Minnesota Pollution Control Agency

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July 12, 2013

Dr. Susan Hedman, Regional Administrator
U. S. Environmental Protection Agency
Region 5
77 West Jackson Boulevard
Chicago, IL 60604-3590

Dear Dr. Hedman:

On May 28, 2013, the Minnesota Pollution Control Agency (MPCA) received the U.S. Environmental Protection Agency (EPA) Region 5's "*Initial Results of a Review of the National Pollutant Discharge Elimination System (NPDES) Program in the State of Minnesota*" dated May 2013 (EPA Report). The EPA reviewed the MPCA's NPDES program in response to a petition submitted by the Minnesota Center for Environmental Advocacy (MCEA) dated October 5, 2009. In accordance with your May 15, 2013 letter accompanying the EPA Report, this letter describes the actions the MPCA has taken or will take to improve Minnesota's NPDES program in response to the two required actions[1] contained in the EPA Report.

The EPA Report's Executive Summary describes the two required actions for the MPCA to improve the quality of Minnesota's NPDES program. First, that Minnesota establishes Water Quality Based Effluent Limits (WQBELs) for phosphorus sufficient to attain and maintain applicable water quality standards where it determines that phosphorus discharges will cause, have a reasonable potential to cause, or contribute to an excursion beyond applicable standards, including standards to address rivers and streams (EPA Report, page 3). Second, that Minnesota have the capacity to inspect known straight pipe sources that discharge to waters of the United States (EPA Report, page 4).

In response to the EPA's first required action, the MPCA offers the following:

Consistent with the MPCA's March 2010 Phosphorus Decision Tree (enclosed), when determining whether a discharge of phosphorus will cause, have a reasonable potential to cause, or contribute to an excursion beyond a water quality standard, the MPCA uses procedures to account for the factors specified in 40 CFR § 122.44(d)(1)(ii). As noted on page 13 of the EPA Report, the MPCA is setting WQBELs for phosphorus when needed to implement eutrophication standards. This includes the practice of setting WQBELs to protect downstream uses. Approximately 80 percent of all discharges are upstream of a lake or reservoir in Minnesota. The MPCA estimates that to protect downstream uses approximately 67 percent of all discharges may require a WQBEL based on the existing lake and reservoir eutrophication standards in Minn. R. 7050.0222, subp. 2(a).

[1] The EPA Report identifies two required actions for MPCA to improve the quality of Minnesota's NPDES program. In addition, the EPA Report provides three recommendations. While the MPCA sincerely appreciates and will consider those recommendations as part of its continued evaluation of Minnesota's NPDES and SSTS program management, this letter only addresses the required actions.

The MPCA is setting WQBELs which are derived from, and comply with eutrophication standards and that are consistent with the assumptions and requirements of available wasteload allocations in approved TMDLs. For discharges upstream of lakes, the MPCA is committed to evaluating whether the proposed WQBELs are also protective of the intervening and intermediate rivers and streams and will set more stringent limits when needed. The MPCA is actively developing river eutrophication standards which are scheduled to have proposed rules published fall 2013 and adopted in 2014. The MPCA is simultaneously developing assessment protocols and implementation guidance which will be used to evaluate the need for and establish WQBELs in permits. For the approximately 33 percent of dischargers that do not need a WQBEL to protect lake eutrophication standards, the MPCA will determine reasonable potential for each discharge on a case-by-case basis, considering the narrative standard in Minn. R. 7050.0210, subp. 2 and the designated uses of downstream waters. Where reasonable potential exists, the MPCA will establish a WQBEL, which is derived from and complies with the narrative standards. The determination of reasonable potential will be conducted case-by-case, considering the narrative standards in Minn. R. 7050.0210, subp. 2 (nuisance conditions), and the designated uses of downstream waters. Ambient data and analytical tools, including water quality models, are necessary for the implementation of WQBELs. Currently the MPCA is implementing an integrated watershed monitoring plan designed to develop a comprehensive dataset from all 81 watersheds in Minnesota, over a ten year cycle. The data from this process will be used to calibrate Hydrological Simulation Program - Fortran (HSPF) models, which produce high resolution estimates of flow and water quality. At the moment there are 20 major watershed models in development. Output from these models may help to inform limit decisions. The MPCA is committed to these efforts to improve its establishment of WQBELs for phosphorus, to attain and maintain applicable water quality standards.

In response to the EPA's required actions for Minnesota related to the Compliance Evaluation/Inspection/Enforcement part of Minnesota's NPDES Program, and specifically how the MPCA addresses and manages straight pipe violations, the MPCA offers the following:

Minn. Stat. § 115.55, subd. 2 and Minn. R. 7082.0040, subp. 2, require Minnesota counties to adopt and implement Subsurface Sewage Treatment System (SSTS) ordinances and Minn. R. 7082.0700 outlines the inspection requirements county programs must have, so local governmental units (LGUs) have authority to conduct inspections. Minn. R. 7082.0700, subp. 2 details the information required to be collected during the inspection of new construction replacement and existing systems. Minn. R. 7082.0700, subp. 4(B) requires that the inspection report form developed by the MPCA be used for relevant parts of the county's inspection of existing systems. In addition, a 2013 legislative directive from the Minnesota Legislature requires the collection of data on the number of inspections completed and the number of systems replaced by sewering to a municipal wastewater treatment system. Minn. Stat. § 115.55, subd. 11, requires that "An inspector who discovers the existence of a straight-pipe system shall issue a noncompliance notice to the owner of the straight-pipe system and forward a copy of the notice to the agency."

While Minnesota counties have the authority to conduct inspections, the state retains its own statutory authority and capacity to conduct inspections. The MPCA has 12 NPDES and four full-time SSTS compliance and enforcement staff located in offices in the southeast, southwest, north central and northwest parts of the state.

As the result of straight-pipe inspections, the MPCA has executed at least 14 Notices of Violations (NOVs) to address confirmed community straight pipes (the MPCA defines a community straight-pipe as five homes or more with one or more straight pipes). Ten of the 14 have been corrected and the enforcement cases are closed, the remaining four are in the process of completing the work needed to achieve compliance. These numbers do not include straight-pipe systems which were corrected without an executed enforcement action. In addition, since Minn. Stat. §115.55, subd. 11 became effective August 1, 2006, the MPCA has tracked 527 case referrals for individual straight pipe cases from our LGU partners. To date, approximately 95 percent of the individual cases tracked did not require additional enforcement action because the non-compliance was resolved within the 10 month compliance period. The remaining unresolved cases were issued Administrative Penalty Orders and are in various stages of returning to compliance. The MPCA will continue to conduct inspections of known straight pipe sites and conduct oversight inspections to assess the quality of county inspections and direct improvement with weaknesses that are identified. Additionally, the MPCA will prioritize its inspections within impaired watersheds and encourage counties to do the same. The MPCA will work with its county partners in addition to dedicating its own resources to obtain information from all counties, with an emphasis on those counties that have not consistently reported.

The MPCA will submit actions taken to the EPA via quarterly reports for one year and annually for the three following years. If additional reporting is needed, it will be addressed in the Environmental Performance Partnership Agreement between the MPCA and the EPA. These reports will contain a list of permits that have been issued with WQBELs for phosphorus in waters that are impaired for nutrients, the progress on the river nutrient eutrophication standards, the number of straight pipe inspections conducted by the MPCA and the number of straight pipe referrals received from the counties.

In summary, a number of changes have taken place in the MPCA's NPDES program since the MCEA petition was filed, as a result of the petition, rule changes, and new information. These modifications demonstrate the MPCA's commitment to addressing the two areas of Minnesota's programs the EPA identified as needing improvement. We believe that Minnesota's NPDES program is managed in a manner that satisfies the requirements of the Clean Water Act and the EPA's regulations, and we are committed to the constant improvement of our program. We appreciate the opportunity to share what the MPCA has done and will do, to further our common goal toward making Minnesota's NPDES program stronger.

Sincerely,

John Linc Stine
Commissioner

Enclosures

cc: Kevin Pierard, EPA–Region 5
Tinka Hyde, EPA–Region 5
Kevin Reuther, MCEA
Kris Sigford, MCEA

Phosphorus Effluent Limit Decision Tree Narrative Update: August 2012

To clarify the application of EPA's Clean Water Act rule 40 CFR 122.44 (d) and Minnesota Rules 7053.0225 the effluent limit staff have developed the attached decision tree. The decision tree was developed with emphasis on 40 CFR 122.44(d) subparts (i), (ii), and (vii). Subpart (i) requires the MPCA to impose effluent limits necessary to achieve an applicable numeric or narrative water quality standard (WQS) when the agency determines that a discharge will cause, have the reasonable potential to cause, or contribute to an excursion above the WQS. Subpart (ii) provides that, when determining whether a discharge causes, has the reasonable potential to cause, or contributes to an excursion, the agency shall "use procedures which account for existing controls on nonpoint and point sources." Subpart (vii) provides that, in setting effluent limits under the40 CFR 122.44(d), the agency must ensure that the effluent limits are consistent with the assumptions and requirements of any "available waste load allocation". The use of a waste load allocation (WLA) associated with a TMDL, whether in approved or draft form, is consistent with the intent of 40 CFR 122.44(d) to set effluent limits which control the pollution contributed by a particular discharge to a WQS excursion.

For the purposes of this exercise, a discharge is considered to cause an excursion in a downstream lake (as used here lake means deep or shallow lake) or reservoir when modeling or other means show that, if the discharge of permitted phosphorus (TP) from a facility were eliminated, the lake or reservoir would meet the eutrophication WQS. Due to the large non-point contributions of TP in many watersheds exceeding eutrophication WQS, and past reductions of TP loads from point sources, there are relatively few point sources that "cause" nutrient impairments in MN. In implementing 40 CRF 122.44(d) for discharges that MPCA determines will cause an excursion above an MPCA eutrophication WQS, the agency proposes to take into account the resources, time and information needed to calculate a water quality based effluent limit (WQBEL) and an appropriate schedule of compliance for attainment of that WQBEL.

In general, it is logical and reasonable to conclude that a discharge contributes to (or has the reasonable potential to cause) an excursion above a eutrophication WQS in a lake or reservoir if it has a measurable effect on the eutrophication conditions in the lake or reservoir. However, even in cases when modeling or other means shows no measurable effect, it may be reasonable to conclude that a discharge contributes to a eutrophication excursion. This is true when the lake or reservoir is already so severely impaired that the discharge of additional TP does not result in additional eutrophication (algal growth).

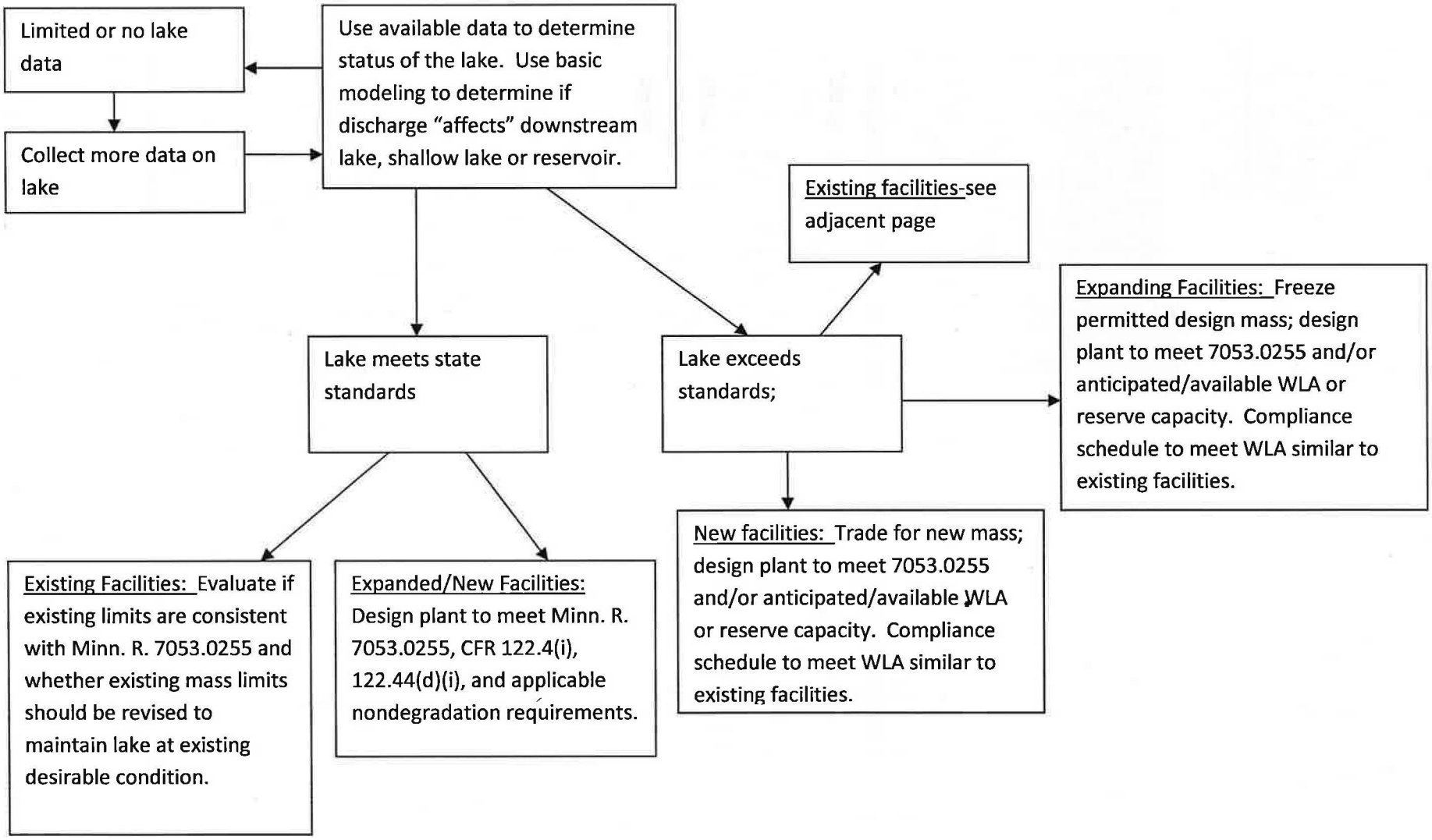
The decision tree provides guidance for determining whether a discharge to a lake or reservoir contributes to (or has the reasonable potential to contribute to) an excursion of the WQS for eutrophication, and for setting and implementing effluent limits that meet the federal rule when a positive determination has been made. The decision tree assumes that discharges of TP at a concentration less than the WQS for the lake or reservoir, or that occur outside of the critical season for eutrophication are not considered to contribute to (or have the reasonable potential to cause) an excursion. On the other hand, a discharge is assumed to contribute to (or have the reasonable potential to cause) an excursion in a lake or reservoir if 1) it discharges TP directly to the lake or reservoir at a concentration greater than the applicable numeric WQS for the lake or reservoir or 2)it discharges TP to a water body upstream of the lake or reservoir at a concentration greater than the applicable numeric WQS for the lake or reservoir and it is determined through modeling or other means that (i) the TP from the discharge has a measurable effect on the eutrophication conditions in the lake or reservoir; or (ii) the

TP from the discharge is delivered to the lake or reservoir(unless it can be shown that the concentration of phosphorus entering the lake or reservoir from the discharge is less than the WQS).

Once it is determined that a discharge causes or contributes to an excursion, the focus shifts to the determination of a WQBEL for the discharge , including consideration of any available or anticipated waste load allocation (WLA) for the discharge under an approved or draft TMDL. Most of the large-scale TMDLs in Minnesota have shown that it is not possible to meet the WQS with WLAs alone for discharges upstream of impaired waters with nutrient concentrations well above the WQS. These TMDLs will require significant non-point source load reductions in addition to point source reductions. The decision tree is designed to inform the effluent limit setting and permitting process once a discharge is found to cause or contribute to an excursion. Some of the considerations in this process include the anticipated date of completion for the TMDL, availability of WLAs for the given point sources, the absence of/need for a site specific standard, and how close the existing limits of a given facility are to the projected WLA in a draft/completed TMDL.

Under this approach to implementing 40 CFR 122. 44(d) most point sources upstream of nutrient impaired waters in MN will be considered to contribute to the downstream impairment. In the vast majority of lakes and reservoirs impaired for eutrophication, a TMDL will require widespread reductions from both point and non-point sources. The proposed approach recognizes that all discharges found to contribute must make progress toward anticipated WLAs in advance of the TMDL. The goal is to develop limits that reduce the discharge of TP from currently allowed levels recognizing that additional reductions may be necessary once the final TMDL is complete. In cases when non-point sources are identified as the largest loading source of TP to the impaired resource, it is reasonable to give time for non-point source reductions to occur during the implementation of the WLA. In addition to interim measures the agency will make use of schedules of compliance and consider factors such as the design life of the facility, availability of funding sources, and optimization of facility operation.

Phosphorus Effluent Limit Decision Tree – Key Considerations



Phosphorus Effluent Limit Decision Tree – NPDES/SDS Permit Reissuances (non –expanding facilities)