

***Pennsylvania Department of Environmental Protection's responses to the questions posed in "Section A. Programs Recommendations Common to All Jurisdictions" and "Section B. Pennsylvania Specific Observations" of EPA's 12/1/11 draft report entitled, 'Pennsylvania's Trading and Offset Programs Review Observations'***

The Pennsylvania Department of Environmental Protection's (Department) overall comment on the draft report is that the United States Environmental Protection Agency (EPA) should provide additional clarity to each subsection of "Section IV. Detailed Evaluation of Pennsylvania's Trading and Offset Programs Conformance with the 2010 Chesapeake Bay TMDL". It appears that in some sections EPA has only removed the questions that were asked as part of the program review interview which leads the summary provided to be unconnected. The Department would suggest that the interview questions be added back in, or added as an appendix to the report or that each subsection, as necessary, describe the interview questions that led to the summary provided.

***A. Programs Recommendations Common to All Jurisdictions***

1. Should Jurisdictions' definitions of trading ratios, offsets, credit, trading, etc. should be consistent with Federal definitions. Some jurisdictions use the terms "trading" and "offsetting" interchangeably. See Section IV. 1.

Response: No. The Department has expressed concerns with the terms and definitions since our August 27, 2010 comments on EPA's August 6, 2010 Discussion Draft "Common Performance Standards for and Elements of Offset and Trading Provisions in the Chesapeake Bay Watershed". The concerns were carried through in the Department's comments on the Draft Chesapeake Bay Total Maximum Daily Load (TMDL) and again in the program interview held in May 2011 and referenced in the revisions to the "interview draft" that were provided on October 24, 2011. To reiterate the terminology "offsets" and "credits" cannot be used interchangeably within PA's established nutrient credit trading program given that the terms have distinct meanings.

It would be counterproductive for EPA to try to transform the various states' programs, which are already in operation and working, into EPA's ideal of a program. Similar to the flexibility that is provided in the delegation of the NPDES program, the Department suggests that EPA keep its list of common performance standards and elements as guidance leaving states broad flexibility for program development and implementation.

2. Suggest that Interstate and intrabasin trades and offsets be evaluated by the jurisdictions for potential inclusion in their trading and offset programs. See Section IV. 10.

Response: The Department agrees with this recommendation. In Pennsylvania, and perhaps other Chesapeake Bay Watershed jurisdictions, nutrient credits generated by credit suppliers in one basin of the Chesapeake Bay cannot be bought and used by credit buyers in a different basin unless expressly authorized. Several external entities have expressed concern that this limits the ability of the credit trading market to serve as a mechanism for addressing the nutrient problem in the Chesapeake Bay. For example, it is very likely that there could be mismatches of credit supplies or demands in individual basins that could be remedied by countervailing mismatches in other basins. However, without cross basin or interstate trading, these mismatches may persist, with the result of market clearing credit prices and quantities not being optimal. The cross basin

and interstate trading of credits may allow nutrient credit markets to work more efficiently and effectively. However, advancing this concept will take some agreement and perhaps program modifications (such as creation of a central exchange of credits) across basins and jurisdictions. EPA, and other Federal partners, could assist in the facilitation/development of an interstate trading program by providing flexibility in balancing loads between basins and by continuing their participation in early stage discussions.

3. Local governments' data and information should continue to be integrated into state tracking and accounting systems. See Section IV.8.

Response: The Department acknowledges this recommendation but does not understand how the recommendation is applicable to trading and offset programs. To more fully understand this recommendation the Department requests that EPA provide an example of the type of local government data and information that should be integrated into state tracking and accounting systems.

4. Storm water offsets programs are being evaluated and developed in many jurisdictions. These programs should be consistent with the Chesapeake Bay TMDL and EPA guidance. See Section IV.1.

Response: The Department agrees that for stormwater offset and trading programs developed to achieve compliance with the Chesapeake Bay TMDL the common elements outlined in "Appendix S. Offsetting New or Increased Loadings of Nitrogen, Phosphorus, and Sediment to the Chesapeake Bay Watershed" could be used as guidance, leaving states broad flexibility for program development and implementation to develop a program framework that achieves the jurisdictions goals. Any stormwater offsetting program that is developed by Pennsylvania would be established for statewide implementation and not limited to the Chesapeake Bay Watershed.

5. Several jurisdictions are considering developing or expanding their current programs. The jurisdictions should continue to develop guidance and methodologies to address meeting baseline for point and nonpoint sectors including consideration of the use of non-traditional BMPs such as algal scrubbers, oyster aquaculture, etc. EPA suggests that this guidance and methodology include the retirement of credits and use of net improvement offsets. See Section IV. 2 and 5.

Response: The Department acknowledges this recommendation and appreciates EPA's suggestions. The Pennsylvania Watershed Implementation Plan (PAWIP) was built on three core concepts: Milestone and Tracking; Advance technologies and Nutrient Trading; and Enhancing Compliance which incorporate to this recommendation.

6. Jurisdictions expressed interest in finding a good way to use stormwater BMPs to offset nonpoint sources such as new septic and nonregulated agriculture. How are these being addressed by the jurisdictions? See Section IV.2 and 5.

Response: Stormwater BMPs to offset nonpoint sources such as new septic and nonregulated agriculture is not being pursued by Pennsylvania at this time. Please note, in Pennsylvania, agriculture is a regulated activity. Pennsylvania regulates agricultural erosion and sediment under Chapter 102 and manure management under Chapter 91.

7. Updating enforcement policies and procedures should continue and include, but not be limited to, items such as the ability of inspectors' access to off-site areas where credits or offsets are generated and compliance determination methodology. See Section IV.7.

Response: The Department acknowledges this recommendation and appreciates EPA's suggestion. As noted in the report, the Pennsylvania Clean Streams Law (35 P.S. §691.1 et seq.) gives the state authority to investigate "any alleged source of pollution of the waters of the Commonwealth, and to institute appropriate proceedings under the provisions of this act to discontinue any such pollution if the offense complained of constitutes a violation of the provisions of this act." (35 P.S. §691.604) In addition, PADEP has broad authority for access to farms under section 5(b)(8) of the Pennsylvania Clean Streams Law, which authorizes PADEP to "make such inspections of public or private property as are necessary to determine compliance with the provisions of this act, and the rules, regulations, orders or permits issued" under the act. 35 P.S. §691.5(b)(8). The Department provided EPA with a copy of this section, along with copies of the regulatory manure management, nutrient management and erosion and sedimentation requirements, and a sample agreement delegating authority to a conservation district under the Conservation District Law, 3 P.S. §859(2) and 25 Pa. Code §102.41.

Additionally, the Department inspects NPDES permitted municipal and industrial wastewater treatment plants and reviews DMRs as part of the annual compliance and inspection process. The underlying certification and verification materials are available for inspector review. The Department stores the NPDES permit file in the appropriate regional office for each municipal and industrial wastewater treatment plant and the NPDES permit file contains the Annual Nutrient Summary report, including DMRs for the municipal and industrial wastewater treatment plant in question. The Chesapeake Bay Supplemental Report Monthly Nitrogen Budget and Chesapeake Bay Supplemental Report Monthly Phosphorus Budget and the Chesapeake Bay Supplemental Annual Nutrient Summary reference any credits that were used to meet the effluent limitations and the Chesapeake Bay Supplemental Report Monthly Nitrogen Budget and Chesapeake Bay Supplemental Report Monthly Phosphorus Budget identify the registration numbers. Using the registration number, the inspector can contact PADEP's Interstate Waters Office (formerly known as the Water Planning Office) to review the underlying certification and verification materials that were used to register the credits.

8. Tracking and accounting systems for new loads and offsets should continue developing.

These systems should be transparent and accessible to the public. See Section IV. 8.

Response: The Department acknowledges this recommendation but questions why additional tracking and accounting systems should be developed when the Chesapeake Bay TMDL Tracking and Accounting System (BayTAS) was developed to inform EPA, the Bay Jurisdictions, and the public on progress in implementing the TMDL. It would seem as though EPA should work with the jurisdictions to ensure that BayTAS adequately reflects offsets and trades that occur.

9. New resources are needed to fully implement the developing trading and offset programs. See Section V.

Response: The Department acknowledges and agrees with this recommendation. Specifically, the Department would like to enhance the certification request review process while at the same time

ensuring program credibility by establishing an Independent Technical Review Team (Review Team). The Review Team would be comprised of individuals that have an understanding and expertise in areas such as: agricultural operations and needs, groundwater, modeling, nutrient applications and utilization, biology and ecology, air deposition and emission quantification. This Review Team would review the technical feasibility of a proposed technology or best management practice that is considered non-traditional. The Review Team could also be tasked with the review on technical issues or additional items that include additional details needed for certification requests, ways to improve the current calculation spreadsheets, providing the review of edge of segment factor values and performing other tasks related to quantification of results. The Review Team would not be an entity that makes the final credit determination or policy determinations for the Pennsylvania's Nutrient Credit Trading Program (NCTP), as that role would still reside with the Department. Additionally, given that Pennsylvania was the first jurisdiction to develop NutrientNet the system needs to be revised and it becomes a question how to do so technically, financially and contractually. Perhaps EPA could consider assisting the jurisdictions with having the most up to date trading platform(s) that can regularly be updated with new BMP efficiencies, ratios and calculation methods, etc.

## ***B. Pennsylvania Specific Observations***

### *Tier 1 – Statutory or Regulatory Conformance*

1. Does the nonpoint source baseline established by PA in 2006 need to be updated to meet the Chesapeake Bay TMDL requirements for a baseline?

EPA believes that PADEP's Nutrient Credit Trading Program (NCTP) lacks adequate baseline requirements that ensures there is no net increase in nutrients and no increase in degradation of local waters. EPA believes that the NCT does not contribute to the improvement in water quality. Despite the fact that tradable loads have been assigned to each of the 26 watershed segments in PA's portion of the Chesapeake Bay Watershed to provide these assurances, EPA believes that inadequate baseline requirements for NPS prevents these from being achieved. The PADEP NCT program needs to change its NPS baseline requirements to conform to the Chesapeake Bay TMDL. EPA Suggests that PADEP consider including the additional baseline requirements of 20% reduction and either the 100-foot manure setback or the 35-foot vegetative buffer as well as requiring whole-farm nutrient management plans to their existing baseline requirements. See Section IV. 2 and 5.

Steve- Response: The Department acknowledges this recommendation but would like to reiterate, as it is written in the report, the parameters for participation in Pennsylvania's NCTP are set at the level that is sufficient for the restoration, protection and maintenance of the water quality of the Chesapeake Bay. Specifically baseline is set at legal compliance and threshold obligations must be met before generating credits and the amount of credits that can be traded annually is capped. The quantification of credits and the process related to certification and registration are important components of the program. Implementation of the regulatory compliance requirements (i.e., baseline) and threshold requirements results in significantly fewer pollutants being discharged to Pennsylvania waters and ultimately the Bay. In addition, trading, in and of itself, inspires higher levels of compliance by the nonpoint source sector due to the possibility of financial reward for selling credits.

Nonpoint source regulatory compliance requirements are not set to achieve a specific numeric limit or load allocation (unless it is a CAFO that has a non-discharge requirement) but are set at what needs to be met for the operation from a planning and BMP implementation standard based on the specific operation. For example, the erosion and sedimentation control plan must meet “T over the rotation” which can be done through tillage practices or installed BMPs. The baseline regulatory compliance requirements must be met and maintained prior to credits being calculated and generated. The baseline requirements are defined in more detail in 25 Pa. Code § 96.8(d)(2)(i).

The NCTP does not calculate a mass loading for baseline activities. The nutrient reductions from credit generators are calculated after the baseline and threshold requirements are met. Baseline activities are legally required and are documented for agricultural generators in the credit calculation spreadsheet. The nutrient reductions will be reduced by 10% for the credit reserve, and delivery and edge of segment factors will be applied to the credit calculation. Total agricultural based credit generation cannot exceed the annual tradable load that has been calculated to protect the Chesapeake Bay. The tradable load is assumed to be generated only by BMPs that increase activities beyond the baseline and threshold requirements.

The baseline activities are consistent with the assumptions and requirements in TMDL for the agricultural sector. Baseline activities are linked to the TMDL by inclusion in the PAWIP. Baseline activities, within PA’s nutrient credit trading program, are enhancing compliance with legal requirements for the agricultural sector, and enhanced compliance is a primary strategy by which the agricultural sector will meet its load allocation. As mentioned earlier, the PAWIP was built on three core concepts: Milestone and Tracking; Advance technologies and Nutrient Trading; and Enhancing Compliance.

The Department would like clarification from EPA on the suggested revised baseline. Specifically, what is meant by a “whole-farm nutrient management plan” and how this type of nutrient management plan is different than what may already be needed by an operation?

2. Does PADEP need to update nonpoint source baseline and credit calculations as well as ratios to adjust for not only the location of where the credits are being generated but where the credits are being used?

PADEP needs to examine its methodologies when credits from nonpoint source BMPs are calculated. Placement in the watershed, delivered load and pollution reduction coefficients need to be taken into account. Detailed information about these methodologies needs to be made available to the public. See Section IV.2 and 5.

Response: Within the PANCTP, generated credits are based on what is delivered to the Chesapeake Bay using an edge of segment and delivery factor; and, when a municipal or industrial wastewater treatment plants purchases credits, the plant purchases the amount of load from the plant that is delivered to the Chesapeake Bay using the delivery factor.

The credit calculation methodology is described in 25 Pa. Code §96.8(c): “Credits may be calculated by use of pollutant removal efficiencies for BMPs, and edge of segment and delivery

ratios addressing fate and transport of pollutants, consistent with the most up-to-date version of the Chesapeake Bay watershed model. The pollutant removal efficiencies and edge of segment and delivery ratios will be available on the Department's Nutrient Trading web site." 25 Pa. Code §96.8(c)(1). PADEP also may rely on results from numerous modeling tools to approve other pollutant removal efficiencies for BMPs. These modeling tools are detailed in 25 Pa. Code §96.8(c)(3). Other methods, data sources and conclusions from various EPA documents may also be relied upon (25 Pa. Code §96.8(c)(4)). PADEP may also rely on methods, data sources and conclusions contained in the Pennsylvania Agronomy Guide published by Pennsylvania State University, and the Pennsylvania Technical Guide published by the Natural Resources Conservation Service as well as other published or peer-reviewed scientific sources to certify a pollutant reduction activity to generate credits (25 Pa. Code §96.8(c)(6)).

Related to calculation requirements, as outlined in 25 Pa. Code §96.8(e)(3), the following credit calculation requirements apply:

"The calculations must demonstrate how the pollutant reductions will be achieved from the proposed pollutant reduction activity to generate credits for the applicable period of time.

- (i) The pollutant reductions must be expressed in pounds per year.
- (ii) The calculations used must be based on methodologies that the PADEP determines are appropriate under subsection (c).
- (iii) The calculation for a point source may include excess load capacity attributable to activities such as effluent controls or the use of offsets.
- (iv) The calculation must include a 10% set aside for the PADEP's credit reserve.
- (v) The PADEP may establish other calculation requirements necessary to ensure that the use of credits is effective in meeting water quality requirements, and to address uncertainty for reasons such as unforeseen events that may disrupt pollutant reduction activities. The calculation requirements may include the need to use trading ratios, risk-spreading mechanisms and credit reserves. These calculation requirements may reduce the amount of credits the PADEP may certify for a pollutant reduction activity."

The Department also provides a calculation spreadsheet to assist with the calculation of pollutant reductions that may be generated through the implementation of BMPs. These spreadsheets were developed by World Resources Institute (WRI), Pennsylvania Environmental Council (PEC) and the Department with input from the Chesapeake Bay Tributary Strategy Steering Committee Agricultural workgroup and others in 2006-2007. The spreadsheets incorporate the Chesapeake Bay Model BMP efficiencies as well as an edge of segment ratio and delivery ratio also derived from the Chesapeake Bay Model. A 10% reserve ratio is also subtracted from the quantification. These spreadsheets can be found on the Department's Nutrient Trading web site: <http://www.dep.state.pa.us/river/nutrienttrading/calculations/index.htm>.

3. Appendix S of the TMDL requires that pollutant loads from new discharges or increased discharges be offset in the event that the jurisdiction did not set aside allocations for new growth. Pennsylvania's final Phase I WIP did not include an allocation for new growth. How will Pennsylvania accommodate new growth for nonpoint sources? See Section IV. 1. Response: While the PAWIP did not include an allocation for new growth it did contain details on how growth would be handled. Specifically, the PAWIP included "Section 6. Accounting for Growth," which demonstrates that Pennsylvania is taking a sensible and proactive approach to

accounting for growth, as set forth in the various WIP sections. The Department anticipates that the program elements described on page 48 and in other sections of the PAWIP will be sufficient to address growth while achieving Pennsylvania's nutrient reduction goals. The Department does not anticipate that other potential growth will result in increased nutrient or sediment loadings significant enough to require that growth to be addressed by new program elements or resources. If this assumption is proven incorrect when milestones are evaluated, the Commonwealth will reconsider this approach.

*Tier 2 – Program recommendation*

1. Offset approvals are administered in the Regional offices whereas activities related to credits are administered at DEP Headquarters Central Office. How do these programs integrate? See Section IV.8 .

Response: The program integrates the use of credits and offsets to meet water quality based effluent limits by the municipal or industrial wastewater treatment plants by placing authorizing language in the NPDES permit that allows for the use of credits and offsets and for the sale of credits. Additionally, 25 Pa. Code §96.8(h) references the use of credits and offsets to meet NPDES permit requirements related to the Chesapeake Bay. Specifically, “(1) A permittee will only be authorized to use credits and offsets through the provisions of its NPDES permit. The permit conditions will require appropriate terms, such as recordkeeping, monitoring and tracking, and reporting in DMRs. (2) Only credits and offsets generated from activities located within the Chesapeake Bay Watershed may be used to meet NPDES permit requirements related to the Chesapeake Bay.” 25 Pa. Code §96.8(h(1) and (2).

The Department stores the NPDES permit file in the appropriate regional office for each municipal and industrial wastewater treatment plant and the NPDES permit file contains the Annual Nutrient Summary report, including DMRs, for the municipal and industrial wastewater treatment plant in question. The “Chesapeake Bay Supplemental Report Monthly Nitrogen Budget” and “Chesapeake Bay Supplemental Report Monthly Phosphorus Budget” and the “Chesapeake Bay Supplemental Annual Nutrient Summary” reference any credits and offsets that were used to meet the effluent limitations and the “Chesapeake Bay Supplemental Report Monthly Nitrogen Budget” and “Chesapeake Bay Supplemental Report Monthly Phosphorus Budget” identify the registration numbers.

