Chapter NR 210

SEWAGE TREATMENT WORKS

Subchapter I — General

NR 210.01 Purpose. The purpose of this chapter is to establish effluent limitations, performance requirements and monitoring provisions to be used in permits for discharges from publicly owned treatment works and privately owned domestic sewage treatment works.

History: Cr. Register, October, 1986, No. 370, eff. 11−1−86; CR 12−027: am.

NR 210.02 Applicability. This chapter applies to all publicly owned treatment works and privately owned domestic sewage treatment works.

History: Cr. Register, October, 1986, No. 370, eff. 11−1−86; CR 12−027: r. and recr. Register July 2013 No. 691, eff. 8−1−13.

NR 210.03 Definitions. The definitions of terms and meanings of abbreviations used in this chapter are set forth in s. 283.01, Stats., chs. NR 205 and 218, and as follows:

(1) “7−day average” means the arithmetic mean of pollutant parameter values for samples collected in a period of 7 consecutive days.

(2) “30−day average” means the arithmetic mean of pollutant parameter values for samples collected in a period of 30 consecutive days.

(3e) “Blending” means the routing of untreated or partially treated wastewater around a biological treatment process, or a portion of a biological treatment process, within a sewage treatment facility. The routing of untreated or partially treated wastewater around a portion of a biological treatment process is considered to be blending only if the entire wastewater flow has not received biological treatment.

(2m) “Building backup” means an accumulation of sewage in any public or private building caused by blockage, failure, or other hydraulic constraint in the sewage collection system or by blockage or failure of the building sewer or private interceptor main sewer.

Note: The discharge from a building sewer or private interceptor main sewer directly to a water of the state may be a sanitary sewer overflow and may be subject to the WDDES permit requirements of ch. 283, Stats.

(2n) “Building sewer” has the meaning specified under s. NR 110.03 (6s).

Note: Section NR 110.03 (6s) reads: “Building sewer” means that part of the drain system not within or under a building which conveys its discharge to a public sewer, private interceptor main sewer, private onsite wastewater treatment system, or other point of discharge or dispersal.

(3) “CBOD₅” means the 5−day carbonaceous biochemical oxygen demand.

Note: Chapter NR 210 as it existed on October 31, 1986 was repealed and a new chapter NR 210 was created effective November 1, 1986. Corrections made under s. 13.93 (2m) (b) 7., Stats., Register, March, 1997, No. 495.
“Inflow” has the meaning specified under s. NR 110.03 (17).

Note: Section NR 110.03 (17) reads: “Inflow” means water other than wastewater that enters a sewage system (including sewer service connections) from sources such as roof leaders, cellar drains, yard drains, area drains, foundation drains, sump pumps, drains from springs and swampy areas, manhole covers, cross connections between storm sewers and sanitary sewers, catch basins, cooling towers, storm waters, surface runoff, street wash waters, or drainage. Inflow does not include, and is distinguished from, infiltration.

(7) “NH₃-N” means ammonia nitrogen.

(8) “Percent removal” means a percentage expression of the removal efficiency across a treatment plant for a given pollutant parameter, as determined from the 30-day average values of the raw wastewater influent pollutant concentrations to the facility and the 30-day average values of the effluent pollutant concentrations for a given time period.

(8m) “Private interceptor main sewer” has the meaning specified under s. NR 110.03 (26m).

Note: Section NR 110.03 (26m) reads: “Private interceptor main sewer” means a sewer serving two or more buildings and not part of the municipal sewer system.

(9) “Privately owned domestic sewage treatment works” means those facilities which treat domestic wastewater and are owned and operated by nonmunicipal entities or enterprises such as mobile home parks, restaurants, hotels, motels, country clubs, resorts, etc., which are permitted under ch. 283, Stats.

(10) “Sanitary sewer overflow” means a release of wastewater from a sewage collection system or an interceptor sewer directly into a water of the state or to the land surface.

(10m) “Sanitary survey” means a thorough investigation and evaluation of a surface water including bacteriological sampling to determine the extent and cause of any bacterial contamination.

(11) “Sewage collection system” has the meaning specified under s. NR 110.03 (28).

Note: Section NR 110.03 (28) reads: “Sewage collection system” means the common sanitary sewers, interceptor sewers, and appurtenant equipment, such as lift stations, within a sewage system which are primarily installed to receive wastewaters directly from facilities which convey wastewater from individual structures or from private property, and which include service connection “Y” fittings designed for connection with those facilities. The facilities which convey wastewater from individual structures such as building sewers and private interceptor sewers, from private property to the public sanitary sewer, or its equivalent, are specifically excluded from the definition of “sewage collection system”; except that pumping units and pressurized lines for individual structures or groups of structures are included as part of a “sewage collection system” when such units are cost effective and are owned and maintained by the sewage system owner.

(12) “Sewage treatment facility” has the meaning specified under s. NR 110.03 (29).

Note: Section NR 110.03 (29) reads: “Sewage treatment facility” means all the structures, pipes and other equipment that constitute the various treatment processes and treatment units employed to reduce pollutants in sewage.

(13) “Sewage treatment facility overflow” means a release of wastewater from a location within a sewage treatment facility, other than permitted effluent outfall structures, directly to a water of the state or to the land surface. A sewage treatment facility overflow does not include blending, controlled diversions or discharges from permitted combined sewage treatment facility effluent outfall structures.

(14) “Sewer extension” has the meaning specified under s. NR 110.03 (29m).

Note: Section NR 110.03 (29m) reads: “Sewer extension” means installation of a sewer or interceptor sewer, or extension thereof, to provide additional conveyance capacity and service to development within the existing or proposed tributary area of the extension. Alterations or modifications of existing sewerage systems designed to replace inadequate existing structures or installed because of inadequate hydraulic sewer capacity and that do not extend sanitary sewer service to areas previously not served are not sewer extensions.

(15) “Sewerage system” has the meaning specified under s. NR 110.03 (30).

Note: Section NR 110.03 (30) reads: “Sewerage system” means all structures, conduits and pipes, by which sewage is collected, treated, and disposed of, except plumbing inside and in connection with buildings served, and service pipes, from building to street main.

(16) “Significant biological treatment” means the use of an aerobic or anaerobic biological treatment process in a treatment works to consistently achieve a 30-day average of at least 65% removal of BOD₅.

History: Cr. Register, October, 1986, No. 370, eff. 11-1-86; CR 09-123; cr. (9m) Register July 2010 No. 655, eff. 8-1-10; CR 12-027: am. (intro.), cr. (2d), (2m), (2s), (3d), (3h), (3p), (3t), (6e), (6m), (6s), (8m), renum. (9m) to (12) and am., renum. (10) to (16), cr. (10), (11), (13) to (15) Register July 2013 No. 691, eff. 8-1-13; correction (11) made under s. 13.92 (4) (b) 7., Stats., Register July 2015 No. 691; CR 19-014: (10m) renum. from NR 102.03 (6) Register April 2020 No. 772, eff. 5-1-20.

Subchapter II — Monitoring Requirements and Effluent Limitations

NR 210.035 Applicability. This subchapter applies to publicly owned treatment works and privately owned domestic sewage treatment works that discharge to surface waters.

History: CR 12-027: cr. Register July 2013 No. 691, eff. 8-1-13.

NR 210.04 Monitoring requirements. (1) Discharges subject to the provisions of this chapter shall at a minimum monitor the effluent for BOD₅, SS, and pH.

(2) Influent wastewater strengths and volumes shall be characterized at treatment facilities subject to the monitoring provisions of sub. (1) by monitoring for flow, BOD₅ and SS.

(3) Monitoring requirements may be adjusted on a case-by-case basis depending on wastewater characteristics and their potential to degrade water quality.

(4) The department shall require the use of 24-hour flow proportional samplers for monitoring influent and effluent wastewater quality except where the department determines through the permit issuance process that other sample types may adequately characterize the influent or effluent quality. In evaluating permit monitoring requirements, the department may consider:

(a) Treatment facility design flow and actual flow;

(b) Type of treatment processes used at the facility;

(c) Previous performance records as reported on the discharge monitoring report;

(d) Type of wastewater treated: domestic, municipal or industrial wastewater; and

(e) Final effluent limitations.

(5) The methods of sampling shall be as described in s. NR 218.04 (10) to (17).

History: Cr. Register, October, 1986, No. 370, eff. 11-1-86.

NR 210.05 Effluent limitations. Publicly owned treatment works and privately owned domestic sewage treatment works shall meet as a minimum the effluent limitations specified in this section.

(1) Where the receiving water is classified as fish and aquatic life in s. NR 102.04 (3):

(a) The following effluent limits for BOD₅ apply:

1. The 30-day average may not exceed 30 mg/l.
2. The 7-day average may not exceed 45 mg/l.
3. The 30-day average percent removal may not be less than 85%.

(b) The following effluent limits for SS apply:

1. The 30-day average may not exceed 30 mg/l.
2. The 7-day average may not exceed 45 mg/l.
3. The 30-day average percent removal may not be less than 85%.

(c) The effluent pH shall be within the range of 6.0 to 9.0.

(d) Upon request by the permittee, pursuant to s. NR 210.07 (4), the department may substitute the parameter CBOD₅ for the parameter BOD₅ and the levels of effluent quality specified in par. (a).

The following effluent quality levels of CBOD₅ shall be applicable:

1. The 30-day average may not exceed 25 mg/l.
2. The 7-day average may not exceed 40 mg/l.
3. The 30–day average percent removal may not be less than 85%.

(e) More stringent effluent limitations than those specified in pars. (a) to (d) may be imposed for any pollutant where necessary to meet water quality standards for water receiving the treated discharge.

(2) Where the receiving water is classified as intermediate aquatic life as defined in s. NR 104.02 (3) (a):
(a) The following effluent limits for BOD₅ apply:
1. The 30–day average may not exceed 15 mg/l.
2. The daily maximum may not exceed 30 mg/l.
3. The 30–day average percent removal may not be less than 85%.

(b) The following effluent limits for SS apply:
1. The 30–day average may not exceed 20 mg/l.
2. The daily maximum may not exceed 30 mg/l.
3. The 30–day average percent removal may not be less than 85%.

(d) The effluent pH shall be within the range of 6.0 to 9.0.

(e) The daily minimum effluent dissolved oxygen level shall be 4.0 mg/l.

(f) Upon request by the permittee, pursuant to s. NR 210.07 (4), the department may substitute the parameter CBOD₅ for the parameter BOD₅ and the levels of effluent quality specified in par. (a). The following effluent quality levels of CBOD₅ shall be applicable:
1. The 30–day average may not exceed 12 mg/l.
2. The daily maximum may not exceed 25 mg/l.
3. The 30–day average percent removal may not be less than 85%.

(g) More stringent effluent limitations than those specified in pars. (a) to (f) may be imposed for any pollutant where necessary to meet water quality standards for water receiving the treated discharge.

(3) Where the receiving water is classified as marginal surface water as defined in s. NR 104.02 (3) (b):
(a) The following effluent limits for BOD₅ apply:
1. The 30–day average may not exceed 20 mg/l.
2. The 7–day average may not exceed 30 mg/l.
3. The 30–day average percent removal may not be less than 85%.

(b) The following effluent limits for SS apply:
1. The 30–day average may not exceed 20 mg/l.
2. The 7–day average may not exceed 30 mg/l.
3. The 30–day average percent removal may not be less than 85%.

(c) The effluent pH shall be within the range of 6.0 to 9.0.

(d) The daily minimum effluent dissolved oxygen level shall be 4.0 mg/l.

(e) Upon request by the permittee, pursuant to s. NR 210.07 (4), the department may substitute the parameter CBOD₅ for the parameter BOD₅ and the levels of effluent quality specified in par. (a). The following effluent quality levels of CBOD₅ shall be applicable:
1. The 30–day average may not exceed 16 mg/l.
2. The 7–day average may not exceed 25 mg/l.
3. The 30–day average percent removal may not be less than 85%.

(f) More stringent effluent limitations than those specified in pars. (a) to (e) may be imposed for any pollutant where necessary to meet water quality standards for water receiving the treated discharge.

(4) Effluent limitations may be imposed for pollutants other than those specified in subs. (1) to (3) where necessary to meet water quality standards for waters receiving the treated discharge.

(5) When determining whether more stringent effluent limitations are required under this section to meet water quality standards in the receiving water or downstream waters, the department shall apply the reasonable potential procedures in s. NR 205.05.067.

History: Cr. Register, October, 1986, No. 370, eff. 11–1–86; CR 03–050; r. (2) (c) Register February 2004 No. 578, eff. 3–1–04; correction in (1) (intro.) made under s. 13.93 (2m) (b) 7., Stats., Register February 2004 No. 578; CR 17–002; cr. (5) Register April 2018 No. 748, eff. 5–1–18.

NR 210.06 Disinfection requirements. (1) DISINFECTION REQUIREMENTS. Disinfection shall be required of dischargers subject to the provisions of this chapter when the department determines, based on the information identified in sub. (3), the discharge of wastewater poses a risk to human and animal health. Disinfection shall be required:
(a) From May 1 through September 30 annually to protect recreational uses, or
(b) Year-round to protect public drinking water supplies.
(c) The period during which disinfection under pars. (a) and (b) is required may be adjusted in a WPDES permit where necessary to protect human and animal health.

(2) EFFLUENT LIMITATIONS. Where and when disinfection is required, the following effluent limitations shall apply:
(a) Bacterial indicators. 1. ‘Recreation protection.’ During the period of disinfection to protect recreational uses as determined under sub. (1) (a) or (c), all of the following shall apply:
   a. The geometric mean of E. coli bacteria in effluent samples collected in any calendar month may not exceed 126 counts/100 mL.
   Note: To calculate the geometric mean, a value of 1 should be used for any result of 0.
   Note: As specified in ch. NR 102, Table A, for determining attainment or compliance with bacteria criteria or limits, counts are equivalent to either colony forming units or most probable number.
   b. No more than 10 percent of E. coli bacteria samples collected in any calendar month may exceed 410 counts/100 mL.
   Note: U.S. EPA developed the E. coli criteria in s. NR 102.04 (6), on which these effluent limits are based using membrane filtration to count E. coli colony forming units.
   c. ‘Public drinking water supply protection.’ If a facility is required to disinfect to protect public drinking water supplies outside of the recreation period specified in sub. (1) (a) or (c), it may either continue to meet the E. coli limits specified in par. (a) 1. year-round, or the geometric mean of the fecal coliform bacteria for effluent samples collected in a period of 30 consecutive days may not exceed 400 counts/100 mL.
   (b) Chlorine. When chlorine is used for disinfection, the daily maximum total residual chlorine concentration of the discharge may not exceed 0.1 mg/l. In addition, when chlorine is used for disinfection, a dechlorination process shall be in operation for the period during which disinfection is required.
   Note: The 0.1 mg/l total residual chlorine limit reflects best analytical technique for domestic wastewater effluents. An effluent limitation for total residual chlorine based on best available technology for dechlorination of effluents was determined to be below detection levels of currently available analytical techniques.
   Note: Compliance schedules for effluent limits established under this subsection are authorized in s. NR 205.14 and procedures are detailed in s. NR 106.117. Language on tentative and final determinations related to the permit, public notice processes, and review procedures are provided for all facilities in ch. NR 203.

(3) DISINFECTION DETERMINATION. A permittee subject to this chapter shall at the time of application for a WPDES permit provide information identified in this subsection which the department shall use in the determination of the need for effluent disinfection. The following information shall be used in identifying risks to human and animal health:
(a) Proximity of the wastewater outfall to swimming beaches and other waters which have a high level of human contact recreational activities.
(b) Proximity of the wastewater outfall to public drinking water supply intakes. At a minimum, whenever a drinking water intake is within a radius of 5 miles of a wastewater outfall in a lake or impoundment or within 20 miles downstream of a wastewater outfall on a flowing surface water, disinfection shall be provided.

(c) Proximity of the wastewater outfall to wetlands which support populations of waterfowl subject to disease outbreaks, which may be caused by the discharge of wastewater which has not been disinfected.

(d) Quality of the wastewater being discharged.

(e) Dilution and mixing characteristics of the wastewater with the receiving water.

(f) Bacterial indicator organism levels or sanitary survey results from sampling conducted in the vicinity of the wastewater outfall and near the sites used for recreational purposes.

(g) The classification of the receiving water and downstream waters as determined in s. NR 104.02 (1).

(h) The detention time of the wastewater treatment system. Except in extenuating circumstances, the discharge of wastewater to surface water from a treatment system with a detention time of 180 days or longer does not pose a risk to human and animal health.

(i) Other factors that are necessary to determine if there is a risk posed to human and animal health by the discharge of wastewater that has not been disinfected.

(7) Disinfection Continuation. In the absence of a specific determination under sub. (1), all dischargers which are required to disinfect as of November 1, 1986, or thereafter shall continue to disinfect.

History: Cr. Register, October, 1986, No. 370, eff. 11−1−86; CR 19−014: cr. (1) (title), (2) (title), am. (2) (intro.), r. and recr. (2) (a), cr. (2) (b) (title), (3) (title), r. (4) to (6), am. (7) Register April 2020 No. 772, eff. 5−1−20; correction in (7) made under s. 35.17, Stats., Register April 2020 No. 772.

NR 210.07 Effluent limitation variance categories. Modifications to limitations specified in s. NR 210.05 (1) to (3) may be approved as follows:

(1) Industrial Wastes. For publicly owned treatment facilities receiving effluent from certain categories of industries, the applicable effluent limitations for BOD₅ and SS as set forth in s. NR 210.05 (1) may be modified. The limitations for BOD₅ and SS in s. NR 210.05 (1) may be adjusted upwards provided that:

(a) The discharge of such pollutants attributable to the industrial category will not be greater than that allowed by applicable effluent limitations if such industrial category were to discharge directly into the waters of the state; and

(b) The flow or loading of such pollutants introduced by the industrial category exceeds 10% of the design flow or loading of the publicly owned treatment works. When such an adjustment is made, the limitations for BOD₅ or SS in s. NR 210.05 (1) shall be adjusted proportionally.

(2) Aerated Lagoons and Stabilization Ponds. A variance for SS may be made in cases where aerated lagoons or waste stabilization ponds are the principal treatment processes. The SS limitation may be raised to a maximum of 60 mg/l for a 30−day average. This variance is not applicable to polishing or holding ponds which are preceded by other biological or physical/chemical treatment processes.

Note: See s. NR 110.24 for design requirements of aerated lagoons and stabilization ponds.

(3) pH. The effluent pH limitations may be adjusted on a case−by−case basis if the permittee or the owner can demonstrate that the limits need to be adjusted based on the following:

(a) Inorganic chemicals are not added as part of the treatment process; and

(b) In the case of a publicly owned treatment works, contributions from industrial sources do not cause the pH of the effluent to be less than 6.0 or greater than 9.0.

(4) CBOD₅. Upon request by the permittee, the parameter CBOD₅ may be substituted for the parameter BOD₅, provided the following conditions are met:

(a) For treatment facilities with BOD₅ limitations specified in s. NR 210.05 (1) (a), (2) (a), or (3) (a), the permittee shall provide paired sampling of the effluent for BOD₅ and CBOD₅ for the months of January and July. The sample frequency shall be at the same frequency as required by the permit for BOD₅ sampling. Additional sampling for nitrogen compounds (NH₃−N, NO₂−N, NO₃−N) or other sampling may also be required on a case−by−case basis.

(b) For treatment facilities with BOD₅ limitations established in accordance with those specified in s. NR 210.05 (1) (e), (2) (g), or (3) (f), the permittee shall provide paired sampling of the effluent for BOD₅, CBOD₅, NH₃−N and NO₂−N. At the end of the BOD₅ test, an analysis of that BOD₅ sample for NO₂−N shall also be conducted.

1. This sampling shall be provided for the months of January, February, July, and August at a frequency of 3 times weekly for facilities with a design flow over 0.5 MGD and for those facilities which discharge to trout waters or may impact trout waters.

2. This sampling shall be provided for the months of January and July at a sample frequency as required by the permit for BOD₅ sampling, with a maximum of 3 times weekly for facilities with a design flow less than 0.5 MGD.

(5) Treatment Equivalent to Secondary Treatment. Facilities eligible for treatment equivalent to secondary treatment as defined in s. NR 210.03 (6) shall provide the following minimum level of effluent quality in terms of the parameters BOD₅, SS, and pH. All requirements for the specified parameters in subds. 1., 2., or 3. shall be achieved except where provided for in sub. (2) or par. (b), (c), or (d).

1. The following effluent limits for BOD₅ apply:

   a. The 30−day average may not exceed 45 mg/l.

   b. The 7−day average may not exceed 65 mg/l.

   c. The 30−day average percent removal may not be less than 65%.

2. The following effluent limits for SS apply; except where SS values have been adjusted in accordance with s. NR 210.07 (2):

   a. The 30−day average may not exceed 45 mg/l.

   b. The 7−day average may not exceed 65 mg/l.

   c. The 30−day average percent removal may not be less than 65%.

3. The requirements of s. NR 210.05 (1) (c) shall be met.

(b) Except as limited by par. (d) and subject to EPA approval, the department may after notice and opportunity for public comment, adjust the minimum levels of effluent quality set forth in par. (a) 1. a., b., 2. a. and b. for trickling filter facilities and in par. (a) 1. a. and b. for waste stabilization pond facilities to conform to the BOD₅ and SS effluent concentrations consistently achievable through proper operation and maintenance by the median (50th percentile) facility in a representative sample of facilities within a state or appropriate contiguous geographical area that meet the definition of facilities eligible for treatment equivalent to secondary treatment.

(c) Where data are available to establish CBOD₅ limitations for a treatment works subject to this subsection, the department may substitute the parameter CBOD₅ for the parameter BOD₅ in pars. (a) and (b), on a case−by−case basis.

1. The levels of CBOD₅ effluent may not be less stringent than the following:

   a. The 30−day average may not exceed 40 mg/l.

   b. The 7−day average may not exceed 60 mg/l.

   c. The 30−day average percent removal may not be less than 65%.

2. To apply for the CBOD₅ variance, the permittee shall provide the data outlined in sub. (4).
(d) Any permit adjustment made pursuant to this section may not be any less stringent than the limitation required pursuant to sub. (5) (a). The department shall require more stringent limitations when adjusting permits:

1. For existing facilities the permitting authority determines that the 30-day average and 7-day average BOD5 and SS effluent values that could be achievable through proper operation and maintenance of the treatment works, based on an analysis of the past performance of the treatment works, would enable the treatment works to achieve more stringent limitations, or

2. For new facilities, the department determines that the 30-day average and 7-day average BOD5 and SS effluent values that could be achievable through proper operation and maintenance of the treatment works, considering the design capability of the treatment process and geographical and climatic conditions, would enable the treatment works to achieve more stringent limitations.

(6) COMBINED SEWERS. Treatment works which have a combined sewer system may not be capable of meeting the percentage removal requirements established in sub. (5) (a) 1. c. and 2. c. or in s. NR 210.05 (1) (a) 3. and (b) 3. during wet weather where the treatment works receive flows from combined sewers. For each treatment works, the decision shall be made on a case-by-case basis as to whether any attainable percentage removal level can be defined, and if so, what the level should be.

History: Cr. Register, October, 1986, No. 370, eff. 11–1–86.

Subchapter III — Operations, Analyses, and Reports

NR 210.08 Emergency operation. All sewage treatment facilities that are subject to the provisions of this chapter shall be equipped for emergency operation. Emergency power shall be provided in accordance with s. NR 210.15 (5) (d). Sufficient emergency power shall be provided such that all the following conditions are met:

1. All sewage treatment facilities shall maintain at least the equivalent of primary settling and effluent disinfection under all design conditions.

2. All sewage treatment facilities discharging to class I, II, or III trout streams, or other critical stream segments as determined by the department, shall operate all units critical to meeting the effluent limits as set forth in the WPDES permit for a minimum emergency period of 24 hours under all design flow conditions.

History: Cr. Register, October, 1986, No. 370, eff. 11–1–86; CR 09–123; am. (1) (a) and (b), t. and recr. (2) Register July 2010 No. 655, eff. 8–1–10; CR 12–027; am. Register July 2013 No. 691, eff. 8–1–13.

NR 210.09 Analytical methods and laboratory requirements. Methods used for analysis of influent and effluent samples shall be as set forth in ch. NR 219 unless alternative methods are specified in the WPDES discharge permit.

History: Cr. Register, October, 1986, No. 370, eff. 11–1–86.

NR 210.10 Requirements for certified or registered laboratory. Bacteriological analyses of groundwater samples, and all radiological analyses, shall be performed by the state laboratory of hygiene or at a laboratory certified or approved by the department of agriculture, trade and consumer protection. Other laboratory test results submitted to the department under this chapter shall be performed by a laboratory certified or registered under ch. NR 149. The following tests are excluded from the requirements of this section:

1. Temperature,

2. Turbidity,

3. Bacteria tests in wastewater effluent,

4. pH,

5. Chlorine residual,

6. Specific conductance,

7. Physical properties of soils and sludges,

8. Nutrient tests of soils and sludges,


History: Cr. Register, October, 1986, No. 370, eff. 11–1–86.

NR 210.11 Compliance maintenance annual report (CMAR). The CMAR shall be submitted to the department on or before June 30 of each year and shall meet all applicable requirements.

History: Cr. Register, February, 1987, No. 374, eff. 3–1–87; CR 09–123; am. Register July 2010 No. 655, eff. 8–1–10.

NR 210.12 Blending. (1) FINDINGS. When issuing a permit, the department may, following review of the permit application and other information provided by the permittee, find that all the following conditions are met:

(a) Excessive flow received at a sewage treatment facility will cause severe property damage if blending is not approved, including damage to the sewage treatment facility which will cause the facility or portions thereof to become inoperable;

(b) The permittee demonstrates, as required by this section, that there are no feasible alternatives to blending such as the use of auxiliary treatment facilities, retention of untreated sewage, or the provision of other treatment and operational alternatives, and;

(c) The permittee is required to notify the department of each blending occurrence as provided in sub. (6).

(2) BLENDING APPROVALS. Blending is prohibited, but may be approved by the department and included as a specific condition in a permit. Blending may only be approved and included as a condition in a permit when all the following conditions are met:

Note: The department may initiate enforcement action under s. 283.89, Stats., for an application not specifically included as a condition in a permit.

(a) The department determines that blending may be necessary during wet weather and other high flow conditions to avoid severe property damage to the sewage treatment facility. Severe property damage occurs when the facility becomes inoperable due to loss of treatment efficiency from washout of biological media.

Note: A facility may be considered inoperable in cases such as, but not limited to, situations where there is a significant loss of treatment capacity in the secondary treatment unit or units as a result of wet weather or high flow conditions.

(b) The department determines the permittee is effectively implementing a CMOM program designed to reduce, to the maximum extent practicable, the entry of infiltration and inflow into the system, as required in s. NR 210.23.

(c) The department determines at each permit reissuance or permit modification related to the practice of blending that there are no feasible alternatives to the use of the blending, such as the use of auxiliary treatment or storage facilities, retention of untreated wastewater, reduction of excessive flow, use of adequate backup equipment, or an increase in the capacity of the sewage collection system or interceptor system.

Note: When evaluating feasibility of alternatives, the department may consider factors such as technical achievability, the relationship between the control of storm water and the control of infiltration and inflow into the sewage collection system, costs and affordability of implementation, and risks to public health, the environment, and welfare of the community served by the sewage collection system.

(d) The design of the sewage treatment facility is approved by the department to operate with blending.

(3) CONDITIONS FOR BLENDING. The following requirements shall be met whenever blending is included as a condition in a permit:

(a) Blending may occur temporarily only during wet weather or other high flow conditions when peak wastewater flow to the sewage treatment facility exceeds the maximum design and operating capacity of the biological treatment processes and when necessary to avoid severe property damage to the sewage treatment facility as determined under sub. (2) (a).

(b) Untreated or partially treated wastewater that is routed around a biological treatment process or a portion of a biological treatment process shall be recombined with the biologically
treated wastewater, and the combined flow shall be disinfected, if required by the WPDES permit, prior to discharge. (c) Effluent from the sewage treatment facility shall be monitored to include all wastewater that is discharged from the facility, including those wastewaters that are diverted around the biological treatment process and shall meet the effluent limitations established in the permit including, at minimum, those limitations specified in s. NR 210.05 (1) (a) to (d).

(4) BLENDING APPROVALS. The department may approve and include a condition in a permit for blending if the permittee operates sewage treatment facilities approved by the department that provide a separate sewage treatment process or processes solely for excess flow or that provide a sewage treatment process as an alternative to a biological treatment process and complies with all other requirements of this section.

(5) PERMIT APPLICATIONS. A permittee may only apply for a department approval to include blending as a permit condition at the time of application for permit reissuance or permit modification. A permittee may use information in a facilities plan approved under ch. NR 110 in its permit application under this subsection. At the time of permit application, a permittee may demonstrate that the relevant information in a previously approved facilities plan is current. If the relevant information in the approved facilities plan is not reflective of current operations, the permittee shall submit new information or may update the facilities plan with new information that demonstrates there are no feasible alternatives to the use of blending.

(6) REPORTING. Any blending under this section shall be reported to the department by telephone, fax or email no later than 24 hours from the time each blending operation ceases at the sewage treatment facility, including operation of an alternative treatment process as provided in sub. (4). Permittees shall also report the time, duration, and volume of wastewater routed around the biological treatment process, or routed through an alternative treatment process as provided in sub. (4), on the wastewater discharge monitoring report form required by the permit. These reporting requirements shall apply whether blending was or was not included as a condition in the permit.

NR 210.21 Sanitary sewer overflows and sewage treatment facility overflows. (1) PROHIBITED OVERFLOWS. Sanitary sewer overflows and sewage treatment facility overflows are prohibited and may not be approved by the department nor authorized in a permit issued by the department. If applicable to an overflow event, permittees shall provide information that will enable the department to determine whether any of the following conditions exist:

(a) The sanitary sewer overflow or sewage treatment facility overflow was unavoidable to prevent loss of life, personal injury, or severe property damage.

(b) There were no feasible alternatives to the sanitary sewer overflow or sewage treatment facility overflow such as the use of auxiliary treatment facilities or adequate back-up equipment, retention of untreated wastes, reduction of inflow and infiltration, or preventative maintenance activities.

Note: When evaluating feasibility of alternatives, the department may consider factors such as technical achievability, the relationship between the control of storm water and the control of infiltration and inflow into the sewage collection system, costs and affordability of implementation and risks to public health, the environment, and welfare of the community served by the sewage collection system.

(c) The sanitary sewer overflow or the sewage treatment facility overflow was caused by unusual or severe weather related conditions such as large or successive precipitation events, snowmelt, saturated soil conditions, or severe weather occurring in the area served by the sewage collection system or sewage treatment facility.

(d) The sanitary sewer overflow or the sewage treatment facility overflow was unintentional, temporary, and caused by an accident or other factors beyond the reasonable control of the permittee.

(2) DEPARTMENT RESPONSE. If a prohibited sanitary sewer overflow or sewage treatment facility overflow occurs, the department may, in addition to the factors provided in sub. (1), also consider the following factors in any enforcement action or response:

(a) The permittee’s activities in implementing a capacity management, operation, and maintenance (CMOM) program, or a functionally equivalent program, that meets the requirements in s. NR 210.23.

(b) The status of preparation of a system evaluation and capacity assurance plan, or a functionally equivalent plan that meets the requirements of s. NR 110.10 (4), that may be required under s. NR 210.24.

(c) The status of implementation of an approved system evaluation and capacity assurance plan, or a functionally equivalent plan that meets the requirements of s. NR 110.10 (4), that may be required under s. NR 210.24.

(d) The status of planning or implementation of specific actions that conform to an approved facilities plan under ss. NR 110.08, 110.09, and 110.10 and that meet the requirements of this chapter and s. NR 205.07 (1) (u).

(e) The status of planning or implementation of specific actions required by a WPDES permit, or other legally binding
document, to construct or implement projects that will address the cause of the sanitary sewer overflow or sewage treatment facility overflow.

Note: The department may initiate enforcement action under s. 283.89, Stats., for any sanitary sewer overflow or sewage treatment facility overflow.

(3) PERMITTEE RESPONSE TO OVERFLOWS. Whenever a sanitary sewer overflow or sewage treatment facility overflow occurs, the permittee shall take all feasible steps to control or limit the volume of untreated or partially treated wastewater discharged, and terminate the discharge as soon as practicable. Remedial actions shall be implemented consistent with an emergency response plan developed under s. NR 210.23 (4) (f). Remedial actions may include the following:

(a) Interception and rerouting of untreated or partially treated wastewater around the point of failure, if that failure is in the sewage collection system.

(b) Use of vacuum trucks or other appropriate mechanisms to recover as much of the wastewater discharged as possible and properly dispose of such wastewater and wash down water.

(c) Cleanup of debris at the overflow site.

(d) Adequate sampling to determine the amount, characteristics, and impact of the overflow.

(4) PERMITTEE REPORTING. Permittees shall report all sanitary sewer overflows and sewage treatment overflows as follows:

(a) The permittee shall notify the department by telephone, fax, or email as soon as practicable, but no later than 24 hours from the time the permittee becomes aware of the overflow.

(b) The permittee shall, no later than five days from the time the permittee becomes aware of the overflow, provide to the department the information identified in this paragraph using department form number 3400–184. If an overflow lasts for more than five days, an initial report shall be submitted within 5 days as required in this paragraph and an updated report submitted following cessation of the overflow. At a minimum, the following information shall be included in the report:

1. The date and location of the overflow.
2. The surface water to which the discharge occurred, if any.
3. The duration of the overflow and an estimate of the volume of the overflow.
4. A description of the sewer system or treatment facility component from which the discharge occurred such as manhole, lift station, constructed overflow pipe, or crack or other opening in a pipe.
5. The estimated date and time when the overflow began and stopped or will be stopped.
6. The cause or suspected cause of the overflow including, if appropriate, precipitation, runoff conditions, areas of flooding, soil moisture, and other relevant information.

7. Steps taken or planned to reduce, eliminate and prevent reoccurrence of the overflow and a schedule of major milestones for those steps.
8. A description of the actual or potential for human exposure and contact with the wastewater from the overflow.
9. Steps taken or planned to mitigate the impacts of the overflow and a schedule of major milestones for those steps.
10. To the extent known at the time of reporting, the number and location of building backups caused by excessive flow or other hydraulic constraints in the sewage collection system that occurred concurrently with the sanitary sewer overflow and that were within the same area of the sewage collection system as the sanitary sewer overflow.

11. The reason the overflow occurred or explanation of other contributing circumstances that resulted in the overflow event. This includes any information available under sub. (1), including whether the overflow was unavoidable to prevent loss of life, personal injury, or severe property damage and whether there were feasible alternatives to the overflow.

Note: A copy of form 3400–184 for reporting sanitary sewer overflows and sewage treatment facility overflows may be obtained from the department or accessed on the department’s website at http://dnr.wi.gov/topic/wastewater/documents/3400–184reportform.pdf. As indicated on the form, additional information may be submitted to supplement the information required by the form.

(c) The permittee shall identify each specific location and each day on which a sanitary sewer overflow or sewage treatment facility overflow occurs as a discrete sanitary sewer overflow or sewage treatment facility overflow occurrence. An occurrence may be more than one day if the circumstances causing the sanitary sewer overflow or sewage treatment facility overflow results in a discharge duration of greater than 24 hours. If there is a stop and restart of the overflow at the same location within 24 hours and the overflow is caused by the same circumstance, it may be reported as one occurrence. Sanitary sewer overflow occurrences at a specific location that are separated by more than 24 hours shall be reported as separate occurrences.

(d) A permittee that is required to submit wastewater discharge monitoring reports under s. NR 205.07 (1) (p) shall also report all sanitary sewer overflows and sewage treatment facility overflows on that report.

(e) Satellite sewage collection system permittees shall submit reports required under this subsection to all owners of sewerage systems which receive wastewater from the satellite sewage collection system.

(5) PUBLIC NOTIFICATION. A permittee shall notify the public of any sanitary sewer and sewage treatment facility overflows consistent with its emergency response plan required under s. NR 210.23 (4) (f). Such public notification shall occur promptly following any overflow event using the most effective and efficient communications available in the community. At minimum, a daily newspaper of general circulation in the county(s) and municipality whose waters may be affected by the overflow shall be notified by written or electronic communication.

(6) NOTIFICATION OF DRINKING WATER SYSTEM OWNERS. The department may require the permittee to notify the owner of a drinking water intake located in a surface water receiving any sanitary sewer overflows and sewage treatment facility overflows. Such conditions shall be included in the WPDES permit.

History: CR 12−027: cr. Register July 2013 No. 691, eff. 8−1−13.

NR 210.22 Building Backups. (1) Except for the reporting requirement established in s. NR 210.21 (4) (b) 10., building backups shall be subject only to requirements of this section.

(2) A building backup caused by the blockage or failure of the building sewer or any other component of a plumbing system as defined in s. SPS 381.01 (179), and discrete or individual building backups caused, or primarily caused, by excessive flow or hydraulic constraints within the sewage collection system shall not be subject to the requirements of s. NR 210.21 (1). Note: Section SPS 381.01 (179) reads: “Plumbing system” includes the water supply system, the drain system, the vent system, plumbing fixtures, plumbing appliances and plumbing appurtenances that serve a building, structure or premises.

(3) Whenever there are recurring building backups caused, or primarily caused, by excessive flow or hydraulic constraints within a sewage collection system, the department may reissue or modify a WPDES permit to require actions by the permittee, including preparation and implementation of a system evaluation and capacity assurance plan as provided in s. NR 210.24, to reduce or eliminate such recurring building backups.

(4) Whenever there are building backups caused, or primarily caused, by excessive flow or hydraulic constraints within the sewage collection system and there are no sanitary sewer overflows within the same part of the sewage collection system, the building backups shall be reported in accordance with the requirements of ch. NR 208.

History: CR 12−027: cr. Register July 2013 No. 691, eff. 8−1−13.
All permittees subject to this chapter, including the owners of satellite sewage collection systems and combined sewer systems, shall implement a capacity, management, operation, and maintenance program.

(2) IMPLEMENTATION DEADLINE. The holder of a WPDES permit shall implement a capacity, management, operation and maintenance program under this section no later than August 1, 2016, or no later than an earlier date specified in the permit.

(3) GENERAL STANDARDS. A CMOM program shall ensure the following general standards are met:

(a) The sewage collection system is properly managed, operated, and maintained at all times.

(b) The sewage collection system provides adequate capacity to convey all peak design flows.

(c) All feasible steps are taken to eliminate excessive infiltration and inflow as defined in s. NR 110.03 (13c), cease sanitary sewer overflows and sewage treatment facility overflows and mitigate the impact of such overflows on waters of the state, the environment, and public health.

Note: When evaluating feasibility of alternatives, the department may consider factors such as technical achievability, the relationship between the control of storm water and the control of infiltration/inflow into the sewage collection system, costs and affordability of implementation and risks to public health, the environment, and welfare of the community served by the sewage collection system.

(d) A process is in place to notify the public and other directly affected parties of any incidents of overflows from the sewerage system.

(e) Annual reports are submitted in accordance with the provisions of ch. NR 208.

(4) COMPONENTS OF CMOM PROGRAM. (a) Goals. Major goals of the CMOM program shall be consistent with the general standards identified in sub. (3).

(b) Organization. Persons who are responsible for implementing the CMOM program shall be identified including administration, management, and maintenance personnel or positions, lines of authority of such personnel or positions, internal and external communication responsibilities, and the person or persons who shall report all overflow events to the department and to the public according to s. NR 210.21 (3) to (6).

(c) Legal authority. Legally binding authorities, such as sewer use ordinances and service agreements, shall ensure the following:

1. Infiltration and inflow sources, including infiltration and inflow into building sewers, private interceptor sewers, or other such sources on private property, are subject to oversight and control, as necessary.

2. New sewers and connections, including building sewers and private interceptor sewers are designed, constructed, installed, tested, and inspected to meet all applicable current engineering and construction standards.

3. New and rehabilitated sewers, lift stations and other collection system components or appurtenances are installed, tested, and inspected to meet all applicable current standards.

4. If applicable, sewage flows from municipal satellite or other privately owned sewage collection systems are, as necessary, monitored and controlled. Notwithstanding all other provisions of this chapter, any publicly owned treatment works may establish specific requirements to regulate sewage flows from satellite sewage collection systems.

5. Solid or viscous pollutants, such as fats, oils, and greases, are not discharged into the sewage collection system in amounts that will cause or contribute to obstruction to the flow in the sewer.

Note: This provision is similar to that contained in s. NR 211.10 (2) (c).

6. Procedures are in place to implement enforcement actions for non-compliance with established legal authorities.

(d) Operation and maintenance. Operation and maintenance equipment, activities and protocols, including identification of personnel or positions responsible, shall, as appropriate and applicable to the system, include the following:

1. Adequate maintenance facilities and equipment including equipment and replacement parts inventories, especially critical replacement parts.

2. A map of the sewage collection system.

Note: A geographic information system–based map of the sewage collection system meets this requirement.

3. A management system for the collection and use of information to identify and prioritize appropriate operation and maintenance activities, including identification of structural deficiencies and implementation actions to address such deficiencies.

4. A description of routine preventive operation and maintenance activities such as inspections, televising, cleaning, flow monitoring, root removal, and rehabilitation.

Note: Protocols for cleaning sewers should include methods for disposal of sand, grit, and other solids in a manner that will not contaminate surface water or groundwater or create a risk to public health. Proper disposal of such material includes, but is not limited to, placement in a licensed solid waste landfill, return of the material to the headworks of the sewage treatment facility or placing the material in a properly designed and operated treatment unit.

5. A program to periodically assess the capacity of the sewage collection system and treatment facilities.

6. The identification of activities to prevent and correct frequent and recurring building backups caused by sewage collection system hydraulic constraints.

7. Appropriate training on a regular basis.

(e) Design and performance standards. The following standards and procedures shall be established or adopted to maintain control over the design, construction, and inspection of the sewage collection system, including building sewers and private interceptor sewers on private property:

1. Standards and specifications for the design and installation of new sewers, lift stations, and other appurtenances and for rehabilitation and repair projects.

Note: Chapter NR 110 must be followed when designing and constructing sewage collection systems. Chapter SPS 382 must be followed when designing and constructing plumbing. Permittees may have supplemental standards and requirements specific to community needs.

2. Procedures and requirements for inspecting and testing the installation of new sewers, pumps, and other appurtenances and for rehabilitation and repair projects.

(f) Overflow emergency response plan. An overflow emergency response plan shall identify measures to protect public health and the environment from sanitary sewer overflows and sewage treatment facility overflows and building backups caused by excessive flow or other hydraulic constraints in the sewage collection system and shall include protocols to ensure the following:

1. Responsible personnel are made aware of all overflows.

2. There is a prompt and appropriate response to and investigation of all overflows to protect, to the extent possible, water quality, the environment, and public health.

3. There is appropriate reporting and notification as required under s. NR 210.21 (4) to (6). The overflow emergency response plan shall identify the public health and other officials who will receive notification and identify the protocols and procedures for notification of the public who may be affected by an overflow. Whenever there is a significant or potentially significant risk to public health, public notification shall include personal contacts with persons who may be at risk from the effects of the overflow.

Note: To the extent practicable, local public health and other responsible officials should be consulted in developing those portions of the overflow emergency response plan that involve reporting and notification of those officials. Permittees should consider use of the following communication methods when establishing public notification protocols: electronic mail or other electronic communication, posting on internet web sites, notification of local print and media (television, radio) outlets, posting notices on public buildings, personal notification, etc.

4. Appropriate personnel are aware of and follow the plan and are appropriately trained.

5. Emergency operations appropriate to the event are implemented.

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(5) CMOM Program Documentation and Audit. All permittees subject to the requirements of this section shall do all of the following:

(a) Develop and maintain written documentation of the CMOM program components. Such documentation shall be available for department review on request. The department may request a permittee to provide this documentation or prepare a summary of the permittee’s CMOM program at the time of application for reissuance of a WPDES permit.

Note: Annual verification of CMOM program documentation is required under ch. NR 208.

(b) At least annually conduct a self−audit of activities conducted under the permittee’s CMOM program to ensure CMOM components are being implemented as necessary to meet the standards in sub. (3).

(6) Exceptions. If the owner of a sewage collection system believes any component part or parts of the CMOM program requirements in this section are not appropriate or applicable for a specific sewage collection system, the CMOM program documentation required under sub. (5) shall fully explain why that component part is not applicable.

(7) Compliance. Whenever a permittee’s CMOM program does not meet the conditions established under this section, including the identification of and explanation for exceptions identified in sub. (6), the department may require specific actions to establish and implement a CMOM program or component parts of a CMOM program. The specific requirements may be included as conditions in a permit.

History: CR 12−027; cr. Register July 2013 No. 691, eff. 8−1−13; correction in (3) (c) made under s. 13.92 (4) (b) 7., Stats., Register July 2013 No. 691.

NR 210.24 System Evaluation and Capacity Assurance Plan. (1) The department may require permittees that own and operate a sewerage system to prepare and implement a system evaluation and capacity assurance plan that meets the requirements in s. NR 110.10 (4) whenever the department determines that one or more of the following conditions exists:

(a) Noncompliance with the prohibitions in s. NR 210.21 (1).

(b) Noncompliance with effluent limitations at the sewage treatment facility caused by excessive flow.

(c) Implementation of the CMOM program requirements in s. NR 210.23 is not sufficient to attain the requirements of s. NR 210.21 (1).

(d) Frequent or recurring building backups caused by excessive flow or other hydraulic constraints in the sewerage system.

(e) A system evaluation and capacity assurance plan is necessary to determine if the conditions of s. NR 210.21 (1) (a) to (d) exist.

(2) The system evaluation and capacity assurance plan is subject to review and approval under s. 281.41, Stats.

(3) The department may include in a permit compliance schedules that require implementation of actions contained in an approved system evaluation and capacity assurance plan and that are determined necessary to meet the requirements of this chapter.

(4) Permittees that are implementing actions to conform with an approved facilities plan under ss. NR 110.08, 110.09, and 110.10 and that, when such facilities plan is implemented, will meet the requirements of this chapter and s. NR 205.07 (1) (u) shall not be subject to the requirements of this section.

History: CR 12−027; cr. Register July 2013 No. 691, eff. 8−1−13.

NR 210.25 Emergency Operation — Lift Stations. All lift stations that are a component of a sewage collection system shall be equipped for emergency operation in accordance with s. NR 110.14 (12).

History: CR 12−027; cr. Register July 2013 No. 691, eff. 8−1−13.