



Maryland
Department of
the Environment

Larry Hogan, Governor
Boyd K. Rutherford, Lt. Governor

Ben Grumbles, Secretary
Horacio Tablada, Deputy Secretary

**Maryland Department of the Environment
Water and Science Administration**

**Basis for Final Determination to Modify
the Maryland Department of Transportation
State Highway Administration's
National Pollutant Discharge Elimination System
Municipal Separate Storm Sewer System Permit**

**DISCHARGE PERMIT NO. 11-DP-3313
NPDES NO. MD0068276**

Effective Date: October 9, 2014
Modified Date: November 8, 2019
Expiration Date: October 8, 2020

Introduction

The Maryland Department of the Environment (the Department) made a tentative determination on June 21, 2019, to modify the National Pollutant Discharge Elimination System (NPDES) municipal separate storm sewer system permit (“stormwater permit” or “MS4 permit”) issued to the Maryland Department of Transportation State Highway Administration (MDOT SHA). The stormwater permit that was originally issued on October 9, 2015, established specific conditions for regulating discharges from MDOT SHA’s storm drain system. Public notice of the Department’s tentative determination to modify the permit appeared in the Maryland Register on June 21 and July 5, 2019, and in The Baltimore Sun newspaper on June 21 and 28, 2019, as required by Maryland’s Administrative Procedures Act (APA). Additionally, the Department maintains an interested parties list that includes federal, State, and local municipal officials as well as numerous residents of the State of Maryland that were notified of the tentative determination.

In addition to the notification of tentative determination, the Department conducted a public hearing regarding the proposed modifications to MDOT SHA’s permit. The hearing to accept testimony and comment regarding the modifications was held on July 18, 2019. Four individuals representing various environmental groups testified at the hearing and an official transcript of the proceedings furnished by For The Record, Inc. is available on the Department’s website.

After the hearing, the public record regarding the modifications to MDOT SHA’s stormwater permit remained open until September 21, 2019, to accept further comment in accordance with the APA. In aggregate, the comments received during the public hearing offered various perspectives on the major tenets of water quality trading and with respect to MDOT SHA’s stormwater permit. The issues receiving the most comments included procedures for water quality trading, how trading affects the existing impervious surface restoration requirement, and how trading will affect future permit requirements. Each of these issues will be addressed below as part of the Department’s Basis for Final Determination.

Background

When the Chesapeake Bay Total Maximum Daily Load (TMDL) was published in December 2010, each state in the Chesapeake Bay watershed was required to develop a Watershed Implementation Plan (WIP) for how they would achieve the pollution load reductions required by the TMDL. Maryland’s WIP established a State framework for meeting the water quality goals for the Chesapeake Bay by 2025. Much of the urban stormwater goals were to be implemented through NPDES MS4 permits. Specifically, the Department’s NPDES MS4 permits address stormwater concerns related to local and Chesapeake Bay TMDLs via a 20% restoration requirement for impervious surfaces that have no treatment.

MDOT SHA’s NPDES MS4 Phase I permit that requires the 20% impervious surface restoration was issued on October 9, 2015. In a February 13, 2019, letter from MDOT SHA requesting an MS4 permit modification, MDOT SHA stated that it will be able to complete the restoration of 4,610 impervious acres by the end of its permit term on October 8, 2020. This is approximately 100% of MDOT SHA’s restoration requirement under the current permit.

Restoration control practices implemented by MDOT SHA include traditional methods, e.g., ponds, filters, and wetlands, and alternative methods, e.g., street sweeping, tree planting, and stream restoration based on the Department’s “Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated, Guidance for National Pollutant Discharge Elimination System Stormwater Permits (MDE, August 2014)” (MS4 Accounting Guidance).

1. Water Quality Trading Program Regulations

Numerous comments received by the Department were directly related to the Water Quality Trading Program regulations, Code of Maryland Regulations (COMAR) 26.08.11, which became effective on July 16, 2018. These regulations were originally published in the Maryland Register, 44:25 Md. R. 1189-1195, on December 7, 2017, and republished with nonsubstantive changes, 45:14 Md. R. 698-702, on July 6, 2018. Comments regarding Maryland’s Water Quality Trading Program that have been addressed through prior regulation adoption and citizen participation opportunities found in State Government Article (SG) Annotated Code of Maryland, Title 10, Subtitle 1, and 7-213 include:

A. Local Water Quality Provisions

Comment(s): It must be made clear that credits must only be applied in close proximity to where they’re generated; otherwise the trades will endanger local water quality.

Department Response: Water quality trading regulations in COMAR 26.08.11.08 stipulate how local water quality is addressed and limitations on where the credits can be generated.

B. Performance Standards and Associated Pollutant Reductions

Comment(s): MDOT SHA should not be allowed to acquire credits “paid for by the taxpayers”, for example, generated by a wastewater treatment plant’s superior performance, “because this reduced discharge is a reduction to the taxpayers that [they have] already paid for”. The capacity of wastewater treatment plants should instead be preserved for future development. It was also expressed that “if nutrient trading is done in this permit, it must be done appropriately so that we are not exchanging real reductions and pollutants for a largely paper exercise” and that “any credit must first result from a new quantifiable, verifiable and enforceable reduction of pollution as is required under the Maryland trading regulations.”

Department Response: Wastewater treatment plant performance criteria are stipulated in COMAR 26.08.11.06 for total nitrogen and total phosphorus and ensure that additional pollutant reduction credits are generated. The regulations allow credits to be generated by a wastewater point source “based on that wastewater point source’s performance”. Additionally, performance criteria are stipulated in COMAR 26.08.11.03 to ensure that additional pollutant reduction credits are generated.

C. Availability of Credits

Comment(s): Where will credits come from or be found by the permittee? Concern was expressed about the number of available credits on the Trading Market Board.

Answer: Permittees are responsible for acquiring credits in the public marketplace. It is not the policy of the Department to mandate where permittees must locate credits, provided the credits are generated and certified according to the State's regulations.

2. Timing/Necessity of the Proposed Modifications

Numerous comments received by the Department questioned the timing of the proposed modifications. There were also questions asking why trading is necessary or should be allowed. Specific comments regarding the timing and practicality of the proposed modification include:

A. Uncertainty of MS4 Programs and Continued Restoration Implementation

Comment(s): What impact will trading have on MDOT SHA's ability to meet its restoration and pollution reduction goals and maintain its progress toward compliance deadlines? Language should be added to formalize the schedule for replacing credits during future permit cycles with stormwater best management practices and requiring that credits be maintained by MDOT SHA until they are replaced. It was also suggested that trading negates "the co-benefits of the other pollutants that get reduced as a result of actual restoration practices."

Department Response: The Permit Modification Fact Sheet notes that nutrient load reductions achieved through the trading program shall be replaced by stormwater practices during the next permit term. Permittees shall continue to pursue current restoration efforts and track progress in annual reports as specified in the permit modification. The Fact Sheet provides information on how trading under the current permit will affect requirements in future permits. More specifically, nutrient trading to meet the MS4 permit's 20% impervious surface restoration (ISR) requirement shall be continued annually until a new permit is issued to MDOT SHA. The trading regulations (see COMAR 26.08.11.08) specify that if there is a default in a trade contract, expiration of a credit, or suspension or revocation of a credit, the buyer (e.g., MDOT SHA) using the credit remains responsible for complying with the permit. In any of these events, the permit modification requires MDOT SHA to inform the Department annually of how it is maintaining compliance with the restoration requirement of the permit. As credits are replaced by restoration practices, additional water quality benefits are realized beyond the specific pollutants that were traded.

3. Future Permits, Modifications, and Legal Action Related To Permit Compliance

A. Transparency and Nutrient Credit Calculations

Comment(s): To address the need for transparency, the permit modification should identify "the number of nitrogen, phosphorus, and sediment credits needed for each acre of impervious surface restoration".

Department Response: These calculations, and other technical standards, are addressed in the Accounting Guidance and any subsequent updates. Placing these details within the permit itself inhibits the Department’s ability to update or revise them as needed to ensure compliance with the permit.

Comment(s): To address the need for transparency, the permit modification should include language “clarifying which baseline impervious load should be used for the urban loading rate, and also specifying that this applies to nitrogen, phosphorus, and sediment.”

Department Response: PART IV.E.3 of the permit (Nutrient Trading) specifies that “[T]he basis for an equivalent impervious acre restored through trading is the difference in pollutant loads between urban and forest stormwater runoff according to [the Accounting Guidance].” Appendix D of the Accounting Guidance explains the nutrient conversion process and provides example calculations to determine impervious acres treated based on given pollutant load reductions. Specifically, Tables D.1 and D.6 provide the level of nutrient load reductions per acre of nutrient trading credit. Therefore, this information is already available and is incorporated by reference into the modified portion of the permit.

B. Use of the impervious surface restoration metric for achieving nutrient reductions

Comment(s): It was questioned “whether the ISR metric is still useful for achieving TMDL nutrient reduction goals.”

Department Response: The Department has determined that compliance with the 20% impervious area restoration requirement in the permit constitutes adequate progress toward compliance with Maryland’s receiving water quality standards and United States Environmental Protection Agency (EPA) approved stormwater wasteload allocations (WLAs) for the Chesapeake Bay and local TMDLs. Furthermore, the Maryland State Court of Appeals in *MDE et al. v. Anacostia et al.* affirmed the 20% restoration requirement as a “well developed and vetted strategy.” This metric will continue to be used during the current permit cycle as a metric for MDOT SHA’s efforts to achieve its pollutant reduction goals.

Conclusion

MDOT SHA’s permit represents a major step forward in meeting the water quality objectives of the Clean Water Act (CWA). Requirements in the permit include restoring 20% of MDOT SHA’s impervious area (i.e., the ISR requirement), and developing restoration plans to meet stormwater WLAs to address Chesapeake Bay and local water quality impacts. With respect to the ISR requirement, MDOT SHA has documented that while the capital and operational funds necessary to meet the 20% impervious surface restoration requirement are available, the physical capacity for implementing best management practices (BMPs) within the permit timeframe is a limiting factor.

In July 2018, Maryland adopted a program that allows MS4 permittees to use nutrient credit trading. Because this option was not available at the time of issuance, the existing permit must be modified to allow nutrient credit trading as an option for meeting ISR goals within the

framework of the permit. Therefore, the Department has reached a final determination to modify MDOT SHA's MS4 permit to use Maryland's newly authorized nutrient trading program as an option to meet its 20% ISR requirement.

Comments Submitted by:	Comment(s) or Question(s)	Relevant Response
Audubon Naturalist Society (oral & written comments)	“[W]hat impact will enabling the use of nutrient trading have on restoration of impervious surface called for by the permit?” ¹	§2, p. 3
	“[W]hat is the impact the modification will have on enabling the State Highway Administration to meet its pollutant load reduction goals?” ¹	§2, p. 3
	The “SHA 2018 annual report... gives rise to the question of whether the reductions for 2025 will be met even if the total IRS [<i>sic</i>] acres are achieved. If SHA finds that it will need to invoke nutrient trading to meet the ISR acres for 2020, it will be even further behind for the 2025 finish line.” ²	§2, p. 3
	“[H]ow SHA will be able to use nutrient trading when it is not clear from the record... where the pollutant reduction credits will be found and how they will be replaced during a new permit term... There is no information as to how SHA will obtain trading credits. Does it have relationships with wastewater treatment plants? How much credit can be obtained from those relationships? Does it plan to obtain credits from the agriculture community through which its huge land owning extends? Will any of these credits be obtained in a durable and timely fashion given that they are to pertain to the current permit which expires in October of this year?” ¹	§1, p. 3
	“The larger issue raised by the SHA permit implementation experience and raised as well by all the Maryland Phase I permittees is whether the ISR metric is still useful for achieving TMDL nutrient reduction goals.” ²	§3, p. 4
	¹ Comments provided at public hearing, 7/18/2019 ² Written comments received 10/03/2019	
Blue Water Baltimore (oral comments)	“I’m here today to express our concern that if nutrient trading is done in this permit, it must be done appropriately so that we are not exchanging real reductions and pollutants for a largely paper exercise. To that end, it is our perspective that in order to be eligible for trade, any credit must first result from a new quantifiable, verifiable and enforceable reduction of pollution as is required under the Maryland trading regulations. Any permit modification to allow trading should expressly include this requirement and require verification of each credit used to comply with the permit.”	§1, p. 2
	“Second, the best management practice or other pollution control measure must not have already been paid for by the taxpayers. For example, the SHA should not be allowed to acquire credits generated by wastewater treatment plants that are performing better than	§1, p. 2

	the minimum requirements which involves, as you know, meeting nitrogen limit equal to or below three parts per million in the effluent.”	
	“Further, any better than minimum performance by a wastewater treatment plant should be preserved for future growth when future circumstances may not enable the plant to discharge at the better than three parts per million level.”	§1, p. 2
Chesapeake Legal Alliance (oral comments)	“And so to modify a permit, you should really only be doing if you can make the permit better. And in this case, I don’t believe that this trading scheme for the reasons articulated by Angela [Haren representing Blue Water Baltimore] and Bruce [Gilmore representing Audubon Naturalist Society], and I suspect some of the other advocates here will add to, can make this permit better... I worry that given the coverage across the state of the State Highway permit... you could really end up with taking credits for a wastewater treatment plant and applying them in a spot where you end up with significant higher pollution level that could impact local TMDLs... And so a paper exercise that doesn’t result in pollutant reductions is unfair.”	§1, p. 2
	“In addition, the trading concept in general, getting away from actually implementing restoration practices, ends up negating the co-benefits of the other pollutants that get reduced as a result of actual restoration practices.”	§2, p. 3
	“In addition, I would like... to express the concern about... how is it that you might intend to replace these credits in the next permit cycle. That’s not codified anywhere. That’s not written anywhere. If you do end up taking the trading route, it would be important to be very specific about how that’s going to happen and how and when and on what schedule, and how the public can know how those credits will be replaced.”	§2, p. 3
Chesapeake Bay Foundation (oral & written comments)	“And I also would like to echo the concern that where the credits are coming from is fairly uncertain at this time and would just like to note a point of caution that, again, we’ve seen some permittees slow down work in anticipation of purchasing credits that then have not actually materialized... And we would just like to encourage the State Highway Administration and the Department to ensure that work is continuing on the same or advanced pace while credits are being sought instead of slowing down work and looking to rely on credits that right now are uncertain.” ¹	§2, p. 3
	“The lack of available credits raises concerns about whether simply allowing trading is the appropriate way to ensure compliance with MS4 permits in general, and the SHA MS4 permit in particular... In addition to simply allowing water quality trading, CBF recommends that the Department take more proactive steps in identifying progress delays and implementing schedules of compliance with alternative practices to make up for those delays... CBF recommends that the permit modification process should include an analysis of reasonable assurance that incorporating trading in these permits can, in	§1, pp. 2-3

	<p>fact, help permittees meet compliance deadlines.”²</p>	
	<p>“The proposed modification language incorporates MDE’s “Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated, Guidance for National Pollutant Discharge Elimination System Stormwater Permits” (Guidance Manual) as the basis for required credit purchases. ... CBF strongly recommends clarifying which baseline impervious load should be used for the urban loading rate, and also specifying that this applies to nitrogen, phosphorus, and sediment. ... For the sake of public transparency and ease of tracking pounds of credits needed against pounds of credits purchased from the trading registry, CBF strongly recommends that the permit modification specifically identify the number of nitrogen, phosphorus, and sediment credits needed for each acre of impervious surface restoration. Since the purpose of the impervious surface restoration requirement is to address runoff from impervious areas, the appropriate loading rate would be from an urban impervious acre to forest. Under Model version 5.3.0, which was in effect when the current permits were issued, the delta between urban impervious and forest is 7.68 pounds per acre per year for nitrogen, 1.91 pounds per acre per year for phosphorus, and 0.43 tons per acre per year for sediment. These values should be listed directly in the permit modification with a clear directive that permittees much purchase these values for each acre of impervious surface restoration that is being replaced with credit purchases.”²</p>	<p>§3, pp. 3-4</p>
	<p>“[I]t should be made clear in the permit modification language itself what the strategy is for the “trading in time” approach. ... CBF recommends the inclusion of language in the permit modification itself that formalizes the expectation that credits must be maintained until converted into stormwater practices, and that the conversion must happen in the next permit term. ... The permit modification language should also make it clear that those purchased credits will be required to be maintained annually until the conversion is done.”²</p>	<p>§2, p. 3</p>
	<p>“CBF is concerned about the proposed permit modification’s lack of compliance with COMAR 26.08.11.08(E), which requires credits used within any impaired water to be generated within the impaired watershed... CBF is concerned that applying the water quality trading regulations to MS4 permits without further specifying how the credits must be purchased in regard to impaired local waters will worsen local water quality hotspots... CBF recommends including specific geographic locations that align with local water quality impairments in which credits must be generated in order to be purchased for MS4 compliance.”²</p>	<p>§1, p. 2</p>
	<p>“Allowing unlimited credit purchasing instead of local restoration will endanger local water quality and delay progress towards attainment of local TMDLs. Furthermore,</p>	<p>§1, p. 2</p>

	<p>setting the expectation that all unmet permit obligations may be met through trading will exacerbate the delay and disruptions in program implementation. Therefore, CBF recommends setting a clear limit on the ability to purchase credits in lieu of restoration obligations, and also setting clear expectations that the ability to trade will also be limited in the future.”²</p>	
<p>¹Comments provided at public hearing, 7/18/2019 ²Written comments received 8/22/2019</p>		