Minnesota Pollution Control Agency

Strategy for addressing phosphorus in National Pollutant Discharge Elimination System (NPDES) permitting

March 2000

This NPDES strategy represents one part of the agency's overall efforts to control and reduce phosphorus from point and non-point sources. The purpose of the strategy is to develop a consistent framework for applying phosphorus controls in NPDES permits.

Clean water is important to the state's environmental and economic vitality. Our industries, including our tourism industry, depend on clean water. Minnesotans care about their water resources. In recent public opinion research conducted by the Minnesota Pollution Control Agency (MPCA), citizens ranked water issues as a top priority.

Controlling phosphorus is a critical part of protecting our water resources. Phosphorus is the primary pollutant associated with the eutrophication of Minnesota's surface waters, resulting in nuisance algae blooms and reduced transparency which make waters unsuitable for swimming or other activities. Phosphorus comes from both point and nonpoint sources. Point sources consist mainly of municipal and industrial discharges; nonpoint sources include runoff from agricultural fields, feedlots, urban areas, urban construction sites and on-site sewage treatment systems.

The MPCA has been developing a comprehensive phosphorus strategy for point and non-point sources since 1996. As part of that overall strategy (discussed on page 31), MPCA has identified seven action steps for phosphorus reduction and control. These action steps are in various stages of implementation. This NPDES strategy represents one aspect of the agency's efforts: revisions to its decision-making approach for phosphorus issues in NPDES permits for wastewater treatment facilities.

Purpose

The purpose of the strategy, including a decision tree, is to develop a consistent framework for applying phosphorus controls in NPDES permits. The decision tree outlines the variables to be considered by MPCA staff in making decisions on whether to apply a phosphorus limit or a management plan in individual permits. The decision tree does not identify what a particular phosphorus limit will be, nor was it intended to. Rather, the decision tree provides a framework under which those decisions would be made.

The strategy is intended to provide guidance to MPCA staff and stakeholders on how phosphorus concerns will be considered in the permitting process. The strategy is not intended to be a rule and does not create any rights, substantive or procedural. The MPCA reserves the right to act at variance with the strategy based on the unique facts of any given permit situation.

The strategy and decision tree should also be viewed as transitional. MPCA staff do not expect this strategy to be in place for the long-term. Information and knowledge about nutrient management issues are changing rapidly at the state and federal level, and the MPCA's strategy for addressing these issues should be expected to change over time.

Two additional concepts are critical to understanding the decision tree. One is that the decision tree assumes that decision-

Minnesota Pollution Control Agency, 520 Lafayette Road North, St. Paul, Minnesota 55155-4194
(651) 296-6300, toll-free (800) 657-3864, TTY (651) 282-5332 or (800) 657-3864
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making on phosphorus issues would be tied to the permitting cycle. That is, decisions on phosphorus limits, phosphorus management planning, monitoring, etc. would be made as permits come up for reissuance and for new or expanded wastewater treatment facilities or facilities undergoing a significant upgrade.

The other concept is the use of basin/watershed management approaches as the main policy context for addressing phosphorus. In the decision tree, the existence of a basin or watershed plan is an important consideration in determining the type of phosphorus controls (limit or management plan) required in the permit.

Concepts in the decision tree

The strategy contains some new ideas, as well as provides greater clarity for concepts used in the past.

***De minimus*:** A new concept included in the strategy is the concept of *de minimus* – a level below which there are diminishing returns for considering application of a rule, treatment, etc. The strategy establishes a deminimus level of 1,800 pounds of phosphorus per year as a general guideline for consideration of limits or management plans where monitoring indicates elevated phosphorus levels. *De minimus* considerations would not apply to facilities which are required to have phosphorus limits based on rule requirement or facilities with discharges that are having a demonstrated effect on a specific lake/reservoir.

Identification of expected phosphorus controls. The strategy and decision tree lay out the primary considerations which will determine whether a permit limit or a phosphorus management plan should apply to a given situation. In general, facilities considered for the *de minimus* category would receive monitoring requirements only (with management plans required if monitoring identifies higher levels of phosphorus). Phosphorus limits would be required for new facilities, expanded discharges or significant upgrades, where the facilities are discharging to resources of concern as defined in the decision tree. Other facilities would receive requirements for phosphorus management plans. The decision tree provides greater detail on these considerations.

"Affects" and "measurable" impact. In the past, much discussion occurred over whether facilities "affected" a lake or had a "measurable impact" on a lake. The strategy illustrates the MPCA definitions of these terms.

"Lake/reservoir." In determining whether a specific discharge was to a "lake/reservoir," MPCA staff have in the past relied on water bodies with Department of Natural Resources identification numbers. While this system works for identifying most lakes or reservoir, it does not work in all situations – navigation pools (which may have identification numbers but may not exhibit the characteristics of a lake). In the strategy, MPCA staff are recommending the continued use of lake identification numbers, coupled with consideration of residence time for navigation pools. Water residence time can help differentiate between water bodies that are river-like systems versus those that are similar to lakes.

Input Process

Last fall, MPCA staff held informal discussion sessions with stakeholder groups (environmental groups, watershed organizations, cities, state agencies and internal staff) to discuss the draft strategy and decision tree. From these, the MPCA received several hundred comments. MPCA staff read and considered all the comments and incorporated many of them into the decision tree. A summary of the comment themes and MPCA staff responses to those themes is available from the MPCA.

Highlights of the changes made

Based on the comments received, MPCA staff made a number of changes to the strategy. Highlights include:

- A general guideline for *de minimus* facilities based on phosphorus loading
- Addition of "significant upgrade" as a decision point in applying phosphorus controls
- Increasing the monitoring requirement to five years for *de minimus* facilities
- Lowering the "trigger level" for phosphorus management plans

Contents of information packet

This packet contains several documents: