



WISCONSIN DEPARTMENT OF NATURAL RESOURCES
NOTICE OF FINAL GUIDANCE & CERTIFICATION

Pursuant to ch. 227, Wis. Stats., the Wisconsin Department of Natural Resources has finalized and hereby certifies the following guidance document.

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SSO Rule Implementation Guidance

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Water Quality

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Chapters NR 110, 205, 208, and 210, Wis. Adm. Code.

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DNR CERTIFICATION

I have reviewed this guidance document or proposed guidance document and I certify that it complies with sections 227.10 and 227.11 of the Wisconsin Statutes. I further certify that the guidance document or proposed guidance document contains no standard, requirement, or threshold that is not explicitly required or explicitly permitted by a statute or a rule that has been lawfully promulgated. I further certify that the guidance document or proposed guidance document contains no standard, requirement, or threshold that is more restrictive than a standard, requirement, or threshold contained in the Wisconsin Statutes.

Date

11/25/19

Signature



**BUREAU OF WATER QUALITY
PROGRAM GUIDANCE
WPDES**

**SSO RULE IMPLEMENTATION GUIDANCE
SEPTEMBER 2013
3400-2013-05**

This document is intended solely as guidance, and does not contain any mandatory requirements except where requirements found in statute or administrative rule are referenced. This guidance does not establish or affect legal rights or obligations, and is not finally determinative of any of the issues addressed. This guidance does not create any rights enforceable by any party in litigation with the State of Wisconsin or the Department of Natural Resources. Any regulatory decisions made by the Department of Natural Resources in any matter addressed by this guidance will be made by applying the governing statutes and administrative rules to the relevant facts.

APPROVED:

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9/5/13
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INTRODUCTION

This guidance document is intended to be used by WDNR staff when implementing the new requirements adopted as Wisconsin Administrative Code under Order WT-23-11. The rule deletions, amendments and additions are contained in chapters NR 110, 205, 208, and 210. Most of the rule content establishes requirements for municipal owners of sewage collection systems including prohibitions on sanitary sewer overflows (SSOs). Elements of the rule package also cover operations of sewage treatment facilities, industrial wastewater treatment facilities and private sewage treatment works.

Attachment A contains a tabular summary of reporting requirements associated with the rule revisions. Attachment B provides schematic depictions of various types of discharge events regulated by the rules and the WPDES program.

OVERVIEW

Following is a summary of the significant new provisions and amendments to the rules:

DEFINITIONS: The rules contain many significant changes and additions to definitions for terms in common use by the Department. All the rules include an extensive set of definitions and these definitions are identical in all the rules. The terms should be reviewed by staff and become part of common usage within the program. Terms currently in these rules and not amended by these rule changes remain the same.

PLAN REVIEW: Several changes have been made to NR 110 that will change the review of plans for certain aspects of sewerage system design and operations. The modifications to this chapter include the following:

- The “sewer ban” provisions in NR 110.05 that are associated with SSOs are repealed from this chapter. The provisions of this section that allow the Department to issue restrictions on sewer extensions for permit effluent limit violations remain in place. Although not specifically stated elsewhere in the rules, the Department has stated that the “sewer ban” concept may be incorporated into formal enforcement actions, where appropriate.
- At several points in the rule package, there are cross-reference provisions that indicate the importance of coordinating facilities planning activities with System Evaluation and Capacity Assurance Plans (SECAP), when appropriate. Standards are established for conducting a SECAP, an evaluation of the sewage collection system, which maybe required under chapter NR 210.
- The factors to be considered for lift station design have been expanded to include inflow, in addition to infiltration.
- Design requirements are established for sanitary sewer overflow structures and sewage treatment facility overflow structures.
- Provisions concerning sewage treatment facility operations during maintenance, during emergencies and during bypassing events are removed from NR 110.15 (2) and NR 110.15 (5). Requirements for operations during these occurrences are contained in either NR 205 or NR 210 because they are better suited for incorporation into WPDES permits.

The word “feasible” or the phrase “feasible alternatives” is used several times in the rules as the basis for determining whether bypassing may be approved, whether blending may be included as a permit condition, and one of the standards to be met when creating a capacity, management, operation and maintenance (CMOM) program. A note at several locations in the rule states: *“When evaluating feasibility of alternatives, the department may consider factors such as technical achievability, costs and affordability of implementation and risks to public health, the environment and, where the permittee is a municipality, the welfare of the community served.”* These decisions are based on a case-specific determination by the Department based, usually, on information supplied by the permittee. Staff should consider using the following references when making determinations of “feasibility”:

- References on the U.S. EPA web site (http://cfpub.epa.gov/npdes/home.cfm?program_id=4)
- References on the Water Environment Federation web site (http://wef.org/AWK/pages_cs.aspx?id=1063)
- Prevention and Control of Sewer System Overflows. WEF Manual of Practice No. FD-17, 3rd edition. Water Environment Federation, Washington, DC. 2011.
- Sanitary Sewer Overflow Solutions Guidance Manual. Prepared By Black & Veatch Corporation for American Society of Civil Engineers Under Cooperative Agreement With U.S. Environmental Protection Agency, Office of Wastewater Management, Washington, DC (EPA Cooperative Agreement #CP-828955-01-0) April, 2004.
- Protocols for Identifying Sanitary Sewer Overflows. Prepared by Black & Veatch Corporation for American Society of Civil Engineers Under Cooperative Agreement with U.S. Environmental Protection Agency, Office of Wastewater Management, Washington, DC (EPA Cooperative Agreement #CX 826097-01-0) June 2000.
- Optimizing Operation, Maintenance, and Rehabilitation of Sanitary Sewer Collection Systems. New England Interstate Water Pollution Control Commission, Lowell, MA, December 2003.
- Optimization of Collection System Maintenance Frequencies and System Performance. Prepared by Black & Veatch, LLP for American Society of Civil Engineers Under Cooperative Agreement with U.S. Environmental Protection Agency, Office of Wastewater Management, Washington, DC (EPA Cooperative Agreement #CX 824902-01-0) February, 1999.
- White Paper on Condition Assessment of Wastewater Collection Systems. U. S. Environmental Protection Agency, Office of Research and Development, Washington, DC, EPA/600/R-09/049, May 2009.
- State of Technology Review Report on Rehabilitation of Wastewater Collection and Water Distribution Systems. Dr. Ray Sterling, Lili Wang, Robert Morrison (Contract No. EP-C-05-057 Task Order No. 58). U.S. Environmental Protection Agency, Office of Research and Development, Cincinnati, OH, March 2009.
- Guide to Managing Peak Wet Weather Flows in Municipal Wastewater Collection and Treatment Systems. Water Environment Federation, Alexandria, VA, 2006.

- Core Attributes of Effectively Managed Wastewater Collection Systems. American Public Works Association, American Society of Civil Engineers, National Association of Clean Water Agencies, Water Environment Federation, July 2010 (contains extensive list of references).
- Private Property Virtual Library (PPVL) Information *For Utilities From Utilities*. (<http://wef.org/PrivateProperty/>). Contains a library of case studies from private property-related programs at wastewater utilities.

STANDARD PERMIT CONDITIONS: Chapter NR 205 contains general conditions applicable to WPDES permits and most provisions are incorporated into the “standard requirements” part of the permit. Changes to this rule include:

- Non-compliance reporting requirements are modified to more clearly establish reporting requirements for SSOs and sewage treatment facility overflows.
- The section on bypassing is moved to assure the provisions are inclusive for all permittees. Similar to the existing rule and unless specifically regulated elsewhere in the rules, bypassing at a wastewater treatment facility is prohibited, but may be approved if specific conditions in the rule are met, such as endangerment to life, health or property or actions that are not feasible to implement. A note in the rule provides some general factors for evaluations of feasibility. Bypassing is reported under the “non-compliance reporting” section of the rule and requires notification of the Department within 24-hours and a written report within 5 days of the event. A summary of reporting requirements is provided in Attachment A.
- Blending, a specifically defined type of bypassing at sewage treatment facilities, sanitary sewer overflows and sewage treatment facility overflows are specified as being regulated under chapter NR 210 and not considered a “bypass” under this chapter.
- Specific requirements are established for controlled diversions at all wastewater treatment facilities (including those treating industrial wastewater). Controlled diversions are allowed for essential maintenance to assure efficient operation of the treatment facility. Sewage treatment facilities that have multiple treatment units to treat variable or seasonal loading conditions may shut down redundant treatment units when necessary for efficient operation. When there is a controlled diversion, the rule requires that effluent limitations must be met and that these activities cannot occur during high flow or abnormal flow conditions. If these conditions are not met, the diversion should be considered a bypass, subject to the prohibition language of the rule. Permittees do not have to report when they implement a controlled diversion, but they are required to maintain these records for Department inspection.
- Specific procedures are established for how a permittee may obtain approval for a “scheduled bypass,” a circumstance that may be necessary when effluent limitations may be exceeded or other permit conditions cannot be met.

COMPLIANCE MAINTENANCE ANNUAL REPORT (CMAR): Chapter NR 208 modifications include the repeal of scoring for discrete SSO occurrences; the CMOM scoring provision remains. This change was made necessary to assure large systems were not at a disadvantage to smaller systems. SSOs reported during the year are automatically identified in the CMAR reporting system based on the 5-day reports for these events during the year. Permittees are required by the rule revisions to provide information as part of the CMAR submittal on actions taken in response to reported SSO occurrences.

WPDES PERMITS FOR SEWAGE TREATMENT WORKS: Chapter NR 210 contains the WPDES requirements for publicly owned treatment works (sewerage systems) and privately owned treatment works that treat primarily domestic sewage and wastewater from commercial establishments. The chapter has been divided into 4 subchapters. Subchapter I contains general provisions relating to sewage treatment works. Subchapter II contains the monitoring requirements and effluent limitations for sewage treatment facilities that discharge to surface waters. Most requirements in NR 210 as they existed prior to this rule adoption are in this subchapter. Subchapter III contains provisions relating to the operation of a sewage treatment facility, including reporting requirements and emergency operating requirements. Subchapter IV is entirely new and devoted to the operation of sewage collection systems, including satellite collection systems. More specific provisions added to this chapter include the following:

- Under the rule, blending at sewage treatment facilities (diverting sewage around biological treatment units under specific conditions) may be approved by the Department when a permit is issued. Blending cannot occur if not approved in the permit. The permittee must apply for blending at the time of permit application and the rule contains factors the Department must use when evaluating if blending will be approved. Operating conditions that must be met if blending is approved are in the rule, as are the reporting requirements. These conditions will be included in permits when blending is approved. The rule allows permittees to operate treatment processes or units that have been specifically designed and constructed to treat excess flow. Permits should be issued to recognize these alternative treatment systems and all the other requirements associated with blending (e.g., meeting effluent limitations) must be met.
- Specific authority is established for issuing WPDES permits for satellite sewage collection systems.
- A specific requirement that combined sewer systems conform to the terms and conditions in the WPDES permit is established. The Department intends to include conditions in such permits that are consistent with U.S. EPA's CSO policy contained in the Clean Water Act. (33 U.S.C. 1342) This subsection of the rule would be used to regulate the combined sewer systems for Superior and the Milwaukee Metropolitan Sewerage District.
- Specific provisions are established to prohibit sanitary sewer overflows and sewage treatment facility overflows. All discharges from sewage collection systems and at the treatment facility that are not or only partially treated, whether directly to a surface water or to the land surface and regardless of size, are considered overflows subject to the prohibition. Permittee response actions and notification requirements are established and reporting conditions for sanitary sewer and sewage treatment facility overflows are clarified. Reporting requirements are similar to those currently required in permits. Satellite systems must report SSOs to systems that receive wastewater from the satellite system. A summary of reporting requirements is provided in Attachment A.
- The revised rule contains a list of factors the Department will use to determine whether a prohibited overflow has occurred and the type of enforcement action that may be taken for permit noncompliance. The specific enforcement action in response to an overflow is left to the discretion of the Department based upon a case-by-case evaluation of the information available. Additional guidance may be included in the Department's enforcement guidance.

- The rule creates specific provisions relating to building backups. Discrete or individual building backups are exempted from the rule requirements and there should not be an enforcement response by the Department. However, recurring building backups caused by constraints in the downstream sewage collection system may be cause for establishing permit terms and conditions to eliminate or reduce building backups through reduction or removal of I/I or other factors causing the backups.
- The rule creates a requirement that all sewage collection system permittees establish a CMOM program to reduce or prevent the likelihood of SSOs and to ensure the long-term viability of sewage collection systems. The CMOM program must be developed no later than 3 years after rule publication or at an earlier date required in a permit. All permittees with sewage collection systems (including satellite systems) must have this requirement as a condition of their permit. Review and approval of CMOM programs by the Department is not required.
- The rules create a provision under which the Department may incorporate a requirement in a WPDES permit that a sewage collection system owner undertake an evaluation of the system to determine causes of the permit violations and development of a plan to address the causative factors. This is called a “System Evaluation and Capacity Assurance Plan” or SECAP and the content of this plan is described in NR 110.10 (4). This provision is intended to be used when sewage collection system deficiencies are deemed the cause of SSO events, frequent or recurring building backups, effluent limit violations, or failure to effectively implement a CMOM program. Including such a provision in the permit should be based on a case-specific evaluation.

COORDINATION OF DECISION-MAKING: It is most important that everyone involved or potentially involved in the oversight of a permittee be a participant in all appropriate decision processes, whether at the time of plan review or when a permit is issued or at the time when a compliance determination must be made. A decision with respect to one activity or decision should not be beholden to the other and a plan review decision made at one time should not necessarily be effective in the future as conditions change. For example, permit approval for blending occurs at each permit issuance and it is not a given that such an operation can continue for the design life of a treatment facility.

One of the primary purposes of the SSO rule is the creation of the CMOM concept for collection systems. The vigor and diligence a permittee has or proposes to devote to such an effort should be a key factor in whether, for example, blending is an approvable practice, whether at the time of plan review or when the permit is issued or even when a compliance determination is being made. If a particular system is subject to significant I/I issues and operation and maintenance of the system is not focused on reductions in I/I, then the Department should be much more critical in its evaluation of whether blending facilities are approved under the plan review authority or as a permit condition.

WPDES PERMIT LANGUAGE

The rule revisions require new or modifications to existing permit terms and conditions. This part of the guidance contains recommendations for changing existing permit language or adding the new requirements into permits. Final permit language may change, but the elements addressed in this guidance should be included in permits, as appropriate.

INDUSTRIAL WASTEWATER TREATMENT FACILITIES

Noncompliance Reporting

Permit language for industrial wastewater treatment facilities will remain similar to previously used language. The title (Noncompliance Notification) should be changed to “Noncompliance Reporting” and an additional sentence should be included near the end to conform to the revised rules so this section of the permit would read as follows:

X¹. Noncompliance Reporting

The permittee shall report the following types of noncompliance by a telephone call to the Department's regional office within 24 hours after becoming aware of the noncompliance:

- any noncompliance which may endanger health or the environment;
- any violation of an effluent limitation resulting from an unanticipated bypass;
- any violation of an effluent limitation resulting from an upset; and
- any violation of a maximum discharge limitation for any of the pollutants listed by the Department in the permit, either for effluent or sludge.

A written report describing the noncompliance shall also be submitted to the Department as directed at the end of this permit within 5 days after the permittee becomes aware of the noncompliance. On a case-by-case basis, the Department may waive the requirement for submittal of a written report within 5 days and instruct the permittee to submit the written report with the next regularly scheduled monitoring report. In either case, the written report shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times; the steps taken or planned to reduce, eliminate and prevent reoccurrence of the noncompliance; and if the noncompliance has not been corrected, the length of time it is expected to continue.

A scheduled bypass approved by the Department under part ____ of this permit shall not be subject to the reporting required under this section.

NOTE: Section 292.11(2)(a), Wisconsin Statutes, requires any person who possesses or controls a hazardous substance or who causes the discharge of a hazardous substance to notify the Department of Natural Resources **immediately** of any discharge not authorized by the permit. The discharge of a hazardous substance that is not authorized by this permit or that violates this permit may be a hazardous substance spill. To report a hazardous substance spill, call DNR's 24-hour HOTLINE at **1-800-943-0003**.

Bypass

Existing WPDES permits for industrial wastewater treatment facilities contain requirements applicable to bypassing within the treatment facility even though Department rules have not included this requirement. The existing language is compatible with U.S. EPA regulations. This deficiency in state rules is corrected by the language in the rule. The new rules also clarify the provision relating to scheduled bypassing and create a section to cover controlled diversions for essential maintenance to assure efficient operation. The following language for “unscheduled bypassing”, “scheduled bypassing” and “controlled diversions” should be included in WPDES permits for industrial wastewater treatment facilities:

X. Bypass

Except for a controlled diversion as provided in ____, any bypass is prohibited and the Department may take enforcement action against a permittee for such occurrences under s.

¹ The "X" in the recommended language parts of this guidance is a place-holder for the appropriate sequence number used in the standard format of the WPDES permit.

283.89, Wis. Stats. The Department may approve an unscheduled bypass provided all the following conditions are met:

X.1. The bypass was unavoidable to prevent loss of life, personal injury, or severe property damage.

X.2. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities or adequate back-up equipment, retention of untreated wastes, reduction of inflow and infiltration, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance. When evaluating feasibility of alternatives, the department may consider factors such as technical achievability, costs and affordability of implementation and risks to public health, the environment and, where the permittee is a municipality, the welfare of the community served.

X.3. The bypass was reported in accordance with part _____ [the Noncompliance Reporting requirement]_____ of this permit.

X. Scheduled Bypass

Whenever the permittee anticipates the need to bypass for purposes of efficient operations and maintenance and the permittee may not meet the conditions for controlled diversions in part _____ of this permit, the permittee shall obtain prior written approval from the Department for the scheduled bypass. A permittee's written request for Department approval of a scheduled bypass shall demonstrate that the conditions for unscheduled bypassing are met and include the proposed date and reason for the bypass, estimated volume and duration of the bypass, alternatives to bypassing and measures to mitigate environmental harm caused by the bypass. The department may require the permittee to provide public notification for a scheduled bypass if it is determined there is significant public interest in the proposed action and may recommend mitigation measures to minimize the impact of such bypass.

X. Controlled Diversions

Controlled diversions are allowed only when necessary for essential maintenance to assure efficient operation provided the following requirements are met:

X.1. Effluent from the sewage treatment facility shall meet the effluent limitations established in the permit. Wastewater that is diverted around a treatment unit or treatment process during a controlled diversion shall be recombined with wastewater that is not diverted prior to the effluent sampling location and prior to effluent discharge.

X.2. A controlled diversion may not occur during periods of excessive flow or other abnormal wastewater characteristics.

X.3. A controlled diversion may not result in a wastewater treatment facility overflow.

X.4. All instances of controlled diversions shall be documented in sewage treatment facility records and such records shall be available to the department on request.

SEWAGE TREATMENT FACILITIES (MUNICIPAL AND PRIVATELY-OWNED)

Noncompliance Reporting

Permit language for sewage treatment facilities will remain similar to previously used language. The title (Noncompliance Notification) should be changed to "Noncompliance Reporting", new introductory sentences regarding blending and overflows should be added and an additional sentence should be included near the end to conform to the revised rules so this section of the permit would read as follows:

X. Noncompliance Reporting

Sanitary sewer overflows and sewage treatment facility overflows shall be reported according to part ____ of this permit.

The permittee shall report the following types of noncompliance by a telephone call to the Department's regional office within 24 hours after becoming aware of the noncompliance:

- any noncompliance which may endanger health or the environment;
- any violation of an effluent limitation resulting from an unanticipated bypass;
- any violation of an effluent limitation resulting from an upset; and
- any violation of a maximum discharge limitation for any of the pollutants listed by the Department in the permit, either for effluent or sludge.

A written report describing the noncompliance shall also be submitted to the Department's regional office within 5 days after the permittee becomes aware of the noncompliance. On a case-by-case basis, the Department may waive the requirement for submittal of a written report within 5 days and instruct the permittee to submit the written report with the next regularly scheduled monitoring report. In either case, the written report shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times; the steps taken or planned to reduce, eliminate and prevent reoccurrence of the noncompliance; and if the noncompliance has not been corrected, the length of time it is expected to continue.

A scheduled bypass approved by the Department under part ____ of this permit shall not be subject to the reporting required under this section.

NOTE: Section 292.11(2)(a), Wisconsin Statutes, requires any person who possesses or controls a hazardous substance or who causes the discharge of a hazardous substance to notify the Department of Natural Resources **immediately** of any discharge not authorized by the permit. The discharge of a hazardous substance that is not authorized by this permit or that violates this permit may be a hazardous substance spill. To report a hazardous substance spill, call DNR's 24-hour HOTLINE at **1-800-943-0003**

Bypass

Existing permit language should be modified to conform to the rule. This section will now only apply to bypassing at the sewage treatment facility that is not blending, a controlled diversion or a sewage treatment facility overflow. Sanitary sewer overflows and sewage treatment facility overflows are regulated under another new permit condition. The new rules also clarify the provision relating to scheduled bypassing and create a section to cover controlled diversions for essential maintenance to assure efficient operation. The following language should be included in all sewage treatment facility permits:

X. Bypass

This condition applies only to bypassing at a sewage treatment facility that is not a scheduled bypass, approved blending as specific condition of this permit, a sewage treatment facility overflow or a controlled diversion as provided in parts ____ of this permit. Any other bypass at the sewage treatment facility is prohibited and the Department may take enforcement action against a permittee for such occurrences under s. 283.89, Wis. Stats. The Department may approve an unscheduled bypass provided all the following conditions are met:

X.1. The bypass was unavoidable to prevent loss of life, personal injury, or severe property damage.

X.2. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities or adequate back-up equipment, retention of untreated wastes, reduction of inflow and infiltration, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance. When evaluating feasibility of alternatives, the department may consider factors such as technical achievability, costs and affordability of implementation and risks to public health, the environment and, where the permittee is a municipality, the welfare of the community served.

X.3. The bypass was reported in accordance with part _____ [the Noncompliance Reporting requirement]_____ of this permit.

X. Scheduled Bypass

Whenever the permittee anticipates the need to bypass for purposes of efficient operations and maintenance and the permittee may not meet the conditions for controlled diversions in part _____ of this permit, the permittee shall obtain prior written approval from the Department for the scheduled bypass. A permittee's written request for Department approval of a scheduled bypass shall demonstrate that the conditions for unscheduled bypassing are met and include the proposed date and reason for the bypass, estimated volume and duration of the bypass, alternatives to bypassing and measures to mitigate environmental harm caused by the bypass. The department may require the permittee to provide public notification for a scheduled bypass if it is determined there is significant public interest in the proposed action and may recommend mitigation measures to minimize the impact of such bypass.

X. Controlled Diversions

Controlled diversions are allowed only when necessary for essential maintenance to assure efficient operation. Sewage treatment facilities that have multiple treatment units to treat variable or seasonal loading conditions may shut down redundant treatment units when necessary for efficient operation. The following requirements shall be met during controlled diversions:

X.1. Effluent from the sewage treatment facility shall meet the effluent limitations established in the permit. Wastewater that is diverted around a treatment unit or treatment process during a controlled diversion shall be recombined with wastewater that is not diverted prior to the effluent sampling location and prior to effluent discharge.

X.2. A controlled diversion may not occur during periods of excessive flow or other abnormal wastewater characteristics.

X.3. A controlled diversion may not result in a wastewater treatment facility overflow.

X.4. All instances of controlled diversions shall be documented in sewage treatment facility records and such records shall be available to the department on request.

Blending

Blending may be approved by the Department on a case-by-case basis. The determination of whether to include this provision in a permit is made based on a specific request of the permittee and appropriately justified in the permit application (see elsewhere in this guidance for additional information). The following permit language is recommended for inclusion in permits where blending has been approved:

X. Blending

The Department has determined that blending may occur at this sewage treatment facility. The following requirements shall apply whenever blending operations are in effect:

X.1. 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 described in NR 210.12 (2) (a), Wis. Adm. Code.

X.2. Untreated, or partially treated wastewater that is routed around the 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 this permit, prior to discharge.

X.3. 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 for Outfall 001 included in this permit.

X.4. Blending under this section and the circumstances that lead to blending 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 facility². Permittees shall also report the time, duration and volume of wastewater routed around the biological treatment process on the wastewater Discharge Monitoring Report (DMR) forms.

SEWAGE COLLECTION SYSTEMS

Overflows

Permit conditions relating to sanitary sewer and sewage treatment facility overflows should be placed in a separate, new part of the permit that covers sewage collection systems. The following permit language should be incorporated into permits where the permittee has both a collection system and a treatment facility. Permittees that operate only a sewage collection system (usually a satellite system) should have the reference to sewage treatment facility overflows deleted from permit language. The sewage collection systems part of the permit should read as follows:

X. Sanitary Sewer Overflows and Sewage Treatment Facility Overflows

X.1. OVERFLOWS PROHIBITED. Any overflow or discharge of wastewater from the sewage collection system [or at the sewage treatment facility, other than from permitted outfalls,]³ is prohibited. The permittee shall provide information on whether any of the following conditions existed when an overflow occurred:

X.1.1. The sanitary sewer overflow [or sewage treatment facility overflow] was unavoidable to prevent loss of life, personal injury or severe property damage.

X.1.2. 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.

² Sewage treatment facilities that provide a separate treatment process for excess flows at the sewage treatment facility will require some modification to these conditions to meet unique circumstances. In such cases, permits shall include all the requirements of NR 210.12, Wis. Adm. Code, that is, blending may occur only during excess flow conditions, all discharges must be monitored, effluent limitations that otherwise apply shall be met and 24-hour reporting occur. Because these types of operations are limited in number and may be different from facility to facility, specific permit language may be necessary.

³ This bracketed phrase should be deleted in permits for sewage collection system permittees that do not own and operate a sewage treatment facility (e.g., satellite sewage collection systems).

X.1.3. 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.

X.1.4. 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.

X.2. 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, including those in NR 210.21 (3), Wis. Adm. Code, shall be implemented consistent with an emergency response plan developed under the CMOM program.

X.3. PERMITTEE REPORTING. Permittees shall report all sanitary sewer overflows and sewage treatment overflows as follows:

X.3.1. 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.

X.3.2. 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:

X.3.2.1. The date and location of the overflow.

X.3.2.2. The surface water to which the discharge occurred, if any.

X.3.2.3. The duration of the overflow and an estimate of the volume of the overflow.

X.3.2.4. 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.

X.3.2.5. The estimated date and time when the overflow began and stopped or will be stopped.

X.3.2.6. The cause or suspected cause of the overflow including, if appropriate, precipitation, runoff conditions, areas of flooding, soil moisture and other relevant information.

X.3.2.7. Steps taken or planned to reduce, eliminate and prevent reoccurrence of the overflow and a schedule of major milestones for those steps.

X.3.2.8. A description of the actual or potential for human exposure and contact with the wastewater from the overflow.

X.3.2.9. Steps taken or planned to mitigate the impacts of the overflow and a schedule of major milestones for those steps.

X.3.2.10. 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.

X.3.2.11. The reason the overflow occurred or explanation of other contributing circumstances that resulted in the overflow event. This includes any information available under part _____, 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 web site at <http://www.dnr.wi.gov>_____. As indicated on the form, additional information may be submitted to supplement the information required by the form.

X.3.3. 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.

X.3.4. A permittee that is required to submit wastewater discharge monitoring reports under NR 205.07 (1) (r) shall also report all sanitary sewer overflows and sewage treatment facility overflows on that report.

X.3.5. 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.

X.4. PUBLIC NOTIFICATION. The permittee shall notify the public of any sanitary sewer and sewage treatment facility overflows consistent with its emergency response plan required under part _____ [refer to CMOM section of permit] of this permit and s. NR 210.23 (4) (f), Wis. Adm. Code. 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.

X.5. NOTIFICATION OF DRINKING WATER SYSTEM OWNERS. [INCLUDE EXISTING LANGUAGE FROM PERMITS HERE]

X. Capacity, Management, Operation and Maintenance (CMOM) Program

X.1. The permittee shall by _____ [insert date] submit to the Department verification that a CMOM program for the sewage collection system has been developed which is consistent with the requirements of NR 210.23, Wis. Adm. Code.

X.2. The permittee shall develop and maintain written documentation of the CMOM program components, and shall verify each year with the submittal of the Compliance Maintenance Annual

Report required under part ____ of this permit that the CMOM program documentation is current and meets the requirements in NR 210.23, Wis. Adm. Code.

X.3. The permittee shall implement a CMOM program consistent the permittee's program documentation and with the requirements of NR 210.23, Wis. Adm. Code.

X.4. The permittee shall annually conduct a self-audit of activities to ensure the CMOM program is being implemented as necessary to meet the requirements contained in the CMOM program documentation.

X.5. The permittee shall make available CMOM program documentation, a record of implementation activities and the results of the self-audit to the Department on request.

DNR REVIEW AUTHORITY & RESPONSIBILITY FOR SEWAGE TREATMENT FACILITIES

BYPASSING AND OTHER OPERATIONAL PROCEDURES

Bypassing is a practice that routes flow around one or more treatment units, unless such diversions are specifically allowed under the rules. Scheduled bypassing is allowed under special circumstances when a permittee receives prior approval. Permit conditions allow the Department to recommend mitigation measures to be taken to prevent or minimize impacts of a scheduled bypass.

Permittees that disable one or more treatment units during high flow conditions such that the unit(s) do not function normally may not be in compliance with the provisions of NR 205.07 (1) (j) on proper operation and maintenance. If the bypass is related to conditions caused by excess flow into a sewage treatment facility, the permittee may use the SSO reporting form identified in the rule to report such noncompliance events. Only bypasses that result in a discharge from an unpermitted outfall (i.e., a sewage treatment facility overflow) should be characterized as an overflow event.

The operator of a sewage treatment facility may use a variety of techniques to accommodate large flows without bypassing treatment units or allowing an overflow to occur. If all wastewater passes through all treatment processes and effluent limitations are maintained, then the permittee should be considered in compliance with permit terms related to bypassing.

SSO OCCURRENCES

The rule revisions contain specific provisions that prohibit SSOs and sewage treatment facility overflows, similar to previous interpretations of this non-compliance. The rules do not contain the “exception provisions” that have been part of past evaluations of permit violations. Under the rule, permits should require that permittees provide information on the circumstances that caused the SSO event. The Department should use this information and the other factors contained in the rule to determine the enforcement response to a reported SSO occurrence.⁴ Past experience indicates that a primary outcome of an enforcement action for SSO events is to require permittees to undertake activities to correct the causes of the excessive flow. Under these circumstances, therefore, if a permittee is, for example, effectively implementing CMOM activities, then that should be a factor in determining what the enforcement response should be. On the other hand, for a permittee that is less aggressively implementing CMOM, a more significant enforcement response should be considered.

⁴ When determining an enforcement response, consideration should be given to the size and other unique characteristics of the sewage collection system relative to the number of discrete SSO occurrences (e.g., multiple SSOs resulting from a storage system filled to capacity).

BLENDING

Under the rule, a permittee may apply for Department approval to practice blending. The Department must at each permit issuance determine if the permittee has sufficiently justified continuation of that approval. The rule contains the following four specific factors to be considered in determining whether to approve blending in a permit:

- 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 or 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.
- 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.
- The permittee demonstrates 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.
- The design of the sewage treatment facility is approved by the department to operate with blending.

Decisions on whether to approve blending in a permit must be coordinated to assure all the above factors are appropriately considered. See the discussion under the "COORDINATION OF DECISION-MAKING" heading for further information as it may apply to blending decisions.

COMPLIANCE MAINTENANCE ANNUAL REPORT

There are two items that should be evaluated by the Department when reviewing the CMAR reports. First, the permittee should be verifying the existence and implementation of the CMOM program. If there are uncertainties about the adequacy of a particular permittee's implementation activities, the staff reviewer may wish to question that in the Department's response. Secondly, the permittee must provide a response to any SSO events that were identified in the CMAR reporting system. This could be a reiteration of or confirmation of the information submitted in the 5 day report or a more complete explanation of what is being done or what has been done to address the causes of the SSOs in the sewage collection system. Evaluation of the annual self-audit report required as part of the CMOM program may also be incorporated in this review.

CMOM

The rule does not require nor does it anticipate Department review and approval of CMOM documents once they have been completed. The permit requirement is that the CMOM complies with the provisions included in the rule. It is anticipated, however, that Department staff would include CMOM evaluations as part of the periodic "inspections" conducted under the enforcement strategy and/or when permits are reissued. When evaluating the adequacy of a permittee's CMOM program, staff should keep in mind that not all CMOM program descriptions will be similar. Where appropriate, permittee's may explain that a particular program component should not apply to their collection system. Such documentation should be considered when CMOM programs are evaluated against the requirements of the rule.

CMOM program implementation should be a primary driver in determining the Department's enforcement response to SSO events. Active and rigorous implementation of a CMOM program may be

sufficient reason for the Department to less aggressively respond to SSO events. If, during review of a permittee's CMOM program, it is determined that either the program documentation is insufficient, or implementation of CMOM does not adequately address the issue of excess flow in the collection system, the Department may initiate an enforcement response or include conditions in a permit to address CMOM program deficiencies.

SECAP

SECAP documents are reviewed as a standard plan review activity under s. 281.41, Wis. Stats.

BUILDING BACKUPS

As indicated previously in this guidance, discrete or individual building backups are exempted from the rule requirements and there should not be an enforcement response by the Department under this rule. The Department should receive information on building backups if and when SSO occurrences are reported or as part the the annual CMAR report. In most cases, permittees will implement corrective responses to building backups without Department action but, where determined necessary because of recurring backups caused by deficiencies in the collection system, specific requirements may be placed in permits to address the causes of building backups, and noncompliance with those permit conditions may be cause for enforcement.

ATTACHMENT A

EVENT REPORTING REQUIREMENTS FOR SEWERAGE SYSTEM PERMITTEES

EVENT	REPORTING
Combined Sewer Overflow ¹	<ul style="list-style-type: none"> • As required by the permit
Sanitary Sewer Overflow (SSO) ²	<ul style="list-style-type: none"> • 24-hr verbal/email/fax • 5 day SSO Form 3400-184 • Satellite systems also report to receiving system
Treatment Facility Overflow (TFO) ³ <i>[all or a portion of wastewater flow does <u>not</u> pass through permitted outfall]</i>	<ul style="list-style-type: none"> • 24-hr verbal/email/fax • 5-day SSO Form 3400-184
Blending ⁴ - when approved by the permit <i>[see "other bypass" when not approved by the permit]</i>	<ul style="list-style-type: none"> • 24 hr verbal/email/fax • DMR – Comment Section
Controlled Diversion ⁵	<ul style="list-style-type: none"> • WWTP records and available to DNR upon request
Scheduled Bypass ⁶	<ul style="list-style-type: none"> • Pre-Approval per Permit Standard Condition • DMR – Comment Section
Other Bypass ⁷ <i>[all or a portion of wastewater flow is diverted around one or more treatment processes; entire flow passes through permitted outfall]</i>	<ul style="list-style-type: none"> • 24-hr verbal/email/fax & 5-day "noncompliance reporting" per permit condition <i>[may use Form 3400-184 if bypass is caused by wet weather peak flow event]</i>

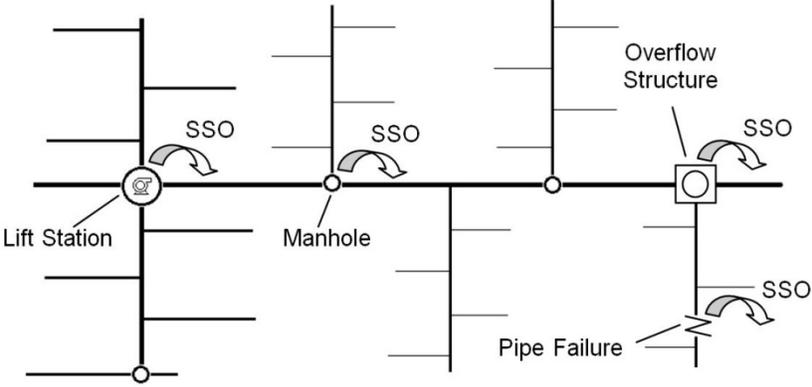
NOTES:

- 1 - Combined sewer overflow** means a release of wastewater from a combined sewer system directly into a water of the state or to the land surface.
- 2 - 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.
- 3 - 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.
- 4 - 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. Blending must be approved through the permit issuance process and the permit must include specific approval for this operation. Blending is only allowed temporarily during wet weather peak flow events, must be recombined with final effluent, monitored during the discharge and meet effluent limits.
- 5 - Controlled diversion** means the routing of untreated or partially treated wastewater around any treatment unit within a sewage or wastewater treatment facility which is then recombined with undiverted wastewater prior to the effluent sampling location and prior to effluent discharge. These diversions are allowed only for essential maintenance to assure efficient operation and effluent limitations must be attained. Controlled diversions may include the shut-down of redundant treatment units to treat variable or seasonal loading conditions when necessary for efficient operation, but are not allowed during wet weather peak flow periods.

6 - Scheduled bypass is an event scheduled or anticipated in advance by the permittee and the permittee has received prior written approval from the department for the scheduled bypass. The rule contains information on demonstrations the permittee must make in their request for approval of a scheduled bypass.

7 - Bypass means the intentional diversion of waste streams from any portion of a sewage treatment facility or a wastewater treatment facility. A bypass may occur during wet weather peak flow periods or other unusual operational conditions. All wastewater passes through the permitted outfall and effluent limitations may or may not be attained.

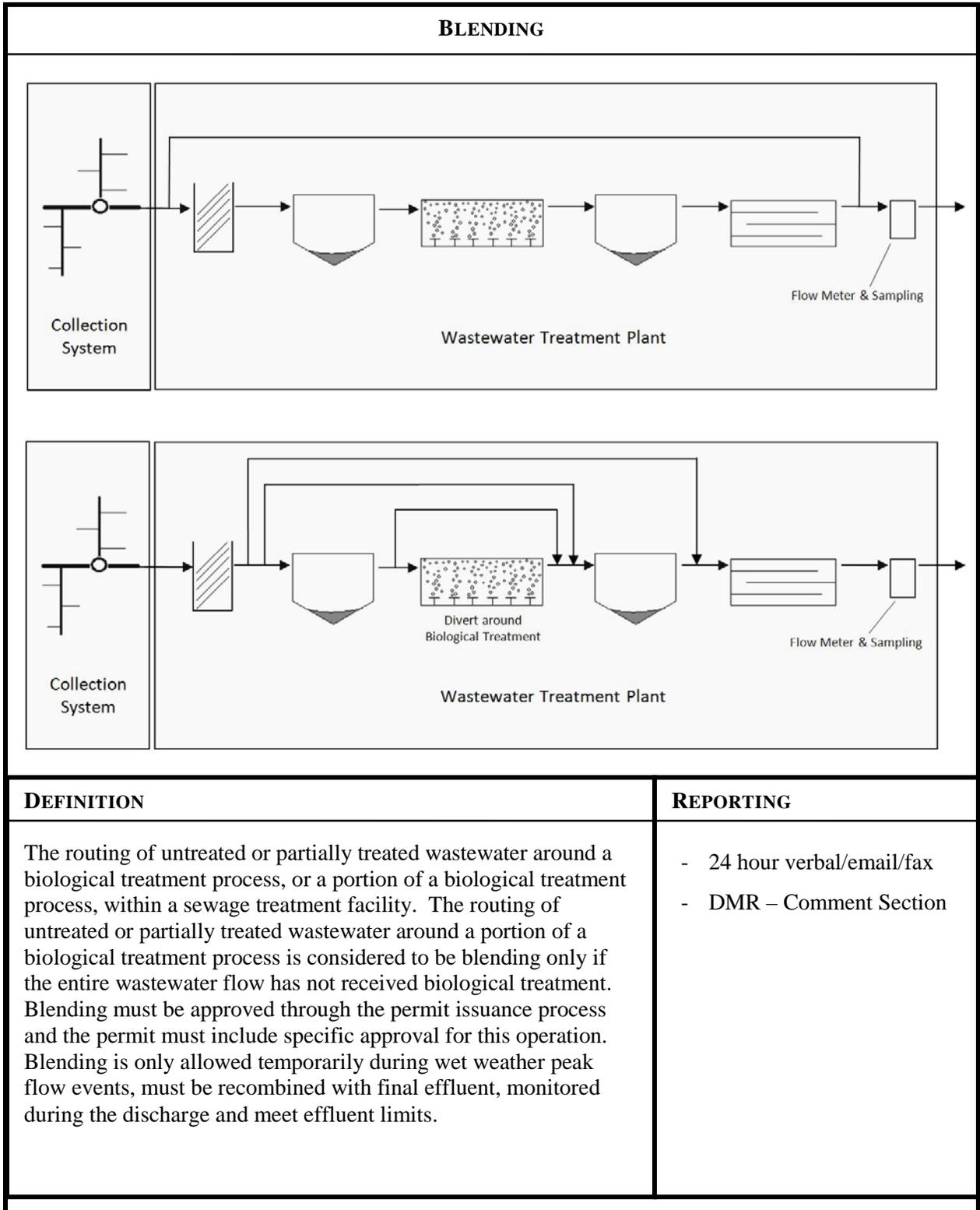
ATTACHMENT B
EVENT REPORTING SCHEMATICS

SANITARY SEWER OVERFLOW (SSO)	
 <p>The diagram illustrates four scenarios of Sanitary Sewer Overflow (SSO) in a sewer system. From left to right: 1. A Lift Station where wastewater is being pumped out of the sewer line. 2. A Manhole where wastewater is overflowing from the top of the pipe. 3. An Overflow Structure where wastewater is overflowing from the top of the pipe. 4. A Pipe Failure where wastewater is leaking out of a hole in the pipe. Each scenario is labeled with 'SSO' and a curved arrow indicating the direction of the overflow.</p>	
DEFINITION	REPORTING
<p>A release of wastewater, passively or actively (using pumps), from a sewage collection system or an interceptor sewer directly into a water of the state or to the land surface.</p>	<ul style="list-style-type: none"> - 24 hour verbal/email/fax - 5 day SSO Form 3400-184 - Discharge Monitoring Report (DMR) – Comment Section - Public Notification - Water Intake Owners, if affected - Satellite Systems Report to Receiving System

TREATMENT FACILITY OVERFLOW (TFO)	
<p style="text-align: center;">Wastewater Treatment Plant</p>	
<p style="text-align: center;">Wastewater Treatment Plant</p>	
DEFINITION	REPORTING
<p>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.</p>	<ul style="list-style-type: none"> - 24 hour verbal/email/fax - 5 day SSO Form 3400-184 - Discharge Monitoring Report (DMR) – Comment Section - Public Notification - Water Intake Owners, if Affected

BYPASS	
DEFINITION	REPORTING
<p>The intentional diversion of waste streams from any portion of a sewage treatment facility or a wastewater treatment facility. A bypass may occur during wet weather peak flow periods or other unusual operational conditions. All wastewater passes through the permitted outfall and effluent limitations may or may not be attained.</p>	<ul style="list-style-type: none"> - 24 hour verbal/email/fax - 5 day “non-compliance reporting” per permit condition

CONTROLLED DIVERSION	
<p>The diagram illustrates a controlled diversion in a wastewater treatment plant. It starts with a 'Collection System' on the left, which feeds into a 'Wastewater Treatment Plant'. The flow proceeds through a screen, a primary clarifier, and a secondary clarifier. A bypass line labeled 'Unit Requires Essential Maintenance' diverts flow around the secondary clarifier. The flow then goes through a 'Flow Meter & Sampling' point before discharge.</p>	
DEFINITION	REPORTING
<p>The routing of untreated or partially treated wastewater around any treatment unit within a sewage or wastewater treatment facility which is then recombined with undiverted wastewater prior to the effluent sampling location and prior to effluent discharge. These diversions are allowed only for essential maintenance to assure efficient operation and effluent limitations must be attained. Controlled diversions may include the shut-down of redundant treatment units to treat variable or seasonal loading conditions when necessary for efficient operation, but are not allowed during wet weather peak flow periods.</p>	<ul style="list-style-type: none"> - WWTP records and available to DNR upon request



APPENDIX OF DEFINITIONS

7-day average means the arithmetic mean of pollutant parameter values for samples collected in a period of 7 consecutive days.

30-day average means the arithmetic mean of pollutant parameter values for samples collected in a period of 30 consecutive days.

Approved areawide waste treatment management plan means a plan or element thereof developed pursuant to Section 208 of the Federal Water Pollution Control Act Amendments of 1972 as amended by the Clean Water Act Amendments of 1977 (33 USC 1251 et seq.) and approved by the state of Wisconsin.

Approval means the written approval of the department for any project requiring approval pursuant to s. 281.41, Stats., and s. NR 108.03.

ASTM means standards developed by ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959.

AWWA means the American Water Works Association, 6666 West Quincy Avenue, Denver, CO 80235.

Bedrock means the rocks that underlie soil material or where weathered in-place consolidated material larger than 2 millimeters in size is greater than 50% by volume.

Bioaccumulation means the uptake and retention of one or more substances in living tissue either by direct uptake or through uptake in the food chain or both.

Bioassay means the procedure in which the response of captive aquatic organisms are used to detect or measure the presence or effect of one or more substances, wastes or environmental factors, alone or in combination.

Biological monitoring as defined in ch. 283, Stats., means the determination of the effects on aquatic life, including accumulation of pollutants in tissue, in receiving waters due to the discharge of pollutants by techniques and procedures, including sampling of organisms representative of appropriate levels of the food chain appropriate to the volume and the physical, chemical and biological characteristic of the effluent and at appropriate frequencies and locations.

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.

Blowdown means the minimum discharge of recirculating water necessary to prevent the buildup of materials in the water above the limits of best engineering practice.

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.

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.

Bypass means the intentional diversion of waste streams from any portion of a sewage treatment facility or a wastewater treatment facility. A bypass does not include a building back-up or a combined sewer overflow.

CBOD5 means the 5-day carbonaceous biochemical oxygen demand.

Combined sewer overflow means a release of wastewater from a combined sewer system directly into a water of the state or to the land surface.

Combined sewer system means a wastewater collection system owned by a municipality that conveys domestic, commercial and industrial wastewater and storm water runoff through a single pipe system to a publicly owned treatment works.

Combined sewer treatment facility means all the structures, pipes and other equipment that constitute the various treatment processes and treatment units employed to reduce pollutants in wastewater from combined sewer systems.

Chronic toxicity means the long term effects on aquatic or terrestrial organisms from exposure to a toxic pollutant as determined by whole or partial life-cycle tests.

CMOM means a capacity, management, operation and maintenance program under s. NR 210.23.

Commercial domestic establishment means any establishment which has the capability to collect, treat or dispose of domestic wastes including but not limited to restaurants, country clubs, mobile home parks, motels and hotels.

Construction as defined in ch. 283, Stats., means any placement, assembly or installation of facilities or equipment, including contractual obligations to purchase such facilities or equipment, at the premises where such equipment will be used, including preparation work at such premises.

Contaminated storm water means a point source discharge of storm water which the department has identified as a significant contributor of pollution.

Controlled diversion means the routing of untreated or partially treated wastewater around any treatment unit within a sewage or wastewater treatment facility which is then recombined with undiverted wastewater prior to the effluent sampling location and prior to effluent discharge.

Cooling water means water which has been used primarily for cooling but which may be contaminated with process waste or airborne material. Examples are the discharge from barometric condensers or the blowdown from cooling towers.

Cost-effective analysis means a systematic comparison of alternative means of meeting state water quality standards, effluent limitations or other treatment standards in order to identify the alternative which will minimize the total resources costs over the planning period. These resources costs include monetary costs and environmental as well as other non-monetary costs.

Department means the department of natural resources.

Design flow means the anticipated wastewater discharge rate to a sewerage system component, which is used to design the sewerage system component to provide compliance with WPDES permit limits and

other performance objectives, during the most critical operating conditions anticipated within the design planning period. Specific design flow terms used in this chapter, include the following:

- (a) **Average daily base flow** means the average of the daily flow volumes anticipated to occur for a continuous 12-month period, less infiltration and inflow, and expressed as a daily average.
- (b) **Average design flow** means the average of the daily flow volumes anticipated to occur for a continuous 12-month period, expressed as a daily average.
- (c) **Maximum month design flow** means the largest volume of flow anticipated to occur during a continuous 30-day period, expressed as a daily average.
- (d) **Maximum week design flow** means the largest volume of flow anticipated to occur during a continuous 7-day period, expressed as a daily average.
- (e) **Maximum day design flow** means the largest volume of flow anticipated to occur during a one-day period, expressed as a daily average.
- (f) **Maximum hour design flow** means the largest volume of flow anticipated to occur during a one-hour period, expressed as a daily or hourly average.
- (g) **Peak instantaneous design flow** means the maximum anticipated instantaneous flow.
- (h) **Peak design flow and maximum design flow** mean the largest volume of flow anticipated to occur on an infrequent basis, expressed as a daily average. The "peak design flow" or "maximum design flow" may be equal to any one of the design flows defined in pars. (c) to (g).

Design management zone or DMZ means a 3-dimensional area, bounded by a set horizontal distance from the application or containment area, as specified in Table 4, ch. NR 140, and by variable vertical distance which extends from the land surface downward through all saturated formations.

Discharge as defined in ch. 283, Stats., when used without qualification includes a discharge of any pollutant.

Discharge of pollutant as defined in ch. 283, Stats., means any addition of any pollutant to the waters of this state from any point source including the land application of sludge.

Disinfection means the operation of an ultraviolet lamp unit, or the addition of chemical disinfectants with adequate mixing and detention times, to provide pathogen reductions.

Domestic wastewater means the type of wastewater normally discharged from plumbing facilities in private dwellings or commercial domestic establishments and includes, but is not limited to, sanitary, bath, laundry, dishwashing, garbage disposal and cleaning wastewaters.

Dry land access means a sewage treatment facility service road which has a minimum elevation of at least one foot above the regional flood elevation.

Effluent concentrations consistently achievable through proper operation and maintenance means:

- (a) For a given pollutant parameter, the 95th percentile value for the 30-day average effluent quality achieved by a treatment works in a period of at least 2 years, excluding values attributable to upsets, bypasses, operational errors, or other unusual conditions, and
- (b) A 7-day average value equal to 1.5 times the value derived under par. (a).

Facilities eligible for treatment equivalent to secondary treatment means treatment works which meet all of the following:

- (a) The BOD5 and SS effluent concentrations consistently achievable through proper operation and maintenance of the treatment works exceed the minimum level of the effluent quality set forth in s. NR 210.05 (1) (a) and (b);
- (b) Trickling filters, aerated lagoons or waste stabilization ponds are used as the principal processes; and
- (c) The treatment works provide significant biological treatment of municipal wastewater.

Effluent limitation as defined in ch. 283, Stats., means any restriction established by the department, including schedules of compliance, on quantities, rate, and concentrations of chemical, physical, biological and other constituents which are discharged from point sources into waters of the state.

Excessive infiltration/inflow means the quantities of infiltration/inflow which can be economically eliminated from a sewerage system by rehabilitation, as determined in a cost-effectiveness analysis that compares the cost of correcting the infiltration/inflow conditions to the total costs for transportation and treatment of the infiltration/inflow.

General permit means a permit for the discharge of pollutants issued by the department under s. 283.35, Stats.

Groundwater means the portion of subsurface water which is within the zone of saturation and includes but is not limited to perched water tables, shallow regional groundwater tables, and aquifers or zones that are seasonally, periodically or permanently saturated.

High groundwater level means the higher of either the elevation to which the soil is saturated as observed as a free water surface in an unlined hole or the elevation to which the soil has been seasonally or periodically saturated as indicated by soil color patterns throughout the soil profile.

Highest anticipated groundwater elevation means the sum of the calculated mounding effects of the disposal discharge and the seasonal high groundwater level.

Hydraulic application rate means the average daily volume of effluent discharged to a designed acreage of the land application system during a calendar month or other period of time specified in a WPDES permit. The rate is calculated by dividing the total discharge volume for the month or period of time by the acreage of land and by the number of days in the month or period of time, usually expressed in units of gallons per acre per day. For overland flow systems, the hydraulic application rate is expressed as a flow rate per unit width of slope per day.

Hydraulic constraint means the structural collapse of a sewer, an accumulation of material in a sewer or an insufficiently-sized sewer such that sewage flow is impeded or stopped from flowing downstream.

Hydrogeologist means a person who is a graduate of an accredited institution of higher education and who has successfully completed 30 semester hours or 45 quarter hours of course work in geology. At least 6 semester hours or 9 quarter hours of the geology course work must be in hydrogeology, geohydrology or groundwater geology. This person shall also have acquired through education and actual field experience the ability to direct the drilling of borings, and the installation and development of wells; describe and classify geology samples and evaluate and interpret geologic and hydrogeologic data in accordance with the requirements of chs. NR 110 and 206.

Industrial user means:

- Any nongovernmental, nonresidential user of a municipally owned sewerage system which discharges more than the equivalent of 25,000 gallons per day (gpd) of sanitary wastes and which is identified in the Standard Industrial Classification Manual, 1972, United States Office Management and Budget, as amended and supplemented as of October 1, 1978 under one of the following divisions:
 - Division A. Agriculture, Forestry, and Fishing
 - Division B. Mining
 - Division D. Manufacturing
 - Division E. Transportation, Communications, Electric, Gas, and Sanitary Services
 - Division I. Services.
- In determining the amount of a user's discharge, domestic wastes or discharges from sanitary conveniences may be excluded.
- After applying the sanitary waste exclusion in subd. 1., discharges in the above divisions that have a volume exceeding 25,000 gpd or the weight of biochemical oxygen demand (BOD) or suspended solids (SS) equivalent to that weight found in 25,000 gpd of sanitary waste are considered industrial users. Sanitary wastes, for purposes of this calculation of equivalency, are the wastes discharged from residential users. The municipality shall, with the department's approval, define the strength of the residential waste discharges in terms of parameters including biochemical oxygen demand (BOD) and suspended solids (SS) per volume of flow as a minimum. Dischargers with a volume exceeding 25,000 gpd or the weight of BOD or SS equivalent to that weight found in 25,000 gpd of sanitary waste are considered as industrial users.
- Any nongovernmental user of a municipally owned sewerage system which discharges wastewater to the sewerage system which contains toxic pollutants or poisonous solids, liquids, or gases in sufficient quantity either singly or by interaction with other wastes, to contaminate the sludge of any municipal system, or injure or interfere with any sewage treatment process, constitutes a hazard to humans or animals, creates a public nuisance, or creates any hazard in or has an adverse effect on the waters receiving any discharge from the treatment works;
- All commercial users of an individual system constructed with grant assistance under s. NR 128.07.

Infiltration means water other than wastewater that enters a sewerage system (including sewer service connections) from the ground through such sources as defective pipes, pipe joints, connections, or manholes. Infiltration does not include, and is distinguished from, inflow.

Inflow means water other than wastewater that enters a sewerage 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.

Interceptor sewer means a sewer whose primary purpose is to transport wastewaters from collector sewers to a treatment facility.

Intermediate sludge storage means the storage of sludge for a period of more than 24 hours and no more than 3 months.

Lagoon means those sewage treatment facilities where the wastewater or sludge containment structure is constructed primarily of earthen materials.

Long-term sludge storage means the storage of sludge for a period exceeding 3 months.

Municipal wastewater means the mixture of domestic, process and other wastewater tributary to any given municipal sanitary sewage or treatment system.

Municipality as defined in ch. 283, Stats., means any city, town, village, county, county utility district, town sanitary district, town utility district, school district or metropolitan sewage district or any other public entity created under law and having authority to collect, treat or dispose of sewage, industrial wastes or other wastes.

NEC means the NFPA 70 National Electrical Code. Copies of the National Electrical Code are available for inspection at the offices of the department of natural resources, the secretary of state's office, and the legislative reference bureau. Copies may be obtained for personal use from the National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169-7471.

New source as defined in ch. 283, Stats., means any point source the construction of which commenced after the effective date of applicable effluent limitations or standards of performance.

NH₃-N means ammonia nitrogen.

Noncontact cooling water means water used for cooling which does not come into contact with any raw material, intermediate or finished product, or waste and has been used in heat exchangers, air or refrigeration compressors, or other cooling means where contamination with process waste is not normally expected.

Owner means the state, county, town, town sanitary district, city, village, firm, company, institution, association, utility district, school district, metropolitan sewerage district, or individual owning or operating a sewerage system.

Owner or operator as defined in ch. 283, Stats., means any person owning or operating a point source of pollution.

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.

Permit as defined in ch. 283, Stats., means a permit for the discharge of pollutants issued by the department under ch. 283, Stats.

Permittee means a municipality, industry, public agency or commercial domestic establishment which is issued a permit.

Person as defined in ch. 283, Stats., means an individual, owner or operator, corporation, partnership, association, municipality, interstate agency, state agency or federal agency.

pH excursion means an unintentional and temporary incident in which the pH value of the discharge wastewater exceeds the range set forth in the applicable effluent limitations as specified in the permit.

Planning area means that area under study as part of a facilities plan.

Planning period means the period over which sewerage system alternatives are evaluated for cost-effectiveness. The planning period begins with the initiation of the operation of the proposed facilities.

Point source as defined in ch. 283, Stats., means any discernible, confined and discrete conveyance including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation or vessel or other floating craft from which pollutants may be discharged either into the waters of this state or into a publicly owned treatment works. Point source does not include diffused surface drainage or any ditch or channel which serves only to intermittently drain excess surface water from rain or melting snow and is not used as a means of conveying pollutants into waters of the state. Point source does not include uncontrolled discharges composed entirely of storm runoff when these discharges are uncontaminated by any industrial or commercial activity, unless the particular storm runoff discharge has been identified by the department as a significant contributor of pollution.

Pollutant as defined in ch. 283, Stats., means any dredged spoil, solid waste, incinerator residue, sewage, garbage, refuse, oil, sewage sludge, munitions, chemical wastes, biological materials, radioactive substance, heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal and agricultural waste discharged into water.

Pollution as defined in ch. 283, Stats., means man-made or man-induced alteration of the chemical, physical, biological or radiological integrity of water.

Private interceptor main sewer means a sewer serving two or more buildings and not part of the municipal sewer system.

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.

Process wastewater means any water which, during manufacturing or processing, comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, byproduct, or waste product, and is likely to contain in solution or suspension various components of such raw materials or products.

Publicly owned treatment works has the meaning specified under s. NR 211.03 (11).

Reviewable project means any construction or installation project for which department approval is required, pursuant to s. 281.41, Stats., including any new sewerage system; and, any improvements, extensions, or alterations of existing sewerage systems which may effect the quality or quantity of effluent or the location of any outfall.

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.

Sanitary sewer overflow structure means the physical structure, hydraulic mechanisms and piping specifically constructed to convey a sanitary sewer overflow.

Satellite sewage collection system means a municipally owned or a privately owned sewage collection system that conveys wastewater to another satellite sewage collection system or to another sewerage system that provides wastewater treatment and discharges under a separate WPDES permit.

Schedule of compliance as defined in ch. 283, Stats., means a schedule of remedial measures including an enforceable sequence of actions or operations leading to compliance with an effluent limitation or other limitation, prohibition or standard.

Secretary as defined in ch. 283, Stats., means the secretary of the department or the secretary's designee.

Severe property damage means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources. Severe property damage does not mean economic loss caused by delays in production.

Sewage as defined in s. 299.01, Stats., means the water carried wastes created in and to be conducted away from residences, industrial establishments, and public buildings as defined in s. 101.01 (12), Stats., with such surface or groundwater as may be present.

Sewage collection system means the common sanitary sewers, interceptor sewers and appurtenant equipment, such as lift stations, within a sewerage 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 sewerage system owner.

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.

“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.

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.

Sewage treatment facility overflow structure means the physical structure, hydraulic mechanisms and piping specifically constructed to convey a sewage treatment facility overflow.

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.

Sewer service area means that area served or anticipated to be served by a sewage collection system.

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.

Short-term sludge storage means the storage of sludge for a period of no more than 24 hours.

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.

Sludge means the accumulated solids generated during the biological treatment, chemical treatment, coagulation or sedimentation of water or wastewater.

Sludge storage means the retention of sludge at a treatment plant or at an approved off-site facility.

Staging period means the period of time during which reserve capacity will be provided in the sewerage system for future domestic, commercial, and industrial

Standard of performance means any restriction established on quantities, rates and concentrations of chemical, physical, biological and other constituents of wastewaters which are or may be discharged from new sources into the waters of the state.

Storm water or **storm runoff** means water resulting from melting snow or rainfall. (28) "Sewage collection system" means the common sanitary sewers within a sewerage 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, from private property to the public sanitary sewer, or its equivalent, are specifically excluded from the definition of "sewerage collection system"; except that pumping units and pressurized lines for individual structures or groups of structures may be included as part of a "sewerage collection system" when such units are cost effective and are owned and maintained by the sewerage system owner.

Toxic pollutants as defined in ch. 283, Stats., means those pollutants or combinations of pollutants, including disease-causing agents, which after discharge and upon exposure, injection, inhalation or assimilation into any organism, either directly from the environment or indirectly by ingestion through food chains, will, on the basis of information available to the department, cause death, disease, behavioral abnormalities, cancer, genetic mutation, physiological malfunctions, including malfunctions in reproduction or physical deformations, in such organisms or their offspring.

Treatment process means a physical, biological or chemical action that is applied to wastewater to remove or reduce pollutants. A treatment process may consist of multiple individual treatment units. Treatment process includes screening, chemical treatment, sedimentation, biological treatment, filtration, disinfection and sludge digestion.

Treatment unit means individual structures or equipment within a sewage or wastewater treatment facility that are part of a treatment process. Typical treatment units are screens, clarifiers, aeration tanks, filters, digesters and lagoons.

Treatment work as defined in ch. 283, Stats., means any devices and systems used in the storage, treatment, recycling and reclamation of municipal sewage or industrial waste of a liquid nature or necessary to recycle or reuse water at the most economical cost over the estimated life of the work, including intercepting sewers, outfall sewers, sewage collection systems, cooling towers and ponds,

pumping, power and other equipment, and their appurtenances, extensions, improvements, remodeling, additions, and alterations thereof, elements essential to provide a reliable recycled supply such as standby treatment units and clear well facilities, and any works, including site acquisition of the land that will be an integral part of the treatment process or is used for ultimate disposal of residues resulting from such treatment. Additionally, treatment work means any other method or system for preventing, abating, reducing, storing, treating, separating or disposing of municipal waste, including storm water runoff, or industrial waste, including waste in combined storm water and sanitary sewer systems.

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

Vessel as defined in ch. 283, Stats., means any watercraft or other artificial contrivance used or capable of being used as a means of transportation on water.

Wastewater means cooling water, contaminated storm water, noncontact cooling water, process wastewater, sewage or any combination of these.

Wastewater treatment facility means all the structures, pipes and other equipment that constitute the various treatment processes and treatment units employed to reduce pollutants in wastewater.

Water table observation well means any groundwater monitoring well whose screen intersects the water, which is installed for the specific purpose of determining either the elevation of the water table or the physical, chemical, biological or radiological properties of groundwater at the water table, or both.

Waters of the state as defined in ch. 283, Stats., means those portions of Lake Michigan and Lake Superior within the boundaries of Wisconsin, all lakes, bays, rivers, streams, springs, ponds, wells, impounding reservoirs, marshes, water courses, drainage systems and other surface or groundwater, natural or artificial, public or private within the state or under its jurisdiction, except those waters which are entirely confined and retained completely upon the property of a person.

WPDES permit means the Wisconsin pollutant discharge elimination system permit issued by the department under ch. 283, Stats., for the discharge of pollutants.