



Minnesota Pollution Control Agency

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June 27, 2008

TO: INTERESTED PARTIES

RE: Pre-Total Maximum Daily Load Phosphorus Trading Permitting Strategy

On June 24, 2008, the Minnesota Pollution Control Agency Citizens' Board voted to approve the Pre-Total Maximum Daily Load (Pre-TMDL) Phosphorus Trading as a permitting strategy.

We appreciate the time and effort of those who submitted comments on Pre-TMDL Phosphorus Trading. Your input helped to create the framework for the permitting strategy and will be helpful in drafting permits using this strategy.

Sincerely,

A handwritten signature in black ink that reads "Brad Moore".

Brad Moore
Commissioner

BM/ED:gs

MINNESOTA POLLUTION CONTROL AGENCY
Municipal Division
Municipal Wastewater Section

Pre-Total Maximum Daily Load Phosphorus Trading Permitting Strategy

June 24, 2008

ISSUE STATEMENT

Minnesota Pollution Control Agency (MPCA) staff request that the MPCA Citizens' Board (Board) approve Pre-Total Maximum Daily Load (TMDL) Phosphorus Trading (PTPT) as a permitting strategy to allow new and expanding phosphorus-discharging wastewater treatment facilities (WWTFs) the ability to purchase phosphorus reductions from another National Pollutant Discharge Elimination System Permit (NPDES)-permitted WWTF in a sufficient quantity that assures a net decrease in the amount of phosphorus that may be legally discharged to a nutrient impaired water. PTPT is analogous to other cap and trade programs. Nutrient impaired waters are those listed on the most recent U.S. Environmental Protection Agency (EPA) approved 303(d) list of impaired waters. PTPT bridges the time from when a water is listed as nutrient impaired to the time the TMDL is complete. Once the TMDL is approved, PTPT is no longer an option and any trading would be governed by the approved TMDL. The MPCA staff recommends that the Board approve Pre-TMDL Phosphorus Trading Permitting Strategy.

I. BACKGROUND:

Both EPA and the courts have recognized that it can take several years from the time a water is listed as impaired until a TMDL is completed and approved. In the meantime, construction of new and expansion of existing WWTFs is often necessary to prevent additional deterioration of an impaired water. PTPT allows for necessary improvements to wastewater treatment infrastructure to take place while achieving reductions in pollutant loading to impaired waters during that interim period. The impairment addressed by PTPT is 'Nutrient/Eutrophication Biological Indicators' on the 2008 Final Draft TMDL List of Impaired Waters and 'Excess Nutrients' in the 2006 List. Herein, the term 'nutrient impairment' will be used to describe known impairments of water bodies by phosphorus.

Based on the Wastewater Infrastructure Needs Survey and 2008 Project Priorities List, Minnesota communities identified wastewater infrastructure costs over \$4.5 billion. Based on the draft Small Communities Wastewater Needs Report published February 2008, 1,043 small communities have

expressed wastewater needs, with 48 of those communities identifying known or suspected community surface discharges via the use of community straight pipes. Prudent design that addresses these needs includes future growth needs of the community. PTPT is a method by which communities can build new or expand existing WWTFs while achieving reductions to the impaired waters prior to TMDL approval without potentially causing or contributing to water quality impairments. This PTPT approach is intended to be an interim permitting strategy given that the 2008 303 (d) List identified 329 nutrient impairments, MPCA staff estimate that only 18 percent of Minnesota's lakes have been assessed and that, once an impairment is identified, a TMDL can take up to 15 years maximum to complete.

Some expanding dischargers have been able to satisfy the "cause or contribute" clause by greatly reducing previously non-regulated phosphorus loading. The MPCA has been able to create water quality improvements through new and expanding dischargers by implementing the March 28, 2000, Board Approved Phosphorus Strategy. On December 18, 2007, the Board adopted changes to Minnesota Rule Chapter 7053 that codify the Phosphorus Strategy. Some WWTFs that already had a permitted mass cap of phosphorus have been able to treat to a lower phosphorus concentration to stay beneath the cap. However, most new WWTFs will have difficulty in assuring a net decrease in phosphorus loading. The purpose of PTPT is to allow new and expanding WWTFs an opportunity to address their wastewater infrastructure needs now, and thus improve water quality, as opposed to waiting until completion of a TMDL. To be permitted for the discharge and participate in the PTPT process, Facilities will be allowed to purchase phosphorus reductions from other permitted WWTFs (i.e., trade phosphorus) in a sufficient quantity to assure no net increase in the authorized mass of phosphorus discharged upstream of the nutrient impaired water.

The Minnesota Supreme Court affirmed the legality of Pre-TMDL phosphorus trading in the Annandale/Maple Lake case. In that case, the Minnesota Supreme Court urged the MPCA to consider time, place, and other specifics in making trading determinations in permits. The proposed PTPT

permitting strategy would accomplish this by considering the relative watershed locations of the trading partners and requiring a contemporaneous phosphorus mass reduction from the seller's existing NPDES-permitted mass cap.

A. Pre-TMDL Phosphorus Trading Guidelines

The basics of PTPT involve specific entities, a 'buyer' and a 'seller'. The buyer is the entity that wishes to build or expand a WWTF and to discharge to a nutrient impaired water. The seller is an existing NPDES-permitted WWTF that already has a phosphorus mass cap in its existing permit and agrees to reduce its authorized phosphorus loading cap to a level requested by the buyer. The buyer and seller will enter into a contract for phosphorus trading. The amount traded will be noted in each WWTF's NPDES permit.

PTPT will require buyers to purchase phosphorus in excess of the exact amount needed to meet permit limits by applying a trade ratio to each transaction. As noted above, PTPT will result in net reductions of allowable phosphorus loading to impaired waters. To accomplish this, proposed trade ratios for Facilities in the same major watershed are 1.2 to 1.0 for new Facilities and 1.1 to 1.0 for expanding Facilities. For example, for every 1.0 kilogram of phosphorus needed by a new WWTF, a trade ratio of 1.2 to 1.0 will require the purchase of 1.2 kilograms from the seller. Neither Facility may use the extra 0.2 kilograms – the unused phosphorus load is a contribution toward water quality improvement. Both Facilities' effluent discharge must be upstream of the applicable impaired water body. MPCA staff will not approve trades where a nutrient impaired water is located between an upstream buyer and a downstream seller.

PTPT has three options to give Facilities direction in determining trading partners while still allowing MPCA staff the ability to review trades on a case-by-case basis. Option 1 involves a buyer and seller in the same major watershed. Option 2 involves a buyer and seller in different major watersheds, but in the same basin where the seller is closer, in river miles, to the impaired water than the buyer. Both Option 1 and Option 2 would result in a trade ratio of 1.2 to 1 for new WWTFs and 1.1 to 1 for expanding

WWTFs. Option 3 would involve a buyer and a seller in different major watersheds, but still in the same basin, where the buyer is closer in river miles to the impaired water than the seller. Option 3 would result in a trade ratio of 1.4 to 1.

If trading partners believe they have a viable option other than those described above, that is protective of downstream waters but differs from those listed above, MPCA staff will review proposals on a case-by-case basis. MPCA staff will also consider trades that involve pollutant load reductions made by non-point sources (agricultural operations, stormwater discharges, and other non-point sources), but these situations are not addressed by this PTPT proposed permitting strategy and would require additional review. The MPCA will need to review any such point to non-point trades on a case-by-case basis.

An important distinction between 40 CFR 122.4 (i) and the existing Phosphorous Strategy (and amendments to Minn. R. 7050) is that the latter does not require a phosphorus limit if the new or expanding Facilities discharge is less than 1,800 pounds of phosphorus per year. As a result of nutrient impaired waters listing in the EPA approved 303(d) list, new and/or expanding Facilities upstream of the impairment will be required to demonstrate no net increase in phosphorus loading resulting from the discharge, even if the Facility currently discharges less than 1,800 pounds per year. PTPT is a tool that will allow timely improvements to wastewater infrastructure needs prior to completion of the TMDL.

B. Interim Process

EPA's 2003 Water Quality Trading Policy encourages the development of Pre-TMDL trading programs to achieve progress towards the attainment of water quality standards. PTPT will achieve progress towards the attainment of water quality standards by allowing for improvements to wastewater treatment infrastructure while at the same time achieving reductions in allowable phosphorus loading to impaired waters.

Once a TMDL is completed and approved for a nutrient impaired water, that TMDL will govern permitting for discharges to that water. A completed and EPA-approved TMDL will include individual wasteload allocations for any significant NPDES permits, which will subsequently be modified or

reissued to incorporate the assumptions and requirements of the TMDL. Phosphorus trading may be a viable management tool for achieving the pollutant reduction goals specified in TMDLs that require point source phosphorus reductions.

The PTPT Policy is intended to be temporary. As noted above, PTPT will only apply in the interim period between when a water is listed as impaired due to phosphorus and completion and approval of a TMDL for that water. Moreover, the MPCA is currently working on developing Water Quality Trading Rules. The rules are scheduled to be drafted by the end of June 2008. The Water Quality Trading Rules are intended to address trading between point sources, between point and non-point sources and potentially between non-point sources in both pre and post-TMDL situations. Once those rules are in effect, the rules will replace the PTPT Policy.

C. Case-by-Case Analysis

PTPT focuses on trades between NPDES permitted WWTFs. As trading opportunities arise, MPCA staff will continue to look for ways to leverage greater environmental good through the use of trades. In these cases, MPCA staff will use the PTPT framework and the basic principles, such as contemporaneous trades with appropriate trade ratios, in its review of trading opportunities. PTPT is offered as a framework on which to build trading options, and MPCA staff would consider viable trading options brought forth by permitted WWTFs.

II. PROHIBITIONS:

In addition to phosphorus trading not being allowed where there is a nutrient impairment between the buyer and the seller, the following conditions also apply:

- Trading cannot be used to meet technology-based effluent limitations
- Trades will not be allowed if the trade itself would cause or contribute to a water quality impairment
- Trading may not adversely affect water quality at an intake for drinking water supply

In accordance with the Minnesota Supreme Court's decision in the Annandale/Maple Lake matter, the MPCA will utilize PTPT in a manner that ensures that point source discharges do not cause or contribute to violations of water quality impairments.

III. CONCLUSIONS:

In conclusion, MPCA staff believes the use of Pre-TMDL Phosphorus Trading will benefit the environment by further reducing the current authorized mass loading within a basin, by allowing timely improvements in municipalities' infrastructure, and by allowing an opportunity for new growth and development to occur upstream of a nutrient impaired water.

IV. RECOMMENDATION:

MPCA staff recommends that the Board approve PTPT and the below Suggested Staff Resolution.

SUGGESTED STAFF RESOLUTION

BE IT RESOLVED that the Minnesota Pollution Control Agency approves and adopts Pre-Total Maximum Daily Loads (TMDLs) Phosphorus Trading as an interim permitting strategy of achieving a net decrease in phosphorus loading associated with new and expanding National Pollutant Discharge Elimination System wastewater treatment facilities upstream of nutrient impaired waters as outlined in the attached Pre-TMDL Phosphorus Trading Permitting Strategy.

IT IS SO ORDERED



Commissioner Brad Moore
Chair, Citizens' Board
Minnesota Pollution Control Agency

6/26/08

Date