Chapter NR 217

EFFLUENT STANDARDS AND LIMITATIONS FOR PHOSPHORUS

Note: Effluent standards are being created for phosphorus at this time. Effluent standards for other pollutants may be added to this chapter at later dates.

Note: Corrections made under s. 13.93 (2m) (b) 7., Stats., Register, August, 1997, No. 500.

Subchapter I — General

NR 217.01 Purpose. The purpose of this chapter is to reduce the amount of phosphorus discharged to surface waters by establishing effluent standards and limitations, including water quality based effluent limitations, for phosphorus in effluent discharged to surface waters of the state. Effluent standards and limitations are developed pursuant to ch. 283, Stats.

History: Cr. Register, November, 1992, No. 443, eff. 12–1–92; CR 10–035: am. Register November 2010 No. 659, eff. 12–1–10.

Subchapter II — Phosphorus Effluent Standards and Limitations

NR 217.02 Applicability. This subchapter is applicable to point sources which discharge phosphorus to the surface waters of the state.

History: Cr. Register, November, 1992, No. 443, eff. 12–1–92; CR 10–035: am. Register November 2010 No. 659, eff. 12–1–10.

NR 217.03 Definitions. Definitions of terms and the meaning of abbreviations used in this subchapter are as defined in ss. NR 102.03, 106.03, 205.03, 210.03, and 243.03. In addition: "effluent standard" means any requirement for phosphorus established pursuant to s. 283.11 (3), Stats., and this subchapter.

History: Cr. Register, November, 1992, No. 443, eff. 12–1–92; CR 10–035: am. Register November 2010 No. 659, eff. 12–1–10.

NR 217.04 Effluent standards and limitations for phosphorus. (1) GENERAL. Effluent limitations for total phosphorus shall be imposed in WPDES permits for wastewaters discharged to surface waters as specified in this section.

(a) An effluent standard for total phosphorus shall apply as follows:

1. An effluent limitation equal to 1 mg/L total phosphorus as a monthly average shall apply to publicly owned treatment works and privately owned domestic sewage works subject to ch. NR 210 which discharge wastewater containing more than 150 pounds of total phosphorus per month, unless an alternative limitation is provided under sub. (2).

2. An effluent limitation equal to 1 mg/L total phosphorus as a monthly average shall apply in cases where the discharge of wastewater from all outfalls of a facility other than those subject to ch. NR 210 contains a cumulative total of more than 60 pounds of total phosphorus per month, unless an alternative limitation is provided under sub. (2). Outfalls consisting of noncontact cooling water without phosphorus containing additives may not be included in the calculation of the cumulative total of phosphorus discharged from the facility. Compliance with the concentration limit shall be determined as a rolling 12 month average as determined by the total phosphorus from all outfalls subject to the effluent limitation for the most recent 12 months divided by the total flow for all those outfalls for the same period.

3. Effluent limitations for phosphorus equal to 1 mg/L as a monthly average contained in permits on December 1, 1992 shall remain in effect.

4. Effluent limitations for phosphorus equal to 85% removal of influent concentrations of phosphorus contained in permits on December 1, 1992 shall be modified to 1 mg/L total phosphorus as a monthly average upon reissuance of the permit unless an alternative limitation is provided under sub. (2).

5. Runoff to surface waters from animal feeding operations shall be controlled using best management practices to achieve the purpose of this chapter pertaining to phosphorus.

6. The department shall determine if a permittee is discharging more than the applicable threshold value specified in subd. 1. or 2. by examining available data on or requiring monitoring of the amount of phosphorus contained in the wastewater effluent. Such data shall be representative of the amount of phosphorus contained in the wastewater effluent during periods of discharge or operation.

Note: The threshold values of this section will be applied at the time of WPDES permit reissuance or permit modification which may occur due to changes in waste characteristics.

Note: See NR 102.06 in reference to water quality standards.

(2) ALTERNATIVE EFFLUENT LIMITATIONS TO THE EFFLUENT STANDARD FOR PHOSPHORUS. (a) Permittees subject to sub. (1) (a) 1., 2., or 4. may request an alternative effluent limitation for total phosphorus if one or more of the following apply:

1. A permittee may request an alternative effluent limitation in cases where achieving the 1 mg/L total phosphorus effluent standard is not practically achievable.

a. A permittee requesting an alternative effluent limitation under this subdivision shall provide, as a part of the WPDES permit process, information which demonstrates that the 1 mg/L total phosphorus effluent standard is not practically achievable and information necessary for the department to establish an alternative effluent limitation. The information provided shall include but not be limited to the following: the results of a comprehensive phosphorus minimization study to determine the sources of phosphorus to the wastewater, an evaluation of possible methods to reduce the sources of phosphorus to the wastewater, a description of actions implemented to reduce the sources of phosphorus to the wastewater. In addition, the permittee shall provide data on the phosphorus concentrations in the influent to and effluent from the wastewater treatment facilities which are achievable after phosphorus minimization steps have been implemented, alternative treatment technologies which may be employed to achieve the 1 mg/L effluent standard, and their associated removal efficiencies and costs and the requested alternative effluent limitation.

b. The department shall review requests and the information provided by permittees and may establish alternative effluent limitations to the effluent standard imposed under sub. (1) (a) 1., 2. or 4. where this standard, in the best professional judgment of the department, is not practically achievable. For these cases, the department shall establish an alternative effluent limitation considering the effluent quality achievable with the application of treatment technologies, process changes, and phosphorus minimization steps to reduce the amount of phosphorus to the maximum extent practically achievable taking into account energy, economic and environmental impacts.

2. A permittee may request an alternative effluent limitation in cases where the operation of specific biological phosphorus removal technologies will achieve a level of performance equivalent to a 1 mg/L effluent standard. Systems which employ biological phosphorus removal technology shall result in the removal of not less than 90% of the phosphorus which would be removed by achieving the 1 mg/L total phosphorus effluent standard based upon a mass determination.

a. A permittee requesting an alternative effluent limitation under this subdivision shall, as a part of the WPDES permit application process, provide information which demonstrates that achieving the requested alternative effluent limitation using biological phosphorus removal will achieve this requirement. The information shall include data on the total mass of phosphorus discharged using biological removal with and without chemical polishing and the total mass of phosphorus discharged using treatment technologies to achieve the 1 mg/L effluent standard and the information necessary for the department to establish an alternative effluent limitation.

b. The department shall review requests and the information provided by permittees and may establish alternative effluent limitations to the effluent standard imposed under sub. (1) (a) 1., 2., or 4. where the alternative limitation, in the best professional judgment of the department, will result in insignificant differences in the amount of phosphorus discharged, on a mass basis, compared to the mass which would be discharged by achieving the 1 mg/L total phosphorus effluent standard. For these cases, the department shall establish an alternative effluent limitation considering the effluent quality achievable with the application of biological phosphorus removal technologies, taking into account the total phosphorus removal performance on a mass basis. The alternative effluent limitation established by the department under this subparagraph may not exceed 2 mg/L as a monthly average.

3. A permittee may request an alternative effluent limitation in cases where phosphorus−deficient wastewaters necessitate the addition of phosphorus to a biological treatment system to assure efficient operation and compliance with other effluent limitations.

a. A permittee requesting an alternative effluent limitation under this subdivision shall, as a part of the WPDES application process, provide information which demonstrates that achieving the 1 mg/L total phosphorus effluent standard is not practically achievable and the information necessary for the department to establish an alternative effluent limitation. The information provided shall include but not be limited to the following: the results of a comprehensive phosphorus minimization study to minimize the amount of phosphorus discharged while allowing efficient operation of the wastewater treatment system, a description of actions implemented to reduce the amount of phosphorus discharged, the phosphorus effluent concentrations achievable after phosphorus minimization steps have been implemented, the removal efficiencies and costs associated with alternative treatment technologies which would be necessary to achieve the 1 mg/L effluent standard and the requested alternative limitation.

b. The department shall review requests and the information provided by the permittee and may establish alternative effluent limitations to the effluent standard imposed under sub. (1) (a) 2. where this standard, in the best professional judgment of the department, is not practically achievable. The department shall establish an alternative effluent limitation considering the minimum phosphorus effluent quality achievable while allowing efficient operation of the wastewater treatment system. The alternative effluent limitation established by the department under this subdivision may not exceed 2 mg/L as a monthly average.

(b) Permittees subject to sub. (1) (a) 1. or 2. which do not discharge their effluent into the basins of the Great Lakes or the Fox (Illinois) river may request an alternative effluent limitation for total phosphorus according to the provision of this paragraph.

1. A permittee may request an alternative effluent limitation under this paragraph in cases where achieving the 1 mg/L effluent standard would not result in an environmentally significant improvement in water quality and material progress towards the attainment and maintenance of associated surface water quality standards for the receiving water as established in chs. NR 102 to 104.

2. A permittee requesting an alternative effluent limitation under this paragraph shall propose for the department's approval a study plan to identify the receiving waters affected or potentially affected by the discharge, describe how information will be obtained to justify an alternative effluent limitation under this paragraph, and provide the information necessary to establish interim and alternative effluent limitations under this paragraph. This study plan shall be submitted as a part of the WPDES permit application process. The results of the study shall include an evaluation of all point and non−point sources of phosphorus in the watersheds and the impacts of the phosphorus contributions on biological and chemical water quality conditions. Upon review of the study plan, the department may require additional information as deemed necessary and may expand the study to include other watersheds or portions thereof that may be significantly impacted by the permittee's discharge of phosphorus.

3. The department may establish an alternative effluent limitation where, in the best professional judgment of the department and based upon the information provided by the permittee pursuant to the study plan and other relevant information, achieving the effluent standard under sub. (1) (a) 1. or 2. would not result in an environmentally significant improvement in water quality and material progress towards the attainment of associated surface water quality standards for the receiving waterbody as established in chs. NR 102 to 104.

4. An interim effluent limitation and compliance schedule for completing the study shall be imposed in a permit until the request for an exemption from the 1 mg/L effluent standard is approved or denied. The interim effluent limitation shall be equal to the representative concentration of total phosphorus as a monthly average in the effluent based on the information provided by the permittee as a part of the WPDES permit application process.

5. Alternative effluent limitations established under this paragraph may not exceed the interim effluent limitation established under subd. 4.

(3) ANALYTICAL METHODS AND LABORATORY PROCEDURES. Methods used for analysis of influent and effluent samples shall be as described in ch. NR 219 unless alternative methods are specified in the WPDES discharge permit.

(4) COMPLIANCE. The department shall determine and specify a reasonable compliance schedule in the permittee's WPDES permit if the facility is unable to meet the effluent standard or limitations determined according to this section at the time of permit issuance or reissuance. The date for compliance with this section may not extend beyond 3 years from the date of permit issuance or reissuance, unless the department determines that circumstances beyond the permittee's control, such as an environmental impact statement, require additional time for compliance. In such circumstances, the date for compliance with this section may not

extend beyond 5 years from the date of permit issuance or reissuance.

(5) DEPARTMENT DETERMINATIONS. Effluent standards and limitations established under subs. (1) (a) and (2) are not subject to the variance procedure under s. 283.15, Stats.

History: Cr. Register, November, 1992, No. 443, eff. 12–1–92.

Subchapter III — Water Quality Based Effluent Limitations for Phosphorus

NR 217.10 Applicability. This subchapter applies to discharges of phosphorus to surface waters of the state from the following point sources:

(1) Publicly and privately owned wastewater facilities or treatment works;

(2) Noncontact cooling water discharges which contain phosphorus unless 100 percent of the phosphorus in the discharge originates from the receiving water as intake water;

(3) Concentrated animal feeding operations that discharge manure or process wastewater from the production area through alternative treatment facilities under s. NR 243.13; and

(4) A facility or site that is regulated under ch. NR 216 only where the department has determined that compliance with the standards in chs. NR 151 and 216 are not sufficient to meet phosphorus criteria in s. NR 102.06.

Note: There may be other point sources that are not subject to the procedures in this subchapter, but which are be subject to s. 283.13 (5), Stats., or procedures in other rules (e.g., ch. NR 243 requirements for concentrated animal feeding operations).

History: CR 10–035: cr. Register November 2010 No. 659, eff. 12–1–10.

NR 217.11 Definitions. Definitions of terms and the meaning of abbreviations used in this subchapter are as defined in ss. NR 102.03, 106.03, 205.03, 210.03, and 243.03. In addition, for purposes of this subchapter, the following definitions apply:

(1) "303 (d) list" means a list of waters established by the department and approved by US EPA pursuant to 33 USC 1313 (d) (1) (A) and 40 CFR 130.7.

(2) "Adaptive management" means the use of monitoring data and other information at the time of permit reissuance to reassess management decisions and permit requirements.

(3) "New discharger" means a point source which was not authorized by a WPDES permit as of December 1, 2010. A new discharger includes a relocation of an outfall to a different receiving water.

(4) "Phosphorus impaired water" means a surface water listed on the 303 (d) list that is impaired for phosphorus, nutrients, or diurnal swings of dissolved oxygen.

Note: A surface water may be impaired and placed on the 303 (d) list for a reason other than phosphorus, nutrients, or dissolved oxygen (e.g., mercury), however the procedures in this subchapter only apply to impairments related to phosphorus, nutrients, or diurnal swings of dissolved oxygen.

(5) "Privately owned wastewater facilities or treatment works" means a facility or treatment works owned by a nongovernmental entity that discharges domestic wastewater, commercial wastewater, or industrial wastewater or a combination thereof.

(6) "Technology based limitation" means an effluent limitation for phosphorus established pursuant to s. 283.11 (3), Stats., and subch. II or s. 283.13 (2) or (4), Stats.

(7) "Total maximum daily load" or "TMDL" means the amount of pollutants specified as a function of one or more water quality parameters that can be discharged into a water quality limited segment and still ensure attainment of the applicable water quality standard in a watershed.

(8) "US EPA" means the United States Environmental Protection Agency.

(9) "WQBEL" means a water quality based effluent limitation.

History: CR 10–035: cr. Register November 2010 No. 659, eff. 12–1–10.

NR 217.12 General. (1) Water quality based effluent limitations for phosphorus shall be included in a permit whenever the department determines:

(a) The discharge from a point source contains phosphorus at concentrations or loadings which will cause, has the reasonable potential to cause or contribute to an exceedance of the criteria in s. NR 102.06 in either the receiving water or downstream waters; and

(b) The technology based effluent limitation or the alternative treatment technology limitation calculated under s. NR 243.13 is less stringent than necessary to achieve the applicable water quality standard for phosphorus in s. NR 102.06.

(2) If the technology based limitation expressed as a concentration is more stringent than the water quality based effluent limitation expressed as a concentration under s. NR 217.13, then the technology based limit shall be included in the permit, along with any mass limitations calculated under this subchapter as required under s. NR 217.14 (1) and (3).

History: CR 10–035: cr. Register November 2010 No. 659, eff. 12–1–10.

NR 217.13 Calculation of water quality based effluent limitations for phosphorus. (1) BASIS FOR LIMITATIONS. (a) The department shall calculate potential water quality based effluent limitations for point source dischargers of phosphorus using the procedures in this section.

(b) Water quality based effluent limitations for phosphorus shall be calculated based on the applicable phosphorus criteria in s. NR 102.06 at the point of discharge, except the department may calculate the limitation to protect downstream waters.

(2) DISCHARGES TO STREAMS AND RIVERS. (a) *Limitation calculation*. For discharges of phosphorus to flowing streams and rivers, the water quality based effluent limitation shall be calculated using the following conservation of mass equation:

$$\text{Limitation} = [(WQC)\ (Qs+(1-f)Qe) - (Qs- fQe)\ (Cs)]/Qe$$

Where:

Limitation = Water quality based effluent limitation (in units of mass per unit of volume),

WQC = The water quality criterion concentration (in units of mass per unit volume) from s. NR 102.06,

Qs = Receiving water design flow (in units of volume per unit time) as specified in par. (b),

Qe = Effluent flow (in units of volume per unit time) as specified in par. (c),

f = Fraction of the effluent flow that is withdrawn from the receiving water, and

Cs = Upstream concentration (in units of mass per unit volume) as specified in par. (d).

(b) *Receiving water design flow (Qs).* Based on the availability of information and the professional judgment of the department, the value of Q_s to be used in calculating the effluent limitation for discharges to flowing waters shall be determined using one of the following:

1. The average minimum 7–day flow which occurs once every 2 years (7–day Q_2) based on information derived by the U. S. geological survey or other department approved information source, using data from a representative gauging station with a period of record of at least 10 years.

2. If provided by the permittee and approved by the department, the average low 30–day flow which occurs once every 3 years (30–day Q_3) based on information derived by the U. S. geological survey or other department approved information source, using data from a representative gauging station with a period of record of at least 10 years.

3. Other flow deemed more representative of flow conditions and approved by the department.

(c) *Effluent flows (Q_e).* 1. For dischargers subject to ch. NR 210 and which discharge for 24 hours per day on a year−round basis, Q_e shall equal the maximum effluent flow, expressed as a daily average, that is anticipated to occur for 12 continuous months during the design life of the treatment facility unless it is demonstrated to the department that this design flow rate is not representative of projected flows at the facility.

2. For other dischargers not subject to ch. NR 210, Q_e shall equal, based on the best professional judgment of the department, one of the following:

a. The maximum effluent flow, expressed as a 365 day rolling average of daily discharges that has occurred for 12 continuous months and represents normal operations.

b. The maximum effluent flow, expressed as a 30 day rolling average, which has occurred for 30 continuous days and represents normal operations.

3. For seasonal discharges, discharges proportional to stream flow, or other non−continuous discharge situations, Q_e shall be determined on a case by case basis.

(d) *Upstream concentrations (C_s).* The representative upstream concentration of phosphorus shall be used in specific water quality based effluent limit calculations. At a minimum, the representative upstream concentration shall be either a concentration derived by the department based on data from the specific stream or from a similar location. Where data is collected on the upstream location, the concentration used shall equal the median of at least four samples collected throughout the period of May through October. All samples collected during a 28−day period shall be considered as a single sample and the average of the concentrations used. Where data is available from more than one year in the last five years, the department may use all of the years of data in the calculation of the upstream concentration. The department may also use data older than five years provided that it is representative of current conditions. Upstream concentrations may not be measured at a location within the direct influence of a point source discharge. The determination of upstream concentrations shall be evaluated at each permit reissuance.

Note: The department has guidance on collection methods for ambient water sampling and may develop guidance for the evaluation of representative data. The guidance may be obtained from the offices of the department of natural resources, bureau of watershed management at 101 South Webster Street, P.O. Box 7921, Madison, Wisconsin 53707.

(3) DISCHARGES TO INLAND LAKES AND RESERVOIRS. For discharges of phosphorus directly to inland lakes, reservoirs, and other receiving waters which do not exhibit a unidirectional flow at the point of discharge, the department shall set the effluent limit equal to the criterion for the receiving water or the downstream water.

Note: As described in s. NR 217.16, effluent limitations for discharges to lakes may also be based on the wasteload allocation of a total maximum daily load, where the total maximum daily load has been approved by US EPA.

(4) DISCHARGES DIRECTLY TO GREAT LAKES. For discharges directly to the Great Lakes, the department shall set effluent limits consistent with nearshore or whole lake model results approved by the department. The department may set an interim effluent limit based on the best readily available phosphorus removal technology commonly used in Wisconsin.

Note: At the time this rule was promulgated, December 1, 2010, the best readily available phosphorus removal technology indicates a limit of 0.6 mg/L.

(5) OTHER METHODS OF LIMIT CALCULATION. The department may use other models and equations for calculating a water quality based effluent limitation if, in the best professional judgment of the department, the model provides a more accurate representation of the conditions.

(6) MULTIPLE DISCHARGES. (a) Except as provided in par. (b), whenever the department determines that more than one discharge may be affecting the water quality of the same receiving water, the resultant combined allowable load shall be divided among the various discharges using an allocation method based on site−specific considerations. Whenever the department makes a determination under this subsection, the department shall notify all permittees who may be affecting the water quality of the same receiving water of the determination and any limitations developed under this subsection. Permittees shall be given the opportunity to comment to the department on any determination made under this subsection.

(b) This subsection does not apply if there is a US EPA approved TMDL for phosphorus for the receiving water. If there is a US EPA approved TMDL, the combined allowable load shall be divided in accordance with the approved TMDL.

(7) MINIMUM EFFLUENT LIMITATIONS. If the water quality based effluent limitation calculated pursuant to the procedures in this section is less than the phosphorus criterion specified in s. NR 102.06 for the water body, the effluent limit shall be set to be equal to the criterion.

(8) NEW DISCHARGERS. If a new discharger is proposing a discharge of phosphorus to a receiving or downstream water that is a phosphorus impaired water, the new discharger may not discharge phosphorus except as follows:

(a) The new discharge of phosphorus is allocated part of the reserve capacity or part of the wasteload allocation in a US EPA approved TMDL;

(b) The new discharger can demonstrate the new discharge of phosphorus will improve water quality in the phosphorus impaired segment; or

(c) The new discharger can demonstrate that the new phosphorus load will be offset through a phosphorus trade or other means with another discharge of phosphorus to the 303 (d) listed water. The offset must be approved by the department and must be implemented prior to discharge.

Note: Section 283.84, Stats., establishes requirements for pollutant trades.
History: CR 10−035: cr. Register November 2010 No. 659, eff. 12−1−10.

NR 217.14 Expression of limitations. (1) GENERAL. (a) Water quality based effluent limitations, when required pursuant to s. NR 217.15, shall be expressed in a discharge permit as a concentration. A mass limit shall also be included in a permit for discharges of phosphorus to any of the following receiving or downstream waters:

1. A lake or reservoir;

2. An outstanding or exceptional resource water, as designated in ss. NR 102.10 and 102.11;

3. A phosphorus impaired water; or

4. A surface water that has an approved TMDL for phosphorus.

(b) The department may establish mass limitations in permits for any other discharges of phosphorus if a concentration limit for phosphorus is included in the permit, and where an increase in phosphorus load is likely to result in adverse effects on water quality in the receiving water or downstream water.

(c) For discharges to lakes, the department shall also include an annual mass limit for phosphorus in the permit.

(d) If there is a US EPA approved TMDL for the receiving water, the department shall include a mass limit expressed in the manner consistent with the requirements of the TMDL. As provided in s. NR 217.16, this TMDL based mass limit may be included in the permit in addition to, or in lieu of the mass limit established pursuant to this section.

Note: In accordance with s. 283.84, Stats., the department may approve the use of phosphorus trading as a means for a point source to achieve compliance with the water quality based effluent limitation, including a TMDL based limitation. The trade shall be incorporated into the terms of the WPDES permit for the point source and must be approved by the department prior to implementation.

(2) CONCENTRATION BASED LIMITATIONS. Concentration effluent limitations calculated under s. NR 217.13 shall be expressed as a monthly average in permits, except for concentrations of less than or equal to 0.3 mg/L for which limitations may be expressed as six−month averages. If a concentration limitation expressed as a six−month average is included in a permit, a monthly average

concentration limitation equal to three times the water based effluent limitation calculated under s. NR 217.13 shall also be included in the permit.

(3) MASS BASED LIMITATIONS. Concentration effluent limitations calculated under s. NR 217.13 shall be converted into mass effluent limitations using the effluent flow identified in s. NR 217.13 and an appropriate conversion factor, and expressed as a monthly average in the permit, except for concentration based limitations of less than or equal to 0.3 mg/L for which mass limitations may be expressed as six−month averages.

History: CR 10−035: cr. Register November 2010 No. 659, eff. 12−1−10; **CR 15−085: am. (2), (3) Register August 2016 No. 728, eff. 9−1−16.**

NR 217.15 Determination of necessity for water quality based effluent limitations for phosphorus. **(1)** (a) *General*. The department shall include a water quality based effluent limitation for phosphorus in a permit whenever the discharge or discharges from a point source or point sources contain phosphorus at concentrations or loadings which will cause, has the reasonable potential to cause or contribute to, an exceedance of the water quality standards in s. NR 102.06 in either the receiving water or downstream waters. The department shall use the procedures in this section to make this determination.

(b) *Permittees with existing phosphorus limitations.* If a permittee has a technology based phosphorus limitation in a permit that is less restrictive than a water quality based effluent limitation for phosphorus calculated pursuant to s. NR 217.13, then the department shall include the water quality based effluent limitation in the permit.

(c) *Permittees without existing phosphorus limitations.* If a permittee discharges phosphorus, but does not have a technology based limitation for phosphorus in its permit, the department shall use the procedures in this paragraph to determine whether a discharge will cause, has the reasonable potential to cause or contribute to an exceedance of the phosphorus water quality criterion in s. NR 102.06 in the receiving or downstream waters, and whether to include a water quality based effluent limit for phosphorus in the WPDES permit.

1. Using at least 11 daily discharge concentrations of phosphorus, if the upper 99th percentile of the 30 day average discharge concentration of phosphorus exceeds the potential phosphorus limitation calculated under s. NR 217.13, then the water quality based effluent limitation for phosphorus shall be included in the WPDES permit. If the upper 99th percentile of the 30 day average discharge concentration of phosphorus is less than the potential phosphorus limitation calculated under s. NR 217.13, then a water quality based effluent limitation for phosphorus is not required in the WPDES permit. The upper 99th percentile of available discharge concentrations shall be calculated pursuant to s. NR 106.05 (5).

2. If 11 daily discharge concentrations of phosphorus are not available for a permittee, then a water quality based effluent limitation for phosphorus shall be included in the permit when the mean of available effluent concentrations is greater than one−fifth of the limit.

3. If no phosphorus effluent data is available for an existing permittee, the department may require phosphorus sampling as part of a permit application for reissuance to determine whether a water quality based effluent limit is necessary in the WPDES permit under par. (a), or the department may use effluent data information from similar point sources to make the determination under par. (a).

Note: The department will develop guidance regarding the administration of this section to ensure that permitted discharges with a reasonable potential to cause or contribute to exceedances of the applicable phosphorus water quality criterion in s. NR 102.06 are identified.

(d) *Sampling*. Prior to permit reissuance, a permittee discharging any phosphorus shall collect effluent samples of phosphorus at a frequency specified by the department in the permit application for reissuance.

(e) *New dischargers.* The department shall include a water quality based phosphorus limitation in a permit for a new discharger if the department determines the new discharger will discharge phosphorus at concentrations or loadings which may cause or contribute to exceedances of the water quality criteria in s. NR 102.06 in either the receiving water or downstream waters. To estimate the amount of phosphorus discharged by a new discharger, the department may consider projected discharge information from the permit applicant and phosphorus discharge information from similar sources.

(2) If the department determines a water quality based effluent limitation is not necessary in a permit based on the procedures in this section, the department may still require monitoring for phosphorus discharges.

History: CR 10−035: cr. Register November 2010 No. 659, eff. 12−1−10; correction in (1) (c) 1. made under s. 13.92 (4) (b) 7., Stats., Register November 2010 No. 659.

NR 217.16 Relationship of WQBELs and TMDL based limitations. **(1)** In addition to a water quality based effluent limitation calculated pursuant to s. NR 217.13, the department may derive a water quality based effluent limitation for phosphorus consistent with the wasteload allocation and assumptions of a US EPA approved TMDL that is designed to achieve water quality standards in ch. NR 102. This TMDL based limitation may be included in a permit in addition to, or in lieu of, the water quality based limitation calculated under s. NR 217.13. When deciding whether to use a TMDL based limit as a substitute for the limitation calculated under s. NR 217.13, the department shall consider the following factors:

(a) The degree to which nonpoint sources contribute phosphorus to the impaired water;

(b) Whether waters upstream of the impaired waters are meeting the phosphorus criteria; and

(c) Whether waters downstream of the impaired water are meeting the phosphorus criteria.

(2) If the phosphorus limitation based on an approved TMDL is less stringent than the water quality based effluent limitation calculated in s. NR 217.13, the department may include the TMDL based limit in lieu of the limit calculated in s. NR 217.13 if the limit calculated under s. NR 217.13 has not yet taken effect. If the department includes the TMDL based limitation for phosphorus in the WPDES permit in lieu of the limit calculated in s. NR 217.13, the TMDL based limit may remain in the permit for up to two permit terms to allow time for implementation of the TMDL, or the implementation period specified in the TMDL, whichever is less. The department may include a schedule of compliance to achieve a TMDL based limit if the department determines a schedule of compliance is necessary. If after two permit terms, the department determines the nonpoint source load allocation has not been substantially reduced, the department may impose the more stringent water quality based effluent limitation calculated under s. NR 217.13, or may include the TMDL based limitation for an additional permit term if the department determines there will be significant nonpoint source load reductions within the upcoming permit term. If the department decides to remove a TMDL based phosphorus limit from a permit and instead include a more stringent water quality based phosphorus limit in the permit calculated under s. NR 217.13, the department may provide a schedule of compliance for the more stringent limit if the department determines additional time is needed for the permittee to comply with the revised limit. Such schedules shall require compliance as soon as possible, but in no case no more than five years from the date that the permit is reissued or modified to include the revised effluent limitations.

(3) If a phosphorus water quality based limit calculated under s. NR 217.13 has already taken effect in a permit, the department may replace the limit with a less stringent TMDL based limit, if allowed pursuant to antidegradation procedures in ch. NR 207.

Note: The TMDL based limitation may be less stringent than the water quality based effluent limitation calculated under s. NR 217.13 in cases where nonpoint sources are the significant phosphorus sources responsible for the impairment.

(4) If the phosphorus limitation based on an approved TMDL is more stringent than the water quality based effluent limitation calculated under s. NR 217.13, the department shall include the more stringent TMDL based limitation in the WPDES permit.

History: CR 10–035: cr. Register November 2010 No. 659, eff. 12–1–10.

NR 217.17 Schedules of compliance. (1) GENERAL. (a) Except as provided in sub. (4), the department may provide a schedule of compliance for a water quality based phosphorus limitation in a WPDES permit, where based on available information the department finds that:

1. The schedule of compliance will lead to compliance with the water quality based effluent limitation as soon as possible; and

2. The schedule of compliance is appropriate and necessary because the permittee cannot immediately achieve compliance with the water quality based effluent limitation based on existing operation of its treatment system.

Note: Before any compliance schedule is established in a permit pursuant to this subchapter, the department must make the finding in par (a).

(b) In determining whether a compliance schedule is appropriate and determining the length of the compliance schedule, the department shall consider all of the following factors:

1. Whether there is any need for modifications to the treatment facilities, operations or measures to meet the water quality based effluent limitation, and if so, how long it will take to implement the modifications. If the department determines that a permittee only needs to make operational changes to achieve compliance with a limitation, the compliance schedule shall be as brief as possible and only allow time for operational start–up adjustments.

2. The amount of time the discharger has already had to meet the water quality based effluent limitation under prior permits.

3. The extent to which the discharger has made good faith efforts to comply with the water quality based effluent limitation and other requirements in prior permits, if applicable.

4. The extent to which the phosphorus removal process technologies have been developed and proven to be effective.

(c) In determining whether a compliance schedule is appropriate and determining the length of the compliance schedule, the department may also consider any of the following factors:

1. Whether there is a need to acquire a substantial amount of property to accommodate the needed modifications; and

2. Whether there is a need to develop an extensive financing plan and obtain financing for the proposed treatment plant upgrade.

Note: A compliance schedule may be provided for a water quality based effluent limit for phosphorus calculated under s. NR 217.13 and a TMDL based limit for phosphorus.

(2) MAXIMUM COMPLIANCE SCHEDULE PERIOD. Except for situations where filtration or a similar phosphorus removal process is required, any compliance schedule established by the department under sub. (1) may not exceed seven years from the date a permit was first modified or reissued to include a water quality based phosphorus limit calculated under s. NR 217.13. Where compliance with the water quality based phosphorus limit requires the construction of filtration or a similar phosphorus removal process, the department may grant a schedule of compliance not to exceed nine years from the date that the permit is first reissued or modified to include effluent limitations developed under provisions of this subchapter. In cases where a compliance schedule extends beyond five years, the department may revise the schedule at reissuance or pursuant to a permit modification.

(3) REQUIREMENTS, LIMITATIONS, DATES, AND REPORTING. When granting a schedule of compliance, the department shall include, as conditions of the permit, the following:

(a) Dates for achievement of interim requirements. The time between interim dates may not exceed one year.

(b) A sequence of actions or operations that may include, as appropriate, but are not limited to:

1. Development and implementation of a phosphorus discharge optimization plan for the current operation.

2. Preparation of preliminary and final designs for new or modified treatment technology.

3. Initiation and completion of construction.

(c) Interim effluent limitations representing good management and operation for similar treatment processes based on performance of other wastewater treatment facilities that will lead to compliance with the final water quality based effluent limitation.

(d) A requirement that no later than 30 days following each interim date and the final date of compliance, the permittee shall notify the department in writing of its compliance or non–compliance with the interim or final requirements, including submittal of progress reports. If any interim requirement will take more than one year to complete, the permit shall also include a projected completion date for the interim requirement.

(e) The final water quality based effluent limit for phosphorus calculated pursuant to s. NR 217.13 shall be included in the permit even if the limit is not effective during the permit term. The department may revise the final limit at permit reissuance or pursuant to a permit modification.

(f) If the permittee chooses to engage in pollutant trading as a means to achieve compliance with interim limitation or final water quality based effluent limitations, then the terms and conditions related to the trade shall be incorporated into the permit.

(4) NEW DISCHARGERS. Any new discharger may not receive a compliance schedule to achieve compliance with a phosphorus water quality based effluent limitation.

History: CR 10–035: cr. Register November 2010 No. 659, eff. 12–1–10.

NR 217.18 Watershed adaptive management option. (1) GENERAL. The adaptive management option is a strategy to achieve the phosphorus water quality criteria in s. NR 102.06 in the most economically efficient manner, and as soon as possible, taking into consideration the contributions of phosphorus from point and nonpoint sources in a watershed.

(2) APPLICATION. If requested by the permittee in the permit application for reissuance and if approved by the department, the permittee may implement a watershed adaptive management approach under this section as a means to achieve compliance with the phosphorus water quality standards in s. NR 102.06. The department may approve and authorize the adaptive management option in this section only if the permittee demonstrates and the department concurs that all of the following conditions are met:

(a) The exceedance of the applicable phosphorus criterion in s. NR 102.06 is caused by phosphorus contributions from both point sources and nonpoint sources.

(b) Either the sum of the nonpoint sources and the permitted municipal separate storm sewer system contribution of phosphorus to the receiving water is at least 50 percent of a total contribution within the watershed of the receiving water where the applicable phosphorus criterion in s. NR 102.06 is exceeded; or the permittee demonstrates that the applicable phosphorus criterion cannot be met in the watershed without the control of phosphorus from nonpoint sources.

(c) Documentation that the proposed water quality based effluent limit in the applicant's permit will require filtration or other equivalent treatment technology to achieve compliance.

(d) The permittee has submitted an adaptive management plan that identifies specific actions to be implemented that will achieve

compliance with the applicable phosphorus criterion in s. NR 102.06 through verifiable reductions of phosphorus from point and nonpoint sources in the watershed. At a minimum, the plan shall include the following:

1. An analysis of the levels of phosphorus in the permittee's effluent and significant sources of point and nonpoint phosphorus loadings in the watershed.

2. Goals and measures for determining whether the actions identified in the plan are effective in achieving compliance with the applicable phosphorus criterion in s. NR 102.06.

3. Identification of any anticipated partners that will assist in implementing the phosphorus reductions to achieve compliance with the applicable phosphorus criterion in s. NR 102.06, including the partner's level of support for the plan.

4. A demonstration that the permittee has the ability to fund and implement the plan either individually, or in conjunction with other permittees and nonpoint sources, or other partners, including municipal and county governments, in the watershed. Plans should include any contracts reflecting commitments by partners to implement applicable actions.

(3) PERMIT TERMS AND CONDITIONS. If the department determines that the permittee has provided all necessary information and the conditions in sub. (2) have been met, it may issue a permit that includes watershed adaptive management actions to achieve compliance with the applicable phosphorus criterion in s. NR 102.06 on a schedule approved by the department. At a minimum, the permit shall include the following:

(a) Monitoring in the receiving water at locations and times established in the permit to assess phosphorus loading and to document progress toward achieving the applicable phosphorus criterion in s. NR 102.06. The department shall also require permittees to monitor, record and report the mass and concentration of phosphorus in the effluent at an appropriate frequency specified by the department in the permit.

(b) Requirements to design and implement the actions identified in the permittee's approved adaptive management plan in accordance with the goals and measures identified in the plan and any compliance schedule included in the permit.

(c) Requirements to optimize the permittee's treatment system to control phosphorus.

(d) Reporting procedures and deadlines for all monitoring, assessment and data gathering requirements in the plan. Permittees shall be required to file and the department will review an annual report that identifies implementation of actions in the plan that were completed the previous year, and that documents any progress in achieving the goals and measures in the adaptive management plan. Adjustment or corrections, to the extent that they are needed, will be incorporated into the permit via permit modification procedures.

(e) Numerical effluent limitations as follows:

1. All permits issued under the adaptive management option in this section shall include water quality based effluent limitations calculated consistent with the federal water pollution control act, 33 USC 1251 to 1387, that are established according to s. NR 217.13 or a US EPA approved TMDL. These limitations shall take effect in accordance with the timeframe established in this paragraph, or pursuant to par. (g) if the adaptive management option is terminated.

2. In the first permit reissuance term following approval by the department under sub. (2), the initial interim effluent limitation shall be no higher than 0.6 mg/L of total phosphorus expressed as a six−month average. An effluent limit not to exceed 1.0 mg/L of total phosphorus expressed as a monthly average shall also be included in the permit. The department may allow the permittee a compliance schedule that may not exceed five years if necessary to meet this interim limitation.

3. If the permittee has met all of the requirements of its previous permit, but the monitoring data of the receiving water indicate that the applicable phosphorus water quality criterion in s. NR 102.06 has not been met by the time the first permit issued under the adaptive management option expires, the department may issue a subsequent adaptive management permit. The subsequent permit shall include an interim effluent limitation of no higher than 0.5 mg/L expressed as a six−month average. An effluent limit not to exceed 1.0 mg/L of total phosphorus expressed as a monthly average shall also be included in the permit. The subsequent permit shall also include an updated adaptive management plan to achieve the phosphorus water quality criterion in s. NR 102.06. The department may allow the permittee a compliance schedule that may not exceed five years if necessary to meet this interim limitation.

4. If by the expiration of the second permit issued under the adaptive management option, monitoring data collected for the receiving water indicate that the applicable phosphorus criterion under s. NR 102.06 has not been met, the department shall require compliance with a water quality based effluent limitation for phosphorus calculated under s. NR 217.13 or a US EPA approved TMDL. The department may allow the permittee a compliance schedule that may not exceed five years if necessary to meet this limitation.

(f) A statement that failure to implement any of the terms or conditions established under pars. (a) through (e) above, is a violation of the permit.

(g) Provisions that the department may terminate the adaptive management option for a permittee and require compliance with a phosphorus effluent limitation calculated under s. NR 217.13 or a US EPA approved TMDL based on any of the following reasons:

1. Failure to implement the adaptive management actions in accordance with the approved adaptive management plan and compliance schedule established in the permit.

2. New information becomes available that changes the department's determinations made under sub. (2).

3. Circumstances beyond the permittee's control have made compliance with the applicable phosphorus criterion in s. NR 102.06 pursuant to the plan's goals and measures infeasible.

4. A determination by the department that sufficient reductions have not been achieved to timely reduce the amount total phosphorus to meet the criteria in s. NR 102.06.

History: CR 10−035: cr. Register November 2010 No. 659, eff. 12−1−10.

NR 217.19 Variances for stabilization ponds and lagoon systems. (1) GENERAL. (a) An owner or operator of a permitted wastewater treatment system that consists primarily of a stabilization pond system or a lagoon system may apply for a variance to the phosphorus water quality based effluent limitations pursuant to s. 283.15 (4) (a) 1. f., Stats., using the procedures in this section.

Note: Stabilization ponds and lagoons are operated primarily by communities serving a population of 2000 or less and small industries. With currently available technology that could be used in conjunction with stabilization ponds or lagoons, it is unlikely that phosphorus water quality based effluent limits less than 1 mg/L can be consistently met. To meet phosphorus water quality based effluent limits of less than 1 mg/L, it will be necessary for owners of the systems to construct new wastewater treatment plants which could result in substantial and widespread adverse social and economic impacts.

(b) A new discharger may not receive approval for a variance under this section or pursuant to any other variance procedure.

(2) APPLICATION FOR A VARIANCE. (a) The application for a variance under this section shall be submitted with the WPDES permit application for reissuance, or within 30 days after the permittee receives written notification of the proposed phosphorus limits, if the notification occurs later. The application shall be submitted on the phosphorus lagoon and stabilization pond variance form made available from the department or on a form containing equivalent information.

Note: Owners or operators of stabilization ponds or lagoon systems may obtain the variance application form from the offices of the department of natural resources, bureau of watershed management at 101 South Webster Street, P.O. Box 7921, Madison, Wisconsin 53707. The form will provide guidance on the type of information needed to demonstrate widespread social and economic impacts.

(b) The application shall, at a minimum, include the following information:

1. Information required by s. NR 200.22, except for the information in s. NR 200.22 (1) (e) 6.

2. A statement that the permittee is seeking a variance pursuant to this section and s. 283.15 (4) (a) 1. f., Stats.

3. Information on the number and volume of lagoon or pond treatment cells, treatment processes, discharge periods, retention times, population served, influent flow, and available capacity for holding wastewater.

4. Other information requested by the department that is relevant to the review conducted under sub. (3).

Note: It is recommended that the permittee ask for calculation of potential phosphorus water quality based limits at least 12 months prior to permit expiration. This information will help the permittee complete their variance request portion of the permit application which is due 180 days prior to permit expiration.

(3) DEPARTMENT REVIEW. (a) The department shall review the submitted application for the variance and determine whether the permittee can achieve the phosphorus effluent limitations calculated pursuant to s. NR 217.13 without widespread adverse social and economic impacts. In making this determination, the department shall:

1. Compare the calculated phosphorus effluent limitations to the phosphorus effluent data submitted under sub. (2). If the permittee does not have sufficient phosphorus discharge data for its system, the department may augment the data set with effluent data from a similar lagoon or pond system in the state to make the comparison. The department may apply statistical methodologies to make its determination on the ability of the current lagoon or stabilization pond system to meet phosphorus limitations.

2. Evaluate the financial affordability analysis submitted by the permittee in response to the variance application requirement in s. NR 200.22 (1) (p).

Note: The department may use a US EPA publication titled, Interim Economic Guidance for Water Quality Standards — Workbook, EPA–823–B–95–002, March 1995, which provides information on evaluating economic and social impacts.

(b) The department's decision to approve or deny a variance under this section shall be made on or before the date of the s. 283.53 (3) (d), Stats., public notice for the proposed permit reissuance and shall be made in accordance with the following:

1. If the department determines that the permittee cannot meet the phosphorus water quality based effluent limitation without widespread adverse social and economic impacts, the department shall approve the variance. If the variance is approved, the department shall specify in the permit that the variance has been granted for phosphorus, and the requirements in sub. (4) shall also be included in the permit.

2. If the department determines that the permittee can meet the phosphorus effluent limitations without widespread adverse social and economic impacts or that effluent limitations are not necessary as determined by s. NR 217.15, the department shall deny the variance and notify the applicant of this determination in writing.

(c) If the department denies a variance under this section, a permittee may not apply again after the permit is issued for a variance from the phosphorus water quality standard based on the factor in s. 283.15 (4) (a) 1. f., Stats., for the same permit term.

(d) A permittee may seek a variance from a phosphorus limit in a reissued WPDES permit based on the factors in s. 283.15 (4) (a) 1. a. to e., Stats., and using the procedures and requirements in s. 283.15, Stats., and ch. NR 200.

Note: All variances are subject to US EPA review and approval.

(4) PERMIT TERMS IF VARIANCE IS APPROVED. If the department approves a variance to the phosphorus effluent limitations under this section, the following requirements shall be included in the reissued permit:

(a) The permit shall include a phosphorus variance effluent limitation as follows:

1. The numeric limitation shall equal the upper 99th percentile of representative daily discharge concentrations (one–day P_{99}) as calculated in s. NR 106.05 (5) (a).

2. The variance limitation shall be expressed as a daily maximum concentration.

(b) The permittee shall conduct monitoring of phosphorus during discharge periods at a frequency specified in the permit.

(c) The permittee shall, to the extent practicable, identify and minimize the non–domestic sources of phosphorus to the system and operate the treatment system to minimize exceedances of the calculated limits.

(d) The permittee shall investigate treatment technologies, process changes, pollutant source reduction steps, wastewater reuse or other techniques that may result in compliance by the permittee with the applicable phosphorus water quality standard, and shall submit reports on those investigations as required by the department.

(5) CONTINUED VARIANCES. If a permittee received approval for a variance to the phosphorus standard under this section in a reissued permit, the permittee may request a continued variance from the phosphorus standard in a subsequent reissued permit pursuant to the procedures and requirements in this section.

History: CR 10–035: cr. Register November 2010 No. 659, eff. 12–1–10; correction in (3) (a) 2. made under s. 13.92 (4) (b) 7., Stats., Register January 2011 No. 661.