

7053.0255 PHOSPHORUS EFFLUENT LIMITS FOR POINT SOURCE DISCHARGES OF SEWAGE, INDUSTRIAL, AND OTHER WASTES.

Subpart 1. **Scope.** The phosphorus effluent limits in this part are in addition to the effluent limits specified elsewhere in this chapter. In the event of any conflict between this part and other applicable regulations, the more stringent requirement applies.

Subp. 2. **Definitions.** For the purposes of this part, the following definitions apply. Other relevant definitions are found in part 7050.0150, subpart 4.

A. "122-day ten-year low flow" or " $122Q_{10}$ " means the lowest average 122-day flow with a once in ten-year recurrence interval. A $122Q_{10}$ is derived using the same methods used to derive a $7Q_{10}$, and the guidelines regarding period of record for flow data and estimating a $7Q_{10}$ apply equally to determining a $122Q_{10}$ as described in part 7053.0135, subpart 3.

B. "Affects" means a measurable increase in the adverse effects of phosphorus loading as determined by monitoring or modeling, including, but not limited to, an increase in chlorophyll-a concentrations, a decrease in water transparency, or an increase in the frequency or duration of nuisance algae blooms, from an individual point source discharge.

C. "Expanded discharge" means a disposal system that after May 1, 2008, discharges more than 1,800 pounds of total phosphorus per year to a surface water on an annual average basis, and increases in wastewater treatment capacity as indicated by an increase in the:

- (1) design average wet weather flow for the wettest 30-day period for point source dischargers of sewage with a continuous discharge, typically a mechanical facility;
- (2) design average wet weather flow for the wettest 180-day period for point source dischargers of sewage with a controlled discharge, typically a pond facility; or
- (3) design average daily flow rate for dischargers of industrial or other wastes.

D. "Lake" means an enclosed basin filled or partially filled with standing fresh water with a maximum depth greater than 15 feet. Lakes may have no inlet or outlet, an inlet or outlet, or both an inlet and outlet.

E. "Measurable increase" or "measurable impact" means a change in trophic status that can be discerned above the normal variability in water quality data using a weight of evidence approach. The change in trophic status does not require a demonstration of statistical significance to be considered measurable. Mathematical models may be used as a tool in the data analysis to help predict changes in trophic status.

F. "New discharge" means a discharge that was not in existence before May 1, 2008, and discharges more than 1,800 pounds of total phosphorus per year.

G. "Reservoir" means a body of water in a natural or artificial basin or water course where the outlet or flow is artificially controlled by a structure such as a dam. Reservoirs are distinguished from river systems by having a hydraulic residence time of at least 14 days. For purposes of this item, residence time is determined using a flow equal to the $122Q_{10}$ for the months of June through September, a $122Q_{10}$ for the summer months.

H. "Shallow lake" means an enclosed basin filled or partially filled with standing fresh water with a maximum depth of 15 feet or less or with 80 percent or more of the lake area shallow enough to support emergent and submerged rooted aquatic plants (the littoral zone). It is uncommon for shallow lakes to thermally stratify during the summer. The quality of shallow lakes will permit the propagation and maintenance of a healthy indigenous aquatic community, and they will be suitable for boating and other forms of aquatic recreation for which they may be usable. For purposes of this chapter, shallow lakes will be differentiated from wetlands and lakes on a case-by-case basis. Wetlands are defined in part 7050.0186, subpart 1a.

Subp. 3. Total phosphorus effluent limits.

A. Phosphorus removal to one milligram per liter is required when subitem (1), (2), or (3) applies:

(1) the discharge of effluent is directly to or affects a lake, shallow lake, or reservoir;

(2) the discharge is to the specific basins and water bodies designated in subpart 5; or

(3) the discharge is new or expanded as defined in subpart 2, except when the discharger can demonstrate to the commissioner that the discharger qualifies for an alternative phosphorus limit as provided in subpart 4.

B. If a phosphorus effluent limit is required under item A, removal of nutrients from all wastes must be provided to the fullest practicable extent wherever sources of nutrients are considered to be actually or potentially detrimental to preservation or enhancement of the designated water uses. Dischargers required to control nutrients under this part are subject to the variance provisions of parts 7000.7000 and 7053.0195.

Subp. 4. Alternative phosphorus effluent limits for new or expanded discharges. New or expanded discharges subject to a one milligram per liter phosphorus effluent limit in subpart 3, item A, subitem (3), may request an alternative limit or no limit if one or more of items A to C apply. New or expanded discharges are defined in subpart 2. The exemptions in this subpart do not apply to facilities that discharge directly to or affect a lake, shallow lake, or reservoir or to discharges to the waters listed in subpart 5. Dischargers seeking an alternative limit due to very high per capita treatment costs or economic hardship must apply for a variance under parts 7000.7000 and 7053.0195.

The information submitted to the commissioner for consideration of an alternative limit must include, at a minimum, a description of the treatment technology used, influent and effluent total phosphorus concentrations, a phosphorus management plan for the facility, descriptions of any measures already taken to reduce phosphorus sources to the facility, and expected reductions in phosphorus concentrations following implementation of the phosphorus management plan. The discharger may qualify for an alternative total phosphorus limit or no limit if it can demonstrate:

A. the discharge is to or upstream of a water body listed on the applicable impaired water list, section 303(d) of the Clean Water Act, and the subsequent total maximum daily load study is complete and approved by the United States Environmental Protection Agency, as required by Code of Federal Regulations, title 40, part 130, section 7, at the time the new or expanding facility is in the planning and design phase. The total maximum daily load study must have considered impacts from phosphorus loading on the impaired water body. In this case, the total maximum daily load study will determine the applicable phosphorus effluent limit;

B. the environmental benefits to be achieved by meeting a phosphorus limit are outweighed or negated by the environmental harm caused by meeting a limit; or

C. the treatment works, regardless of the type of treatment technology, uses chemical addition to achieve compliance with the one milligram per liter limit and the discharge is to a receiving stream in a watershed listed in subitems (1) to (3). In this case the discharger may be granted a seasonal one milligram per liter limit, applicable from May 1 through September 30 and not applicable from October 1 through April 30:

(1) the lower Mississippi River and its tributaries from the mouth of the Chippewa River in Wisconsin to the Minnesota border;

(2) the Bois de Sioux and Red Rivers and their tributaries from the southern end of Lake Traverse at Browns Valley to the Canadian border; and

(3) the Missouri, Des Moines, and Cedar Rivers and their tributaries in Minnesota.

Subp. 5. **Designated waters.** The one milligram per liter phosphorus limit established in subpart 3 applies to the waters designated in items A to F.

A. All intrastate waters lying within the drainage basin of Lake Superior in the counties of Aitkin, Carlton, Cook, Itasca, Lake, Pine, and St. Louis (Townships 45 to 65 North, Ranges 7 East to 23 West).

B. The interstate waters of Lake St. Croix in Washington County (Townships 26 to 30 North, Range 20 West).

C. The St. Louis River from its source at Seven Beaver Lake (Township 58 North, Range 12 West) to and including St. Louis Bay (Townships 49 and 50 North, Ranges 14 and 15 West) and Superior Bay (Townships 49 and 50 North, Ranges 13 and 14 West).

D. The Mississippi River from its source to the Blandin Dam at the outlet of Paper Mill Reservoir in the city of Grand Rapids approximately 400 feet upstream from the bridge on U.S. Highway 169 including Lake Andrusia (Township 146 North, Range 31 West), Lake Bemidji (Townships 146 and 147 North, Range 33 West), Cass Lake (Townships 145 and 146 North, Ranges 30 and 31 West), Lake Itasca (Township 143 North, Range 36 West), Pokegama Lake (Townships 54 and 55 North, Ranges 25 and 26 West), and Winnibigoshish Lake (Townships 145, 146, and 147 North, Ranges 27, 28, and 29 West).

E. The Little Minnesota River and Big Stone Lake from the South Dakota border crossing to the outlet of Big Stone Lake at the dam immediately upstream from the U.S. Highway 12 bridge in Ortonville.

F. Albert Lea Lake (Township 102 North, Ranges 20 and 21 West) in Freeborn County.

Subp. 6. **Averaging period for phosphorus limit.** The phosphorus limit required under subpart 3 must be a calendar month arithmetic mean unless the commissioner finds, after considering the criteria listed in items A and B, that a different averaging period is acceptable. In no case shall the one milligram per liter limit exceed a moving mean of 12 monthly values reported on a monthly basis or a simple mean for a specified period, not to exceed 12 months. Calendar month effluent limits in effect as of February 7, 2000, must remain in effect unless an assessment of the criteria listed in items A and B indicate a different averaging period is acceptable. An averaging period other than monthly is acceptable when:

A. there is no measurable or predictable difference in the adverse effects of the phosphorus loading from the facility on the receiving water or downstream water resources compared to the loading that would result using a 30-day average limit; and

B. the treatment technologies being considered offer environmental, financial, or other benefits.

Statutory Authority: *MS s 115.03; 115.44*

History: *32 SR 1699*

Published Electronically: *April 1, 2008*