

# DRAFT – DRAFT

June 2009

## NEW SUBCHAPTER IN 25 PA CODE CHAPTER 96

### USE OF OFFSETS AND TRADABLE CREDITS FROM POLLUTION REDUCTION ACTIVITIES IN THE CHESAPEAKE BAY WATERSHED.

- 96.8a. Definitions.
- 96.8b. Chesapeake Bay water quality.
- 96.8c. Methodology.
- 96.8d. Eligibility requirements for the Chesapeake Bay watershed.
- 96.8e. Certification requirements for the Chesapeake Bay watershed.
- 96.8f. Registration requirements for the Chesapeake Bay watershed.
- 96.8g. Use of credits and offsets to meet NPDES permit requirements.
- 96.8h. Water quality and TMDLs.
- 96.8i. Public Participation.
- 96.8j. Use of credits and offsets generally.

#### **§96.8a. Definitions.**

*Aggregator* — A person that arranges for the sale of credits generated by another person, or arranges for the credits to be certified, verified and registered.

*Agricultural operation* — The management and use of farming resources for the production of crops, livestock or poultry, or for equine activity.

*Baseline* —

- (i) The compliance activities and performance standards which must be implemented to meet current environmental laws and regulations related to the pollutant for which credits or offsets are generated.
- (ii) The term includes waste load allocations established under §96 (relating to developing TMDLs and effluent limits; and wasteload and load allocations), or in a TMDL or similar allocation, for those pollutants.

*BMP* — *Best management practices*—

- (i) Schedules of activities, prohibitions of practices, maintenance procedures and other management practices to prevent or reduce pollutants to surface waters of this Commonwealth.
- (ii) The term includes treatment requirements, operating procedures and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.
- (iii) The term also includes riparian buffers, soil and slope stabilization measures, control of fertilization practices, and other actions and measures designed to reduce erosion and runoff of soil, sediment and pollutants from the land surface during precipitation events; or to reduce the contamination of groundwater with pollutants that may affect surface waters.

*CAFO — Concentrated animal feeding operation*—A CAO with greater than 300 AEUs, any agricultural operation with greater than 1,000 AEUs, or any agricultural operation defined as a large CAFO under 40 CFR 122.23(b)(4) (relating to concentrated animal feeding operations).

*CAO — Concentrated animal operation*—An agricultural operation that meets the criteria established by the State Conservation Commission in regulations under the authority of 3 Pa.C.S. § 503 Chapter 5 (relating to nutrient management and odor management) in 25 Pa. Code Chapter 83, Subchapter D (relating to nutrient management).

*Certification* — Written approval by the Department of the use of a proposed or implemented pollutant reduction activity to generate credits or offsets, before those credits and offsets are verified and registered by the Department to be used to comply with NPDES permit effluent limitations.

*Credit* — The tradable unit of compliance that corresponds with a unit of reduction of a pollutant as recognized by the Department which, when certified, verified, and registered by the Department, may be used to comply with NPDES permit effluent limitations.

*Credit reserve* — Credits set aside by the Department to address pollutant reduction failures and uncertainty, and to provide liquidity in the market.

*Delivery ratio* — A ratio that compensates for the natural attenuation of pollutants as they travel in water before they reach a defined compliance point.

*Edge of segment ratio* — A ratio that estimates the amount of land-applied pollutants expected to reach the surface waters at the boundary of a Chesapeake Bay Watershed Model segment through surface runoff and groundwater flows from nonpoint sources within a watershed segment.

*Offset* — The non-tradable unit of compliance that corresponds with a unit of reduction of a pollutant as recognized by the Department which, when certified, verified and registered by the Department, may be used to comply with NPDES permit effluent limitations.

*Registration* — An accounting mechanism used by the Department to track certified and verified credits and offsets before they may be used to comply with NPDES permit effluent limitations.

*Reserve ratio* — A ratio that is applied to the pollutant reductions generated, which establishes the credits to be set aside for the Department's credit reserve.

*Threshold* — Activities and performance standards beyond baseline compliance which are required by the Department before credits or offsets will be certified.

*Tradable load* — The amount of pollutant reductions determined to be the projected future pollutant load which is the difference between the total reductions theoretically possible from maximum implementation of reduction activities, and the reductions associated with a level of reduction activities identified by the Department as reasonably attainable.

*Trade* — Transaction that involves the exchange, through a contractual agreement, of credits that have been certified, verified and registered by the Department.

*Trading ratios* — Ratios applied by the Department to adjust pollutant reductions when certifying credits or offsets for a pollutant reduction activity, to address uncertainty, water quality, reduction failures or other considerations. These ratios may include a delivery ratio, an edge of segment ratio, and a reserve ratio.

*Verification* — Implementation of the verification plan contained in a certification as required by the Department, prior to registration of the credits or offsets for use in an NPDES permit to comply with NPDES permit effluent limitations.

#### **§96.8b. Chesapeake Bay water quality.**

(a) Credits and offsets may be used to meet legal requirements for restoration, protection and maintenance of the water quality of the Chesapeake Bay watershed.

(b) Credits and offsets may be used by permittees to meet effluent limits for nitrogen and phosphorus expressed as annual loads in pounds contained in NPDES permits that are based on compliance with water quality standards established under the Federal Water Pollution Control Act specifically for restoration, protection and maintenance of the water quality of the Chesapeake Bay watershed.

(c) Credits and offsets shall be generated only from pollutant reductions that have been certified, verified and registered by the Department under this subchapter.

(d) The use of credits and offsets shall involve comparable pollutants. For example, nitrogen credits or offsets may only be used to meet nitrogen effluent limits.

(e) The use of credits and offsets shall comply with legal requirements under applicable laws and regulations, including the requirements of § 96 (relating to water quality protection requirements).

(f) Credits and offsets may not be used to comply with technology-based effluent limits, except as expressly authorized by federal regulations administered by the EPA.

#### **§96.8c. Methodology**

- (a) The Department may use any of the methods contained in this section when calculating and certifying credits and offsets.
- (b) Credits and offsets may be calculated by use of pollutant removal efficiencies for BMPs, and edge of segment and delivery factors addressing fate and transport of pollutants, approved by the EPA Region III Chesapeake Bay Program Office for use with the Chesapeake Bay Watershed Model Version 4.3 or any subsequent versions.
- (c) The Department may rely on results from the following modeling tools to approve other pollutant removal efficiencies for BMPs:
- (1) Science Algorithms of the EPA Models-3 Community Multiscale Air Quality (CMAQ) Modeling System, Atmospheric Modeling Division, National Research Laboratory, U.S. Environmental Protection Agency, EPA/600/R-99/030, (Daewon Byun and Kenneth L. Schere, 2006).
  - (2) EPA Watershed Model (Donigian et al. 1994; Linker 1996; Linker et al. 2000).
  - (3) EPA Chesapeake Bay Hydrodynamic Model (Wang and Johnson 2000).
  - (4) EPA Estuarine water quality model (Cercio and Cole 1993, 1995a, 1995b; Thomann et al. 1994; Cercio and Meyers 2000; Cercio 2000; Cercio and Moore 2001; Cercio et al. 2002a).
- (d) The Department may rely on the methods, data sources and conclusions in the following EPA documents:
- (1) *Technical Support Document for Identification of Chesapeake Bay Designated Uses and Attainability*. EPA 903-R-03-004. Region III Chesapeake Bay Program Office, Annapolis, Maryland (2003).
  - (2) *Technical Support Document for Identification of Chesapeake Bay Designated Uses and Attainability—2004 Addendum*. EPA 903-R-04-006. Region III Chesapeake Bay Program Office, Annapolis, Maryland (2004).
  - (3) *Chesapeake Bay Program Analytical Segmentation Schemes: Revision, decisions and rationales, 1983-2003*. EPA 903-R-04-008. CBP/TRS 268/04. Chesapeake Bay Program Office, Annapolis, Maryland (2004).
  - (4) *Chesapeake Bay Program Analytical Segmentation Schemes: Revision, decisions and rationales, 1983-2003—2005 Addendum*. EPA 903-R-05-004. CBP/TRS 278/06. Chesapeake Bay Program Office, Annapolis, Maryland (2005).
  - (5) *Setting and Allocating the Chesapeake Bay Basin Nutrient and Sediment Loads: The Collaborative Process, Technical Tools and Innovative Approaches*. EPA 903-R-03-007. Region III Chesapeake Bay Program Office, Annapolis, Maryland (2006).

(6) *Summary of Decisions Regarding Nutrient and Sediment Load Allocations and New Submerged Aquatic Vegetation (SAV) Restoration Goals*. April 25, 2003, Memorandum to the Principals' Staff Committee members and representatives of the Chesapeake Bay headwater states. Virginia Office of the Governor, Natural Resources Secretariat, Richmond, Virginia.

(7) *The 2002 Chesapeake Bay Eutrophication Model*. EPA 903-R-04-004. U.S. Army Corps of Engineers, Engineer Research & Development Center, Environmental Laboratory (Cerco, C.F., and Noel, M.R., 2004).

(8) *Ecosystem models of the Chesapeake Bay Relating Nutrient Loadings, Environmental Conditions and Living Resources Technical Report*. Chesapeake Bay Program Office, Annapolis MD (Kemp, MW., R. Bartlescn, S. Blumenshine, J.D. Hagey, and W.R Boynlén, 2000).

(9) *Ambiant Water Quality Criteria for Dissolved Oxygen, Water Clarity and Chlorophyll a for the Chesapeake Bay and Its Tidal Tributaries*. U.S. EPA 2003b. EPA 903-R-03-002. Chesapeake Bay Program Office, Annapolis, Maryland.

(e) For credits and offsets generated from point sources, the Department may rely on the information supplied by permittees in the DMR.

(f) The Department may rely on additional methods, data sources and conclusions contained in the Pennsylvania Agronomy Guide published by Pennsylvania State University, and the Pennsylvania Technical Guide published by the federal Natural Resources Conservation Service. The Department may rely on other published or peer-reviewed scientific sources.

#### **§96.8d. Eligibility requirements for the Chesapeake Bay watershed.**

(a) *General*. To generate credits and offsets, pollutant reductions shall be demonstrated in one of the following two ways:

(1) The implementation of a pollutant reduction activity that exceeds the activities needed to comply with applicable baseline requirements and any threshold established by the Department.

(2) A reduction in pollutant effluent loads beyond those that are allowed under applicable baseline requirements, and any threshold established by the Department.

(b) *Baseline requirements to generate credits or offsets*.

(1) For non-point sources, baseline shall be the current requirements in regulations applicable to the sources at the location where the credits or offsets are generated, and the pollutants generated at that location. For agricultural operations, this includes compliance with the erosion and sedimentation requirements for agricultural operations in Chapter 102, § 91.36 (relating to pollution control and prevention at agricultural operations) and §§ 83.201 – 83.381 (relating to nutrient management), as applicable.

(2) For point sources, the baseline shall be the effluent limitations contained in an NPDES permit based on the applicable technology-based requirements, or the requirements of §96 (relating to developing TMDLs and effluent limits), whichever are more stringent.

(c) *Threshold requirements to generate credits or offsets.*

(1) An agricultural operation shall meet one of the following threshold requirements at the location where the credits or offsets are generated before it can generate credits or offsets.

(i) Manure is not mechanically applied within 100 feet of surface water. This threshold can be met through one of the following:

(A) There are no surface waters on or within 100 feet of the agricultural operation

(B) The agricultural operation does not mechanically apply manure, and applies commercial fertilizer at or below agronomic rates contained in the current Penn State University Agronomy Guide published by Pennsylvania State University.

(ii) A minimum of 35 feet of permanent vegetation is established and maintained between the field and surface water. The area may be grazed or cropped under a specific management plan provided that permanent vegetation is maintained at all times.

(iii) The overall amount of pollution reduction is adjusted by at least 20%, which is to be applied during the calculation of the reduction amount when the credits are certified by the Department.

(2) The Department will establish any other threshold requirements necessary to ensure the effectiveness of the use of credits and offsets to meet legal requirements for restoration, protection and maintenance of the water quality of the Chesapeake Bay watershed.

(d) *Compliance status.* Person(s) that lack the ability or intention to comply with any of the following are not eligible to generate credits or offsets, or to use credits or offsets to meet permit effluent limits.

(1) Department regulations, permits, schedules of compliance or orders.

(2) Any law or regulation that addresses pollution of waters of the Commonwealth.

(3) Contracts for the exchange of credits.

(e) *Other requirements.* The Department may establish other eligibility requirements to ensure the effectiveness of the use of credits and offsets to meet legal requirements for restoration, protection and maintenance of the water quality of the Chesapeake Bay watershed.

(f) *Failure to meet eligibility requirements.* If the Department determines that a person no longer meets the eligibility requirements under this section, it will take appropriate action such as prohibiting

the person from participating in any trading under this subchapter and denial of requests for certification and for registration.

**§ 96.8e. Certification requirements for the Chesapeake Bay watershed.**

(a) *General.* All credits and offsets must be certified by the Department before they may be applied to meet permit effluent limitations. Certification will serve as the Department's final determination of the appropriate amount of credits that is approved by the Department. Certification will be followed by verification and registration of the credits and offsets prior to their use to meet permit effluent limits.

(b) *Request for certification.* Persons who wish to have credits or offsets certified by the Department shall submit a request in the format required by the Department.

(1) The request shall contain information sufficient to demonstrate the following.

(i) The location where the pollutant reduction activity will be implemented will meet applicable eligibility requirements under § 96.8d (relating to eligibility requirements for the Chesapeake Bay watershed), and will continue to meet those requirements throughout the applicable period of time described in the request.

(ii) The pollutant reduction activity will meet acceptable standards for construction and performance, including operation and maintenance, for the applicable period of time described in the request.

(iii) The calculation requirements of this subchapter have been met.

(iv) The implementation of the pollutant reduction activity shall be verified to the extent acceptable to the Department, as described in a verification plan that meets the requirements of (d) in this section.

(2) The request shall contain the following additional information.

(i) A detailed description of how the credits will be generated, including calculations, assumptions and photos.

(ii) A map illustrating the location(s) of the proposed activity.

(iii) Details on the timing of credits or offsets, such as generation and delivery, any phase-in period and the timeframe for sale and use towards permit effluent limits.

(iv) The water quality classification under Chapter 93, and any applicable impairment listings under §303(d) of the Federal Water Pollution Control Act, for the nearest receiving stream segment.

(v) Information on any source of funding used to pay for any portion of the pollutant reduction activity, including the dollar amount and any conditions and restrictions regarding the use of those funds towards the generation or sale of credits or offsets.

(vi) A description of how risks of failure of the pollutant reduction activity shall be managed, such as the use of financial guarantee mechanisms, contractual arrangements, permits, insurance products and reduction of the concentration of projects in a particular sub-watershed.

(vii) A description of any preservation and conservation easements on lands where the pollutant reduction activity is to be implemented.

(viii) Notations on documents submitted in the request which the person submitting the request claims to be confidential business information or a protected trade secret that is protected by law.

(ix) The name(s) of the person(s) submitting the request and any other participants involved in the pollutant reduction activity.

(x) Professional qualifications of the person(s) who completed the calculations, conducted the baseline and threshold determinations and otherwise contributed to the technical merit of the request.

(xi) Contact information for the person(s) submitting the request.

(c) *Calculation requirements.* The following credit and offset calculation requirements apply.

(1) All calculations shall be approved by the Department.

(2) The calculations shall demonstrate that the pollutant reductions will be achieved from the activity proposed to generate credits and offsets for the applicable period of time.

(3) The pollutant reductions shall be expressed in pounds per year.

(4) The calculations used shall be based on methodologies that the Department determines are appropriate under § 96.8c (relating to methodology).

(5) The Department may establish other calculation requirements necessary to ensure that the use of credits and offsets is effective in meeting water quality requirements, and to address uncertainty for reasons such as unforeseen events which may disrupt pollutant reduction activities. Such criteria may include the need to use trading ratios, risk-spreading mechanisms and credit reserves. These calculation requirements may reduce the amount of credits and offsets which will be certified for a pollutant reduction activity by the Department.

(6) The annual sum of all credits certified from nonpoint sources shall not exceed the applicable tradable load calculated by the Department. The tradable load for the Chesapeake Bay Watershed is



5.7 million pounds of nitrogen per year and 396,800 pounds of phosphorus per year, unless otherwise revised by the Department.

(7) If state or federal funds are used to cost-share any portion of the pollutant reduction activity contained in the request for certification, the Department may allow the portion of the credits paid for by state and federal funds to be available for certification, unless restrictions have been placed on the funds by the provider of the funds.

(d) *Verification plan.* A request for certification shall contain a verification plan.

(1) The verification plan shall include the methods for credit and offset verification, such as the documentation of the implemented pollutant reduction activity, sufficient to allow the Department to verify that the qualifying reduction efforts approved were properly implemented during the applicable compliance period.

(2) Verification plans may include the following methods, subject to approval by the Department.

(i) Self-verification by the person responsible for implementing the pollutant reduction activity.

(ii) Third-party verification.

(e) *Certification by the Department.* The Department shall certify credits and offsets when it has determined that the requirements of (a) – (d) in this section have been met.

(1) Certifications may be made contingent on conditions that will ensure that the requirements of this subchapter will be satisfied.

(2) Credits and offsets will only be used to meet permit effluent limits for the compliance period that they are certified, verified and registered by the Department under this subchapter.

(3) Requests for certification for multiple compliance periods may be approved by the Department, but they must be verified and registered separately for each compliance period.

#### **§96.8f. Registration requirements for the Chesapeake Bay watershed.**

(a) *General.* All credits and offsets used to comply with effluent limitations in NPDES permits shall be registered by the Department before they may be applied to a permit to meet the effluent limitations.

(b) *Registration requirements.* The following registration requirements apply.

(1) Credits and offsets shall be certified under the provisions of § 96.8e (relating to certification requirements for the Chesapeake Bay watershed).

(2) Credits shall be addressed in a valid contract which ensures that the requirements of this subchapter will be met. The Department may require submittal of trade contracts, establish basic contract elements and require approval of trade contracts before registration.

(3) The credits and offsets shall be verified prior to registration. The following applies to verification.

(i) Verification shall be conducted as described in the verification plan as approved by the Department in the credit certification.

(ii) Verification shall ensure that the pollutant reduction activity has been implemented as described in the certification, and that other requirements such as baseline and threshold are met.

(iii) The Department may conduct other verification activities such as monitoring, inspections and compliance audits, to further ensure that the pollutant reduction obligations are being met.

(4) The Department will assign a registration number for reporting and tracking purposes.

(c) *Failure to implement.* The Department will not register credits and offsets that have previously been registered under this subchapter if the person who generates or the aggregator of the credits demonstrates a lack of ability or intention to implement operations and maintenance requirements contained in the verification plan and in the certification.

**§96.8g. Use of credits and offsets to meet NPDES permit requirements related to the Chesapeake Bay.**

(a) Permittees will only be authorized to use credits and offsets through the provisions of their NPDES permit. The permit conditions will require appropriate terms such as record keeping, monitoring and tracking, and reporting in DMRs.

(b) 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

(c) Permittees shall ensure that the credits and offsets that they apply to their permits for compliance purposes are certified, verified and registered by the Department under this subchapter for the compliance period in which they are used.

(d) The Department may authorize a period not to exceed 60 days following the completion of the annual compliance period in an NPDES permit, for a permittee to come into compliance through the application of credits and offsets to the permit provided that the credits and offsets were registered during that compliance period.

(e) Permittees are responsible for enforcing the terms of their credit and offset contracts, where needed to ensure compliance with their permit. The Department may waive this requirement where the

pollutant reduction activities fail due to uncontrollable or unforeseeable circumstances such as extreme weather conditions, and timely notice is provided to the Department, if the following apply.

(1) The failure is not due to negligence or willfulness on the part of the permittee.

(2) The Department determines that replacement credits will be available.

(3) The Department determines that the requirements for restoration, protection and maintenance of the water quality of the Chesapeake Bay will be met due to the requirements of this subchapter, including the type of methodologies used when calculating the certified credits, the existence of an approved legal mechanism that is enforceable by the Department, and the use of a credit reserve.

(f) The use of credits and offsets shall be identified in DMR forms, which will be submitted at the end of each compliance year or as otherwise provided by the Department in the permit. Registered credits and offsets shall only be applied to the permit for the compliance period in which they are used to meet effluent limitations, and must be reported each compliance period.

**§96.8h. Water quality and TMDLs.**

(a) Use of credits and offsets under this subchapter will be allowed only where water quality will be protected and maintained as required by applicable regulations.

(b) Use of credits and offsets under this subchapter will ensure that there is no net increase in discharge of pollutants to the compliance point used for purposes of determining compliance with the water quality standards established by the states of Maryland and Virginia.

(c) Where a TMDL has been established for the watershed where the permitted activity is located within the Chesapeake Bay watershed or a portion of that watershed in Pennsylvania, the use of credits and offsets under this subchapter will be consistent with the assumptions and requirements upon which the TMDL is based.

(d) Use of credits and offsets under this subchapter will comply with the antidegradation requirements contained in Department regulations.

**§ 96.8i. Public participation.**

The Department will publish a notice in the *Pennsylvania Bulletin* of the receipt of administratively complete requests for certifications of credits and offsets, and the Department's final determinations regarding those requests. This notice is not required to follow the requirements of § 92a.82.

**§96.8j. Use of credits and offsets generally.**

Nothing in this subchapter shall preclude the Department from allowing the use of credits and offsets to be used to meet permit limits in areas other than those established for restoration, protection and maintenance related to the water quality of the Chesapeake Bay.