reduction opportunity in Pennsylvania) — in priority watersheds in the Susquehanna and Potomac River watersheds;
  - **Efficient financing mechanisms** that can achieve the highest levels of pollutant load reduction at least cost, which could include:
    - Facilitating the development of Municipal Separate Storm Sewer System (MS4) multi-jurisdictional pollutant reduction plans designed to achieve local water quality and Chesapeake Bay water quality goals. These approaches should encourage trading where appropriate to minimize costs;
    - **Reverse auctions**, through which an organization can purchase nutrient and/or sediment reductions through a competitive bidding process;
    - **Promoting the installation of revenue generating activities such as riparian forest buffer crops**, which provide additional options and incentives for landowners and other entities, and also helps to demonstrate the need for additional creative financing such as state revolving loan funds managed by PennVEST;

- **Public, Private Partnerships** (P3) such as the ongoing work within Lancaster County using a Community-Based Public Private Partnership (CBP3) platform to support affordable, performance-based, watershed-driven planning, delivery, and operation and maintenance (O&M) through the use of competitive markets and private sector capacity. P3s can enable Pennsylvania to: implement a spectrum of BMPs and innovative technologies for agriculture, suburban, and rural areas; to meet MS4 and publicly owned treatment works (POTW) permit requirements; to target greater pollutant loading reductions; and to enhance groundwater recharge for improved local water quality, economic viability, and quality of life;

- Submitting workplans that outline specific actions to reduce the amount of unspent or unliquidated obligations (ULOs) for Chesapeake Bay Regulatory and Accountability Program (CBRAP) and Chesapeake Bay Implementation Grant (CBIG) grant funding; and

- Contracting out or otherwise obtaining services of a third party to perform activities central to the implementation of the Phase III WIP.

- **A dedicated and targeted annual state cost-share program** with a significant increase in resources focused on implementation of priority agricultural conservation practices for water quality improvement, which may include:

  - Establishing a Pennsylvania Clean Water Fund supported by a water use fee as described by the Chesapeake Bay Commission's publication referencing Pennsylvania Legislature's House Bill 2114 and Senate Bill 1401; and

- **Modification of the current expected reductions for the Urban/Suburban Stormwater sector:**

  - Without the programs, policies, and resources in place to meet the current reduction goals for Agriculture, attempting to make up the Urban/Suburban Stormwater gap by making additional reductions in the Agriculture sector does not appear viable. EPA expects Pennsylvania develop a Phase III WIP that evaluates all nutrient and sediment pollutant load reduction opportunities in order to achieve the 2025 goals.

EPA Oversight

Given the serious deficits in attaining load reductions in the Agricultural and Urban/Suburban Stormwater sectors, EPA commits to continue working closely with Pennsylvania in the development of Pennsylvania's Phase III WIP so as to provide technical assistance and feedback along the way. EPA will review the details of Pennsylvania's draft Phase III WIP in 2018 to assess the adequacy of the programs and policies for justification that the Commonwealth will meet its 2025 Bay TMDL goals.

As long as Pennsylvania remains far off track for nitrogen and phosphorus reductions, EPA expects more frequent and detailed reporting of progress by Pennsylvania as part of EPA's heightened oversight of Pennsylvania. This oversight will encompass EPA expectations that:

- Pennsylvania will coordinate with EPA to perform resources workload model analyses in 2017 determine if there are sufficient resources to implement the Commonwealth's core state regulatory programs, and in 2018 to determine if there are sufficient resources to meet the Commonwealth's Chesapeake Bay Phase III WIP implementation needs;
- Pennsylvania will coordinate with EPA as EPA pursues innovative partnerships with federal, state and local entities to incentivize sensible market-based approaches and technologies that enhance economic growth and accelerate nutrient and sediment reductions to maximize protection of Pennsylvania's air, land and water resources;
- Pennsylvania will report progress to EPA on a 6-month schedule for evaluations of progress to be completed by EPA in the spring and the fall:
    - EPA will maintain the current milestone progress reporting deadlines of December for numeric progress and January for programmatic progress with an EPA evaluation provided in the spring; and
    - EPA will conduct an additional review of Pennsylvania's programmatic progress with an update from Pennsylvania due the end of September and EPA feedback provided in the fall;
- Any Chesapeake Bay funds provided to the Commonwealth for implementation be applied only for the Pennsylvania identified priority watersheds within the Susquehanna and Potomac River watersheds; and
- Chesapeake Bay grant workplans be in alignment with the evaluation findings of priority actions and needs, and EPA will continue to perform semi-annual grant evaluations with a goal to align the grant evaluation with the progress evaluations.

In EPA's role to provide accountability, EPA will assess all potential and appropriate federal actions under its discretionary authority under the Clean Water Act (CWA) as described in the EPA letter to the partnership Principals' Staff Committee in December 2009 and in the 2010 Chesapeake Bay TMDL Section 7.2.4 to take any or all of the following potential actions mentioned no later than 2019. Several examples of potential actions EPA could take specific to Pennsylvania could include:

1. EPA may continue to target federal enforcement and compliance assurance in the watershed, which could include both air and water sources of nitrogen, phosphorus, and sediment pollutant loads;

2. EPA may direct Chesapeake Bay funding to identified priorities in the EPA evaluations if the Commonwealth does not adequately target workplans and funding toward priority actions and watersheds within the Susquehanna and Potomac River watersheds and other expectations of EPA's evaluations;

3. EPA may establish finer scale wasteload and load allocations through a Pennsylvania state-specific proposed amendment to the 2010 Chesapeake Bay TMDL to include more specific wasteload allocations for additional municipal and industrial wastewater discharging facilities, concentrated animal feeding operations, and regulated stormwater municipalities, as well as more finely, geographically scaled load allocations for the non-federally regulated agricultural, stormwater, and other pollutant source sectors than are contained in Pennsylvania's Phase III WIP;

4. EPA may require additional reductions of loadings from point sources through a Pennsylvania state-specific proposed amendment to the 2010 Chesapeake Bay TMDL to include reductions in current facility specific wasteload allocations for the significant municipal and industrial wastewater discharging facilities in order to increase the share of the allocations to stormwater and/or agriculture; and

5. EPA may initiate a process to propose promulgating nitrogen and phosphorus numeric water quality standards for Pennsylvania applicable to streams and rivers in Chesapeake Bay watershed.