

# PERMIT FACT SHEET

## General Information

Permit Number:	WI-0046540-06-0
Permit Name:	Water Treatment and/or Conditioning
Permittee:	Point source dischargers in the state of Wisconsin
Discharge Location:	Land surface or surface waters in the state of Wisconsin
Receiving Water:	Surface water or groundwater in the state of Wisconsin

## WPDES Permit Program Background

Wisconsin Statutes and regulations require a Wisconsin Pollutant Discharge Elimination System (WPDES) permit for the discharge of any pollutant through a point source into any waters of the state which includes surface waters and groundwater. WPDES permits are issued by the Wisconsin Department of Natural Resources (department) consistent with applicable federal requirements. These permits contain requirements that include pollutant discharge limitations, monitoring and reporting or record keeping requirements, best management practices and other provisions to reduce, eliminate, or minimize the risk of pollutants impacting human health and water quality.

A WPDES permit is an allowance for a facility to discharge a specified amount of a pollutant into the waters of the state under specific conditions. There are two basic types of WPDES permits:

- Individual permit. An individual permit is a permit specifically tailored to an individual facility. Once a facility submits a complete application(s), the department develops a draft permit for that facility based on the information contained in the permit application (e.g., type of activity, nature of discharge, receiving water quality). After a public participation process, the department may issue the permit to the facility for a specific time period (not to exceed five years) with a requirement that the facility reapply 180 days prior to the expiration date. Public notices are posted for each individual permit application and proposed individual permit permittee.
- General Permit. A general permit covers a group or category of dischargers with similar qualities within a designated area of the state under one WPDES permit. A general permit provides coverage to several dischargers. To obtain coverage under a general permit for a discharge of pollutants, an owner or operator must submit a notice of intent (NOI) requesting general permit coverage. General permits have an effective term of 5 years from the date of issuance. If a permittee submitted a complete and timely NOI to be covered by the general permit and the department approves coverage, the discharge of pollutants is then subject to all conditions of the general permit and these terms or conditions shall continue to apply until the effective date of the reissued general permit. Public notices are issued for the general permit and not for the permittee covered under the general permit. A person may apply for general permit coverage at the time a general permit is issued or a person may apply during the term of the permit.

## General Permit Objective

This general permit was created to properly manage discharges from water treatment and conditioning facilities to waters of the state to protect public health and water quality of groundwater and surface water within the state of Wisconsin.

## General Permit Description

Water treatment and conditioning process eligible for this general permit include: iron/manganese filters, demineralizers, lime and soda ash softeners, coagulation units, granular media filters, and membrane filtration units. Other processes covered include filters that are not regenerated with potassium or sodium permanganate and filters that are continuously or batch regenerated with very low concentrations of potassium or sodium permanganate. Not all processes are covered under this general permit. For instance, in areas where radium or arsenic is present in the water supply, any of the treatment systems listed as applicable in this permit may concentrate radium or arsenic to a point where it becomes a human health or water quality concern and is not properly regulated by this general permit.

### Iron/manganese Filters

Iron/manganese may be present in water as colloidal iron/manganese, soluble ferrous iron/manganese, or a chelated compound. Colloidal iron/manganese can be removed by coagulation, flocculation and precipitation or filtration. Removal of soluble ferrous iron/manganese and chelated compounds requires oxidation to form a precipitate. Oxidation can be accomplished by aeration, chlorine, hypochlorites, chlorine dioxide, or potassium permanganate ( $\text{KMnO}_4$ ). Adjusting the pH optimizes the precipitation by balancing solubility and oxidation potential. Precipitation of ferric hydroxide is impeded when the pH of the water is less than 7.8. Lime, soda ash or other caustic may be added to raise the pH. The precipitated insoluble iron/manganese can be removed by settling or filtration.

Aeration is usually followed by filtration through a mixed media filter for removal of solids. Depending on the precipitate formed and the quality of water needed, polymer may be required for coagulation and flocculation. With large volumes of solids, the filter may be preceded by a clarifier or other type of settling tank.

Oxidation by  $\text{KMnO}_4$  is performed in the presence of a manganese catalyst. The manganese dioxide is affixed to a "green sand" (either naturally occurring sodium aluminum silicates or anthracite coated sands). There are two common methods of oxidizing the iron/manganese and regenerating the manganese dioxide. For home service units such as Culligan operations, the manganese dioxide is batch regenerated with a high concentration of  $\text{KMnO}_4$ . As the iron/manganese passes through the sand, the manganese dioxide oxidizes the iron/manganese and the precipitate is filtered out. For municipal water supplies,  $\text{KMnO}_4$  is continuously fed to the water at a low concentration prior to the filter. The  $\text{KMnO}_4$  directly oxidizes the iron/manganese and the precipitate is filtered out. If too little  $\text{KMnO}_4$  is used, the manganese dioxide will oxidize the iron/manganese. If too much  $\text{KMnO}_4$  is used, it will regenerate the manganese dioxide.

Wastewaters generated from iron/manganese filtration may include iron/manganese filter backwash, settling tank decant water prior to clean out, and potassium permanganate regeneration waste from batch regeneration.

The filter backwash from continuously regenerated iron/manganese filters is performed using water supply water dosed with the normal level of potassium or sodium permanganate. These systems are operated so that no pink color is present in the backwash discharge.

The regeneration waste (and rinse water) from batch regeneration contains extremely high concentrations of potassium permanganate. This waste can be captured and reused, or discharged to a sanitary sewer. There are two other acceptable alternatives:

The waste can be discharged to septic system designed to handle domestic wastewater. There are several factors that will mitigate the oxidizing effect of the potassium permanganate on the wastewater treatment organisms. Typically, 2-4 ounces of saturated potassium permanganate solution is used to regenerate one cubic foot of green sand. The solution reacts with the substances that have attached to the sand granules during the service period. If the filter settings (dosing rate/period, regeneration interval, etc.) are properly

adjusted, there will be minimal residual unreacted potassium permanganate going out to the septic system. Even if there was some unreacted potassium permanganate going out, 80% of the overall regenerant is backwash. This greatly dilutes the remaining unreacted solution. Even if the diluted solution got into the system unreacted, it would immediately react with the organic matter, thus eliminating its biocidal effect.

The waste can also be allowed to seep into the ground, provided there is no potential for runoff of the waste to a surface water. Additionally, the seepage area should not create a nuisance condition, such as burned or discolored vegetation.

Under no circumstances can a batch regenerated iron/manganese filter using potassium permanganate be allowed to discharge to a surface water without treatment, because of the toxicity of this strong oxidizing agent to aquatic and other biological life.

#### Demineralizers or Ion Exchangers

Demineralizer or ion exchangers involve the exchange process between a solid (resin or a zeolite) and a liquid (water). In the process, the less desired compounds are swapped for those that are considered more desirable. These desirable ions are loaded onto the resin material. In the exchange of cations during water treatment, positively charged ions that come into contact with the ion exchange resin are exchanged with positively charged ions available on the resin surface, usually sodium. In the anion exchange process, negatively charged ions are exchanged with negatively charged ions on the resin surface, usually chloride.

Wastewater from demineralizers or ion exchangers include backwashing or regeneration waste from the resin beds. The regeneration waste from sodium or potassium ion exchangers contains extremely high concentrations of chlorides. This waste can be captured and reused or discharged to a sanitary sewer. Under no circumstances should wastewater from sodium or potassium ion exchangers be allowed to discharge to a surface water or groundwater without treatment.

#### Lime Softening

Lime softening is the reduction of hardness by the application of hydrated lime ( $\text{Ca}(\text{OH})_2$ ) to water to precipitate  $\text{CaCO}_3$  and  $\text{Mg}(\text{OH})_2$ . Lime softening wastewater includes dewatering of sludge and clarifier blow-off, drainage, and washwater.

Sludge from the lime softening process can have beneficial amendment properties for certain soils that are acidic and/or low in calcium. For this reason, most lime softener sludges are being land applied to agricultural sites. Lime sludges are regulated under s. NR 518.04(3), Wis. Adm. Code.

#### Alum Coagulation Units

Alum coagulation is the addition of aluminum sulfate ( $\text{Al}_2(\text{SO}_4)_3 \cdot 14 \text{H}_2\text{O}$ ) prior to a settling basin. Activated carbon may be added for taste and odor control. Also, chlorine may be added as a disinfectant. Sludge is removed by periodically decanting (discharging) all water from the basin and pumping the sludge to a holding tank. Following settling in the holding tank, more water is decanted for discharge and the sludge is landspread to department approved sites. Alum sludges are regulated under s. NR 518.04(3), Wis. Adm. Code.

#### Granular Media Filters

Granular media filters involve passing the treatment flow through a bed of media that is typically made of sand (mono-media) or sand and anthracite (dual-media), where suspended particles are physically removed by attachment to the media or previously removed particles. Examples include slow sand filters, rapid sand filters, deep bed filters, or multimedia filters. Wastewater from granular media filters mainly includes backwashing the filters.

### Coagulation/Flocculation and Sedimentation Units

Coagulation/Flocculation involves the addition of polymers that clump the small, destabilized particles together into larger aggregates so that they can be more easily separated from the water. Following coagulation/flocculation, the water and flocs will flow to a sedimentation tank that allows suspended particles to settle out of water as it flows slowly through the tank. A layer of accumulated solids, called sludge, forms at the bottom of the tank and is periodically removed. Occasionally, these tanks will be temporary shut down for maintenance and cleaning. Discharges include the water from draining the tank and washwater during cleaning.

### Membrane Filtration

Membrane filtration uses semipermeable membranes to separate particulates, ions, salts or other substances from water. Water is forced across the membrane by a driving force (water pressure) leaving particulates behind on the membrane or in solution as a concentrate. The type of substances removed will be dependent on the membrane type, pore size, pressure, and quality of the raw water. The waste concentrate is regularly discharged and the membrane is flushed off with air and water. Periodically, the membrane is chemically washed with caustic soda and/or citric acid. Discharges of the concentrate and cleaning wastes that meet the requirements of this permit may be discharged after treatment. Examples of membrane filtration are reverse osmosis (RO) units and microfiltration. The discharge from RO concentrate is often called RO reject water.

## **General Permit Summary**

This general permit establishes applicability criteria, obtaining permit coverage requirements, monitoring and reporting requirements, and standard requirements for discharges from water treatment and conditioning facilities. The permit requirements are provided to protect human health and protect and maintain the physical, chemical and biological integrity of the waters of the state by eliminating or minimizing the discharge of pollutants.

## **Fact Sheet Organization**

This fact sheet explains the rationale and assumptions used in deriving the conditions and requirements set forth in the general permit. Additionally, this fact sheet highlights changes in permit conditions that the department proposes to make when reissuing the Water Treatment and/or Conditioning WPDES permit. This fact sheet compares conditions in the previous general permit to those in the reissued permit. The previous permit remains in effect until the permit is reissued. The tables that follow were taken from the permit and are numbered in this fact sheet as they are numbered in the permit. Shaded text and cells within tables indicate permit conditions that are new or different from those found in the previous permit.

# 1 Applicability Criteria

According to s. NR 205.08(2), Wis. Adm. Code, the department may include applicability criteria in general permits.

## Changes from Previous Permit

- Section 1.1 was added to the permit to define applicable discharges from water treatment and conditioning facilities.
- The discharges not covered in Section 1.2 has been expanded to clearly define all discharges not applicable under this permit. The following discharges were added to the discharges not covered under Section 1.2:
  - Discharges from water treatment processes that significantly concentrate metals and have a reasonable potential to exceed the surface water quality standards in chs. NR 105 and NR 106, Wis. Adm. Code or groundwater standards in ch. NR 140, Wis. Adm. Code;
  - The discharge of domestic wastewater, contaminated stormwater, contaminated groundwater, industrial process wastewaters, whey, whey permeate, whey filtrate, contact cooling water, noncontact cooling water, cooling tower blowdown, leachates, boiler blowdown, or condensates;
  - The discharge from the development or rehabilitation of water supply wells;
  - The discharge from the draining, flushing, leakage testing, or hydrostatic testing of water supply systems;
  - Discharges to a seepage cell or pond system that have a maximum monthly average flow rate equal to or greater than 15,000 gallons per day and require groundwater monitoring in accordance with s. NR 214.21, Wis. Adm. Code. The department may waive the requirement to install a groundwater monitoring well system, allowing facilities to remain eligible under this permit pursuant to s. NR 214.21(1)(d), Wis. Adm. Code;
  - Discharges from any accidental or unplanned release, spill, leak, or overflow;
  - Discharges containing water treatment additives where the additive use is not approved in writing by the department;
  - Discharges that result in the significant lowering of water quality in fish and aquatic life waters identified in s. NR 102.13, Wis. Adm. Code, Great Lakes system waters, and variance waters identified within ss. NR 104.05 through 104.10, Wis. Adm. Code;
  - The increased discharge to fish and aquatic life waters identified in s. NR 102.13, Wis. Adm. Code, Great Lakes system waters, and variance waters identified within ss. NR 104.05 through 104.10, Wis. Adm. Code;
  - The discharge of hazardous substances that are required to be reported under ch. NR 706, Wis. Adm. Code;
  - Discharges that will adversely impact endangered and threatened species, including causing an incidental take, unless the department determines that the discharges comply with the endangered and threatened resource protection requirements of s. 29.604, Wis. Stats., and ch. NR 27, Wis. Adm. Code;

- Discharges that will adversely affect any historic property that is listed property, or on the inventory or on the list of locally designated historic places under s. 44.45, Wis. Stats., unless the department determines that the discharges will not have an adverse effect on any historic property pursuant to s. 44.40(3), Wis. Stats.; and
- Discharges from properties within tribal lands. The Tribe or U.S. EPA regulates discharges within tribal lands (land owned by or held in trust for the tribes and land within recognized reservation boundaries);
- Section 1.3 was added to the permit to define what discharges are excluded from requiring coverage under a WPDES permit.

## 1.1 Discharges Covered

This permit is applicable to water treatment and conditioning facilities (potable and non-potable) that result in discharges of backwash water, regeneration water, concentrate or reject water, unit washwater or drainage water, and decant water or supernatant, or other similar wastewaters associated with the water treatment processing that are discharged to surface waters or indirectly to groundwaters via seepage. The department may require other similar discharges to meet the requirements of this general permit if the department finds that the general discharge in question is innocuous.

This general permit may cover discharges from the following water treatment and conditioning processes: iron/manganese filters; demineralizers or ion exchange units; granular media filters; membrane filtration units; lime/soda ash Softeners; coagulation/flocculation and sedimentation units; or other water treatment and conditioning processes as determined by the department on case-by-case basis.

## 1.2 Discharges Not Covered

According to 40 CFR 122.28(a)(4)(ii), general permits may exclude specified sources from coverage. Below is an explanation for all discharges not covered under the permit.

**Sludges or Precipitated Solids:** Some water treatment systems will generate some amount of sludges or solids. These wastes will be regulated on a case-by-case basis, and not by this general permit. Lime and alum sludges are regulated under s. NR 518.04(3), Wis. Adm. Code.

**Sodium and Potassium Ion Exchange Units:** This general permit does not authorize discharges from sodium or potassium cycle ion exchange units, as regenerant wastewaters from these systems contain very high chloride levels which exceed surface and groundwater standards. These treatment systems are more appropriately regulated under an individual WPDES permit.

**Treatment Systems for Arsenic, Radium, or Other Radionuclides:** Discharges from municipal water supply facilities that use water treatment for radium removal to meet drinking water standards are not addressed by this general permit. The wastewater from these systems may contain radium levels that exceed the Safe Drinking Water Act (SDWA) standard of 5 pCi/L for radium 226 + radium 228. Indirect discharges to the groundwater will need to be evaluated for compliance with the SDWA standard on a case-by-case basis and are therefore more appropriately regulated by an individual WPDES permit. Direct discharges to surface waters may also be a concern. The current Unity Equation contained in Ch. HFS 157, Wis. Adm. Code, limits radium 226 + radium 228 to 60 pCi/L. Direct discharges to surface waters will need to be evaluated for compliance with this limit on a case-by-case basis and are therefore more appropriately regulated by an individual WPDES permit.

There are several different treatment processes that are used to remove various contaminants, **but coincidentally remove radium**. They include electrodialysis, cation exchange, greensand filtration, coprecipitation of radium with barium sulfate, lime softening, hydrous manganous oxide, and reverse

osmosis. All these processes concentrate levels of radium in the byproduct wastewaters. Discharges from such water supply treatment processes need to be regulated under an individual permit for reasons discussed in the previous paragraph.

Discharges from municipal water supply facilities that use water treatment for arsenic removal to meet drinking water standards are not addressed by this general permit. The wastewater from these systems may contain arsenic levels that exceed the Safe Drinking Water Act (SDWA) standard of 10 µg/L. Indirect discharges to the groundwater will need to be evaluated for compliance with the SDWA standard on a case-by-case basis and are therefore more appropriately regulated by an individual WPDES permit. Direct discharges to surface waters may also be a concern. Chapter NR 105, Wis. Adm. Code, has aquatic life and human cancer criteria for arsenic. Direct discharges to surface waters will need to be evaluated for compliance with this code on a case-by-case basis and are therefore more appropriately regulated by an individual WPDES permit.

There are a few different treatment processes that are used to remove various contaminants, **but coincidentally remove arsenic**. They include anion exchange, greensand filtration, activated alumina, media adsorption, chlorination followed by sand or anthracite/sand pressure filtration, and membrane filtration (reverse osmosis and nanofiltration only). All these processes concentrate levels of arsenic in the byproduct wastewaters. Discharges from such water supply treatment processes need to be regulated under an individual permit for reasons discussed in the previous paragraph.

**Metals:** There are a few different water treatment processes that are used to remove various contaminants. If a water treatment process significantly concentrates metals in the byproduct wastewaters and have a reasonable potential to exceed the surface water quality standards in chs. NR 105 and NR 106, Wis. Adm. Code or groundwater standards in ch. NR 140, Wis. Adm. Code, the discharges from such water treatment processes need to be regulated under an individual permit.

**Other Wastewater Sources:** Discharges domestic wastewater, contaminated stormwater, contaminated groundwater, industrial process wastewaters, whey, whey permeate, whey filtrate, contact cooling water, noncontact cooling water, cooling tower blowdown, leachates, boiler blowdown, or condensates are not allowed under this general permit since they may contain contaminants not properly regulated by this general permit. The permittee may mix the wastewater with the above sources if the samples are taken prior to mixing and the other wastewater sources are covered under another general permit or individual permit.

**Well Development Water:** Discharges from well development water from the development, installation, or purging of public or private water supply wells are not covered under this general permit. All well development wastewater may be covered under the Water Supply System Water General Permit WI-0057681.

**Water Supply System Water:** Discharges of water supply system water from the draining, flushing, leakage testing, or hydrostatic testing of water supply systems are not covered under this general permit since they may contain contaminants not properly regulated by this general permit. All water supply system wastewater may be covered under the Water Supply System Water General Permit WI-0057681.

**Groundwater Monitoring:** The 15,000 gpd threshold was chosen as this is the level which a single-level groundwater monitoring system is required in accordance s. NR 214.21(1)(b), Wis. Adm. Code. Groundwater monitoring systems require more review and oversight as provided by an individual permit. The department may waive the requirement to install a groundwater monitoring well system for discharges with a maximum monthly average flow rate equal to or greater than 15,000 gpd to remain eligible under this permit pursuant to s. NR 214.21(1)(d), Wis. Adm. Code. Factors to be considered for granting this waiver may include: whether the system is operated at nutrient and hydraulic application rates which do not exceed the agronomic needs of the cover crop, whether the

geology, soils and proposed hydraulic loading rate indicate that groundwater contamination is unlikely, the ratio of the groundwater flow velocity to the hydraulic application rate and the density of the waste material.

**Accidental or Unplanned Discharges:** Any discharge from any accidental or unplanned release, spill, leak, or overflow to a water of state is prohibited under State and Federal Law and not authorized by this general permit. However, this general permit does provide the necessary reporting procedures in case an accidental or unplanned discharge does occur to a water of the state.

**Unapproved Water Treatment Additives:** The discharge shall not contain a water treatment additive where the additive use is not approved in writing by department. Many additives are toxic at certain rates to fish and aquatic life and require approval by the department prior to initiating use. Facilities discharging wastewater with unapproved additives will be in violation of this permit. Water treatment additives which are approved under ANSI/NSF Standard 60 “Drinking Water Treatment Chemical” must be receive additive review and approval by the department for discharges to surface waters to be authorized by this permit. ANSI/NSF Standard 60 when evaluating chemical only considered human health effects and did not consider aquatic toxicity. For groundwater discharges authorized by this permit, the water treatment additives which are approved under ANSI/NSF Standard 60 “Drinking Water Treatment Chemical” are pre-approved for use by the department as the department’s major concern for groundwater discharge is human health which ANSI/NSF Standard 60 has evaluated.

**Wetlands:** Discharges covered under this permit shall meet the wetland protection requirements of ch. NR 103, Wis. Adm. Code, and shall not adversely impact wetlands in accordance with s. NR 106.61(1)(b), Wis. Adm. Code. For discharges that impact wetlands, a facility will need to submit information that allows the department to determine if a discharge meets code requirements.

**Outstanding and Exceptional Resource Waters:** Discharges to outstanding and exceptional resource waters in ch. NR 102, Wis. Adm. Code, or discharges that would lower the water quality of downstream outstanding and exceptional water resources are not authorized by this permit as specified in s. NR 106.61(1)(c), Wis. Adm. Code. Regulation of discharges to outstanding and exceptional resource waters requires an individual permit which provides the oversight, monitoring and discharge limitations necessary to protect these types of receiving waters. The permittee can use the surface water data viewer (<http://dnrm.wi.gov/sl/?Viewer=SWDV>) to identify the outstanding and exceptional resource waters in the county that the discharge will occur.

**Significant Lowering of Water Quality:** In a case where a proposed discharge would result in the significant lowering of water quality in fish and aquatic life waters identified in s. NR 102.13, Wis. Adm. Code, Great Lakes system waters, and variance waters identified within ss. NR 104.05 through 104.10, Wis. Adm. Code, the discharge would not be authorized under this permit. The department requires that the applicant apply for coverage under an individual permit. The discharge will then be evaluated by the department under the antidegradation requirements of ch. NR 207, Wis. Adm. Code. The department may suggest that applicants evaluate a variety of options to ensure no significant lowering of water quality occurs in the receiving water. Options include improved wastewater treatment effectiveness, wastewater reuse, directing the discharge to a seepage area, an alternate discharge location, process changes to reduce the pollutant discharge level, pollutant prevention activities, etc.

**Increased Discharges:** According to s. NR 207.02(6)(a), Wis. Adm. Code, an “Increased discharge” means any change in concentration, level or loading of a substance which would exceed an effluent limitation specified in a current WPDES permit. If a facility proposes an increased discharge to fish and aquatic life waters identified in s. NR 102.13, Wis. Adm. Code, Great Lakes system waters, and variance waters identified within ss. NR 104.05 through 104.10, Wis. Adm. Code, the discharge is not authorized under this permit. An evaluation of the proposed increased discharge would need to be



conducted in accordance with the antidegradation requirements of ch. NR 207, Wis. Adm. Code. Regulation of increased discharges require the oversight, monitoring and discharge limitations of an individual permit as effluent limitations in a general permit cannot be modified for an individual discharger.

**Hazardous Substances:** Discharges of hazardous substances that are required to be reported under ch. NR 706, Wis. Adm. Code are not authorized by this permit. Exemptions for discharge of these substances require an individual permit which provides the oversight, monitoring and discharge limitations necessary to protect receiving waters. Section 292.11(2)(a), Wis. Stats., 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.

**Endangered and Threatened Resources:** Discharges that affect endangered and threatened resources are not eligible for this permit, unless the department determines that the discharges comply with the endangered and threatened resource protection requirements of s. 29.604, Wis. Stats., and ch. NR 27, Wis. Adm. Code. Facilities with discharges that require more oversight to ensure that they do not violate these protection requirements may need to be covered by an individual permit. If the permittee has reason to believe that endangered and threatened resources will be impacted, then further Wisconsin Natural Heritage Inventory (NHI) screening should be conducted by the permittee. Please contact the [ER Review Program](#) if you need information about whether a proposed project may impact rare species or other sensitive resources.

**Historical Properties:** Discharges that will adversely affect any historic property that is listed property, or on the inventory or on the list of locally designated historic places under s. 44.45, Wis. Stats., are not eligible for this permit, unless the department determines that the discharges will not have an adverse effect on any historic property pursuant to s. 44.40(3), Wis. Stats. The department is required by law to review the project for historic preservation compliance. Please contact the [DNR Archaeologist](#) with any questions.

**Discharges within Tribal Lands:** The department lacks the authority to issue WPDES permits within Tribal lands due to the state delegation agreement with U.S. EPA. In such instances, the Tribe or U.S. EPA regulates the discharge and would issue a discharge permit

**Surface Water Standards and Groundwater Standards:** The discharges from facilities eligible for this permit shall not have a reasonable potential to exceed any applicable surface water or groundwater standards. This also includes any other applicable surface water quality standards downstream of the discharge (i.e. tribal or other states). Facilities with discharges that have a reasonable potential (as specified in ch. NR 106, Wis. Adm. Code) to violate any applicable surface water quality standards or ch. NR 140, Wis. Adm. Code, groundwater quality standards would normally require the increased oversight, monitoring and water quality limitations found in a site-specific individual permit.

### 1.3 Permit Exclusions

Below is an explanation for all discharges excluded from requiring coverage under a WPDES permit. This list is based on 40 CFR Part 122.3.

**Holding Tanks:** Any portion of the wastewater directed to a holding tank then pumped and hauled to publicly-owned treatment works (POTW) is excluded under this general permit as the POTW already has a WPDES general permit. Rather, this general permit applies only to direct discharges to a subsurface soil absorption system.

**Publicly-Owned Treatment Works:** Any portion of the water directed to a publicly-owned wastewater treatment works (POTW) is excluded under this general permit as the POTW already has

a WPDES general permit. Rather, this general permit applies only to direct discharges to waters of the state. Direct discharges include discharges to storm sewers or other conveyances to a surface water (such as swales, ditches, sloped land, etc.) or seepage to the groundwater.

**Privately-Owned Treatment Works:** Any portion of the water directed to a privately-owned treatment works is excluded from coverage under this general permit as these treatment works already have a WPDES general permit. Rather, this general permit applies only to direct discharges to waters of the state. Direct discharges include discharges to storm sewers or other conveyances to a surface water (such as swales, ditches, sloped land, etc.) or seepage to the groundwater.

## 2 Obtaining Permit Coverage

### 2.1 Submittal of a Notice of Intent

In accordance with s. NR 205.08(3), Wis. Adm. Code, on a case-by-case basis the department may by letter require a discharger to submit a notice of intent (NOI) to be covered by a general permit. Additionally, general permits shall specify the deadlines for submitting NOI to be covered under the permit as specified by 40 CFR 122.28(b)(2)(iii). The applicant must submit a complete NOI under the general permit to the department at least thirty (30) business days before the expected start date of discharge. As of December 21, 2020, all NOIs submitted in compliance with this section must be submitted electronically by the discharger in compliance with 40 CFR 122.28(b)(2)(i) and 40 CFR 127.

### 2.2 Incomplete NOI

In accordance with s. 283.37(6), Wis. Stats., for general permits the department may require the owner or operator to submit information regarding any discharge. Therefore, the department may require an applicant to submit data necessary to complete any deficient NOI. This may include any additional data other than that requested in the NOI or a new complete NOI where the deficiencies are extensive or the appropriate form has not been used.

### 2.3 Granting of Coverage

In accordance with s. NR 205.08(3), Wis. Adm. Code, following receipt of a complete NOI, the department shall issue a determination on whether a discharger is covered by a general permit. Additionally, general permits shall specify whether a discharger that has submitted a complete and timely notice of intent to be covered in accordance with the general permit and that is eligible for coverage under the permit, is authorized to discharge in accordance with the permit upon receipt of notification of inclusion by the department pursuant to 40 CFR 122.28(b)(2)(iv). Therefore, the permit requires that the applicant receive a coverage letter from the department prior to commencing discharge to the waters of the state. Upon receipt of the coverage letter, the applicant is hereby granted coverage and authorized to discharge to the waters of the state under the general permit. If the applicant has not received a coverage letter from the department, they are not permitted to discharge.

**Note:** In accordance with s. NR 205.08(5), Wis. Adm. Code, If the department notifies an applicant that a discharge is ineligible for coverage under this general permit but still requires WPDES permit coverage, the applicant shall apply for and obtain coverage under an individual WPDES permit (or alternative general permit, if available) prior to discharging to the waters of the state. The necessary steps to apply for coverage under an individual permit can be found at the department website: <http://dnr.wi.gov/topic/wastewater/PermitApplications.html>.

### 3 Surface Water Discharge Requirements

The requirements of this section apply only to surface water discharges. Surface water discharges means any discernible, confined and discrete conveyance system including but not limited to any pipe, ditch, channel, tunnel, conduit, swale or storm sewer that will carry wastewater to creeks, streams, ponds, marshes, bays, reservoirs, rivers, lakes, or other surface water within the state of Wisconsin. The department considers discharges to a storm water pond that is hydraulically connected to a surface water is as a surface water discharge.

#### 3.1 Sampling Point(s)

In accordance with s. NR 218.07, Wis. Adm. Code, the location of sampling points shall be as specified in an applicable permit. The discharge(s) shall be limited to the waste type(s) designated for the listed sampling point(s).

Sampling Point Designation	
Sampling Point Number	Sampling Point Location, WasteType/Sample Contents and Treatment Description (as applicable)
001	Discharges from water treatment and/or conditioning processes shall be sampled following treatment (if applicable) and prior to discharge to surface water or wetlands via Outfall 001. The samples taken shall be representative of the discharge that consists solely of the treated effluent before mixing with any other water. Sampling is only required when wastewater is being discharged during the reporting frequency.

#### 3.2 Monitoring Requirements and Effluent Limitations

According to s. NR 205.08(2), Wis. Adm. Code, the department may include monitoring requirements and effluent limitations in general permits. Monitoring results shall be reported at the intervals specified in the permit pursuant to s. NR 205.07(1)(r), Wis. Adm. Code. Additionally, samples shall be taken at the frequencies specified in the WPDES permit authorizing discharge pursuant to s. NR 218.10, Wis. Adm. Code. The permittee shall comply with the following monitoring requirements and limitations.

##### 3.2.1 Sampling Point (Outfall) 001 – Surface Water Discharge

Monitoring Requirements and Effluent Limitations						
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Reporting Frequency	Notes
Flow Rate		gpd	Daily	Total Daily	Monthly	
Suspended Solids, Total	Daily Max	40 mg/L	Monthly	Grab	Monthly	
	Monthly Avg	40 mg/L				
pH Field	Daily Min	6.0 s.u.	Monthly	Grab	Monthly	
	Daily Max	9.0 s.u.				
	Daily Max	19 µg/L	Monthly	Grab	Monthly	

<b>Monitoring Requirements and Effluent Limitations</b>						
<b>Parameter</b>	<b>Limit Type</b>	<b>Limit and Units</b>	<b>Sample Frequency</b>	<b>Sample Type</b>	<b>Reporting Frequency</b>	<b>Notes</b>
<b>Chlorine, Total Residual</b>	<b>Weekly Avg</b>	<b>7.3 µg/L</b>				
	<b>Monthly Avg</b>	<b>7.3 µg/L</b>				
<b>Dissolved Oxygen</b>	<b>Daily Min</b>	<b>See Permit Note</b>	<b>Monthly</b>	<b>Grab</b>	<b>Monthly</b>	
<b>Chloride</b>	<b>Daily Max</b>	<b>760 mg/L</b>	<b>Monthly</b>	<b>Grab</b>	<b>Monthly</b>	
	<b>Weekly Avg</b>	<b>400 mg/L</b>				
	<b>Monthly Avg</b>	<b>400 mg/L</b>				
<b>Potassium Permanganate</b>	<b>Daily Max</b>	<b>14 µg/L</b>	<b>Monthly</b>	<b>Measure</b>	<b>Monthly</b>	
	<b>Weekly Avg</b>	<b>0.77 µg/L</b>				
	<b>Monthly Avg</b>	<b>0.77 µg/L</b>				
<b>Manganese, Total Recoverable</b>	<b>Daily Max</b>	<b>1700 µg/L</b>	<b>Monthly</b>	<b>Grab Comp</b>	<b>Monthly</b>	
	<b>Weekly Avg</b>	<b>93 µg/L</b>				
	<b>Monthly Avg</b>	<b>93 µg/L</b>				
<b>Iron, Total Recoverable</b>	<b>Narrative</b>	<b>No Visible Color</b>	<b>Monthly</b>	<b>Visual Inspection</b>	<b>Monthly</b>	
<b>Cadmium, Total Recoverable</b>	-	<b>mg/L</b>	<b>Monthly</b>	<b>Grab Comp</b>	<b>Monthly</b>	
<b>Chromium (+3), Total Recoverable</b>	-	<b>mg/L</b>	<b>Monthly</b>	<b>Grab Comp</b>	<b>Monthly</b>	
<b>Copper, Total Recoverable</b>	-	<b>mg/L</b>	<b>Monthly</b>	<b>Grab Comp</b>	<b>Monthly</b>	
<b>Lead, Total Recoverable</b>	-	<b>mg/L</b>	<b>Monthly</b>	<b>Grab Comp</b>	<b>Monthly</b>	
<b>Nickel, Total Recoverable</b>	-	<b>mg/L</b>	<b>Monthly</b>	<b>Grab Comp</b>	<b>Monthly</b>	
<b>Zinc, Total Recoverable</b>	-	<b>mg/L</b>	<b>Monthly</b>	<b>Grab Comp</b>	<b>Monthly</b>	

<b>Monitoring Requirements and Effluent Limitations</b>						
<b>Parameter</b>	<b>Limit Type</b>	<b>Limit and Units</b>	<b>Sample Frequency</b>	<b>Sample Type</b>	<b>Reporting Frequency</b>	<b>Notes</b>
Hardness, Total as CaCO <sub>3</sub>	-	mg/L	Monthly	Grab Comp	Monthly	
Phosphorus, Total	-	mg/L	Quarterly	Grab	Quarterly	
Water Treatment Additives - Specify	TBD	TBD	Monthly	Grab	Monthly	

### **Changes from Previous Permit**

- The permit includes a definition for surface water discharge under Section 3.
- New outfall and sampling point description have been added to the permit under Section 3.1.
- Sections on flow estimate, composite sample, and grab sample have been removed and included under the definitions in Appendix A of this fact sheet.
- The reporting frequency has been added for all parameters.
- Weekly average and monthly average limits have been added for continuous dischargers to surface water.
- Effluent limitations and monitoring for total recoverable iron and manganese have been added to the permit under Sections 3.2.1 for discharges from iron/manganese removal processes.
- Effluent limitations and monitoring for total residual chlorine, dissolved oxygen, chlorides, have been added to the permit under Section 3.2.1.
- The daily maximum effluent limit for potassium permanganate has been changed from 16 µg/L to 14 µg/L and a weekly and monthly average limit of 0.77 µg/L has been added. Also the test methods for potassium permanganate have changed under Section 3.10.2.
- Monitoring for total hardness, total recoverable cadmium, chromium, and nickel have been added to the permit under Section 3.2.1 for discharges from membrane filtration units.
- The sample frequency has been changed from “quarterly” to “monthly” for all parameters. This change was done to improve the effectiveness of the permit in protecting surface water quality. Additionally, this change will reduce the time period when a facility could unknowingly be out of compliance with the permit.
- Sample frequency reduction procedures have been added to the permit under Section 3.3.
- Sections 3.4-3.14 have been added to the permit to explain monitoring requirements and applicability for flow rate, total suspended solids, pH, total residual chlorine, dissolved oxygen, chlorides, potassium permanganate, manganese, iron, other metals, hardness, and total phosphorus.
- Monitoring waiver procedures for metals and hardness monitoring for membrane filtration units has been added to the permit under Section 3.13.1.
- Section 3.15 has been added to the permit regarding surface water quality narrative standards.

- Section for floating solids and foam has been removed from the permit as this is covered under the surface water narrative criteria in Section 3.15.

## Explanation of Monitoring Requirements and Effluent Limitations

**Flow Rate:** In accordance with 40 CFR Part 122.44(i)(1), to assure compliance with permit limitations, monitoring is required for the volume of effluent discharged from each outfall. Therefore, the permittee is required to estimate the total daily flow rate.

**Total Suspended Solids (TSS):** The limit for TSS of 40 mg/L daily maximum is achievable by application of best practicable control technology currently available for these types of discharges. This established effluent limitation is based on the average of the best performance of the treatment technologies used for these similar types of discharges. This determination was based on best professional judgment in accordance with s. NR 220.21, Wis. Adm. Code.

For continuous dischargers, limitations shall be expressed as daily maximum and monthly average discharge limitations pursuant to s. NR 205.065(7)(b), Wis. Adm. Code. Therefore, the department has added a monthly average limit for TSS and set it equal to the daily maximum limit of 40 mg/L pursuant to s. NR 106.07(4)(e)1., Wis. Adm. Code.

**pH Monitoring:** The pH is limited to the range of 6.0 to 9.0 standard units. This is consistent with the water quality standards pH range for waters classified for fish and aquatic life as defined in ch. NR 102.04(c), Wis. Adm. Code. Any wastewater with a pH outside the range of 6.0 to 9.0 s.u. shall not be discharged directly to surface waters.

**Total Residual Chlorine (TRC):** The TRC limits in this permit is based on acute and chronic toxicity criteria in Table 1 and Table 5 of s. NR 105.06, Wis. Adm. Code. For continuous dischargers, limitations shall be expressed as daily maximum and monthly average discharge limitations pursuant to s. NR 205.065(7)(b), Wis. Adm. Code. Section NR 106.07(4)(b), Wis. Adm. Code, states that limits based on acute water quality criteria or secondary values shall be expressed as a daily maximum limitation. Section NR 106.07(4)(c), Wis. Adm. Code, states that limits based on chronic water quality criteria or secondary values shall be expressed as a weekly average limitation. If a daily maximum and weekly average limitation are determined necessary for a pollutant then the monthly average limitation shall still be included in the permit and shall be set equal to the daily maximum or weekly average limitation, whichever is more restrictive. Therefore, the department has added a monthly average limit for TRC and set it equal to the weekly average limit of 7.3 mg/L as the weekly average limit is more restrictive.

**Dissolved Oxygen (DO):** The DO limits in this permit are based on water quality standards from surface waters classified as fish and aquatic life as specified in s. NR 102.04(4)(a) and (b), Wis. Adm. Code.

**Chloride:** The chloride limits in this permit are based on the acute and chronic water quality criteria in Table 1 and Table 5 of s. NR 105.06, Wis. Adm. Code. For continuous dischargers, limitations shall be expressed as daily maximum and monthly average discharge limitations pursuant to s. NR 205.065(7)(b), Wis. Adm. Code. Section NR 106.07(4)(b), Wis. Adm. Code, states that limits based on acute water quality criteria or secondary values shall be expressed as a daily maximum limitation. Section NR 106.07(4)(c), Wis. Adm. Code, states that limits based on chronic water quality criteria or secondary values shall be expressed as a weekly average limitation. If a daily maximum and weekly average limitation are determined necessary for a pollutant then the monthly average limitation shall still be included in the permit and shall be set equal to the daily maximum or weekly average limitation, whichever is more restrictive. Therefore, the department has added a monthly average limit for chloride and set it equal to the weekly average limit of 400 mg/L as the weekly average limit is more restrictive.

**Potassium Permanganate Monitoring:** Potassium permanganates are considered water treatment additives and they are strong oxidizing agents that are toxic to aquatic organisms. The department used the guidance document entitled “Water Quality Review Procedures for Additives” (3400-2015-03) for

review of these additives, the document is available at <http://dnr.wi.gov/topic/wastewater/Guidance.html>. This guidance document establishes procedures to calculate secondary values for water-applied additives pursuant to s. NR 105.05, Wis. Adm. Code. The department calculated a secondary acute value (SAV) and secondary chronic value (SCV) for potassium permanganate using aquatic toxicity data and above guidance. The calculated SAV and SCV for potassium permanganate were 13.8 µg/L (rounded to 14 µg/L) and 0.77 µg/L, respectively.

For continuous dischargers, limitations shall be expressed as daily maximum and monthly average discharge limitations pursuant to s. NR 205.065(7)(b), Wis. Adm. Code. Section NR 106.07(4)(b), Wis. Adm. Code, states that limits based on acute water quality criteria or secondary values shall be expressed as a daily maximum limitation. Section NR 106.07(4)(c), Wis. Adm. Code, states that limits based on chronic water quality criteria or secondary values shall be expressed as a weekly average limitation. If a daily maximum and weekly average limitation are determined necessary for a pollutant then the monthly average limitation shall still be included in the permit and shall be set equal to the daily maximum or weekly average limitation, whichever is more restrictive. Therefore, the department has added a monthly average limit for potassium permanganate and set it equal to the weekly average limit of 0.77 µg/L as the weekly average limit is more restrictive.

**Iron and Manganese Monitoring:** The department calculated a secondary acute value (SAV) and a secondary chronic value (SCV) for total recoverable manganese using aquatic toxicity data. The calculated SAV and SCV for total recoverable manganese were 1682 µg/L (rounded to 1.7 mg/L) and 93.48 µg/L (rounded to 93 µg/L), respectively.

For continuous dischargers, limitations shall be expressed as daily maximum and monthly average discharge limitations pursuant to s. NR 205.065(7)(b), Wis. Adm. Code. Section NR 106.07(4)(b), Wis. Adm. Code, states that limits based on acute water quality criteria or secondary values shall be expressed as a daily maximum limitation. Section NR 106.07(4)(c), Wis. Adm. Code, states that limits based on chronic water quality criteria or secondary values shall be expressed as a weekly average limitation. If a daily maximum and weekly average limitation are determined necessary for a pollutant then the monthly average limitation shall still be included in the permit and shall be set equal to the daily maximum or weekly average limitation, whichever is more restrictive. Therefore, the department has added a monthly average limit for potassium permanganate and set it equal to the weekly average limit of 93 µg/L as the weekly average limit is more restrictive.

The department did not calculate a secondary acute values (SAV) for total recoverable iron as there was no representative aquatic toxicity data. However, the Department does have a color narrative water quality standard under s. NR 102.04(1), Wis. Adm. Code. This standard states that materials producing color, odor, taste or unsightliness shall not be present in such amounts as to interfere with public rights in waters of the state and be controlled under at all times and under all flow and water level conditions. Therefore, the department set a narrative limit of no visible color for iron in the discharge to meet the color narrative standard under s. NR 102.04(1), Wis. Adm. Code.

**Metals and Hardness Monitoring:** The metals monitoring includes total recoverable chromium, total recoverable copper, total recoverable lead, total recoverable nickel, and total recoverable zinc. These metals were chosen because they are commonly found in most raw groundwater or surface water used in water treatment facilities. All these metals can be toxic to aquatic life because of short-term exposure (acute toxicity) and long-term exposure (chronic toxicity) depending upon the hardness of the effluent and receiving water as specified in ch. NR 105, Wis. Adm. Code.

**Total Phosphorus:** Total phosphorus monitoring was added to permit to assess the levels of phosphorus from phosphate addition that occurs during or ahead of the water treatment processes with wastewater discharges or discharges from treatment of source water that contains phosphate compounds.



**Water Treatment Additives:** The permittee is required to monitor and limit the discharge for those water treatment additives determined by the department as needing effluent limits under Section 6. The effluent limitations, limit type, and sample type for substances will be stated in the additive use approval letter. The calculation of the effluent limits for water treatment additives are based on procedures for calculating water quality based effluent limitations for point source discharges to surface waters in ch. NR 106, Wis. Adm. Code.

### **3.3 Sampling and Reporting Frequency Reduction**

In accordance with s. NR 205.066, Wis. Adm. Code, the department shall determine on a case-by-case basis the monitoring frequency to be required for each effluent limitation in a permit. The sampling frequency reduction requirements are based on the “Interim Guidance for Performance - Based Reductions of NPDES Permit Monitoring Frequencies” prepared by EPA dated April 19, 1996.

### **3.4 Flow Rate**

In accordance with 40 CFR Part 122.44(i)(1), to assure compliance with permit limitations, monitoring is required for the volume of effluent discharged from each outfall. Therefore, the permittee is required to estimate the total daily flow rate being discharge through each outfall. The methods for measuring or estimating flow are based on ss. NR 218.04(15), and NR 218.05, Wis. Adm. Code.

#### **3.4.1 Flow Rate Control**

The permittee shall control the flow rate to minimize the stream bank erosion, resuspension of sediment, downstream flooding, or property damage consistent with s. NR 102.04(1), Wis. Adm. Code.

### **3.5 Total Suspended Solids (TSS)**

In accordance with 40 CFR 122.28(a)(4), general permits must clearly identify the applicable conditions for each category or subcategory of dischargers covered by the permit. For the filter backwash water discharges, the TSS grab sample shall be taken during the first five minutes of backwashing if the permittee does not provide treatment/storage of the backwash water. This is the period when TSS will be at the highest concentration and will identify if treatment is necessary. If the permittee provides treatment/storage of the backwash water, grab samples shall be taken following treatment/storage at a location prior to discharge to surface waters.

#### **3.5.1 Filter Backwashing**

In accordance with 40 CFR 122.28(a)(4), general permits must clearly identify the applicable conditions for each category or subcategory of dischargers covered by the permit. Therefore, if available, sand filter backwash or other filter backwash discharges may have to be routed for the first thirty (30) seconds of the backwash cycle to a proper sanitary sewer system or other holding tank to meet TSS limits.

### **3.6 pH Monitoring**

The control of pH in the range is necessary for optimal treatment and effectiveness of residual chlorine. However, addition of chemicals or other substances may impact the pH of the water outside of this range. Therefore, the permittee shall maintain the pH of the discharge between 6.0 to 9.0 standard units. The department may approve a higher pH maximum limit based on the procedures in Section 3.6.1.

#### **3.6.1 pH Monitoring for Lime Softening**

For lime softening wastewater discharges, the pH is limited to within the range of 6.0 to 11.0 s.u. The expanded pH range is intended to accommodate the higher operating pH of lime softening

and it may be difficult to meet maximum pH water quality standards at the discharge point. Prior to issuing coverage under the permit to lime softening operations, the discharge and receiving water will be examined by the department to assure the receiving water will have sufficient assimilative capacity to accept the higher pH wastewater and still meet water quality standards after mixing. The receiving water shall have stream flow to discharge flow ratio greater than or equal to 2:1. Those facilities that fail have sufficient mixing and dilution will have to meet a pH of 9.0 s.u. at the end of the pipe. The stream flow to discharge ratio is based on the amount of receiving water flow to achieve pH water quality standards of 9.0 s.u. if the effluent pH concentration is assumed to be 11.0 s.u. and the background concentration is 7.0 s.u.

### **3.7 Total Residual Chlorine (TRC)**

Facilities will provide chlorination during or ahead of the treatment process with the wastewater discharge or facilities will treat source water that contains chlorine or chlorine compounds. Discharges from these facilities are expected to contain total residual chlorine from the chlorine-based water treatment additives added during the chlorination step or chlorine or chlorine compounds found in the source water (e.g. public water supply water) at an industrial facility. Chlorine is very toxic to fish and aquatic organisms at low levels. The total residual chlorine levels at the above facilities are expected to exceed the acute and chronic water quality criterion in Table 1 and Table 5 of s. NR 105.06, Wis. Adm. Code. Therefore, the permittee shall monitor the discharge for TRC and limit the TRC concentration. The department may approve a higher TRC limit based on the procedures in Section 3.7.1. Total residual chlorine monitoring and limits are applicable to facilities where chlorination occurs during or ahead of the treatment process with the wastewater discharge or that discharge from the treatment of source water that contains chlorine or chlorine compounds.

Total residual chlorine is the sum of free available chlorine residual and combined available chlorine residual. Combined available chlorine residual is the residual consisting of chlorine that is combined with ammonia, nitrogen, or nitrogenous compounds (chloramines). Free available chlorine residual is the residual consisting of hypochlorite ions ( $\text{OCl}^-$ ), hypochlorous acid ( $\text{HOCl}$ ) or a combination of the two. Typical chlorine-based water treatment additives used in water treatment disinfection include: chlorine gas, sodium hypochlorite, or calcium hypochlorite.

#### **3.7.1 TRC Limitations to High Flow Streams**

If the discharge is to a high flow stream with a stream flow to effluent flow greater than or equal to 2:1, the permittee may request, at the time of the submittal of the Notice of Intent (NOI), TRC daily maximum limit of 38  $\mu\text{g/L}$  and a weekly and monthly average limit of 11  $\mu\text{g/L}$ . This calculation for TRC limits to high flow streams is consistent with s. NR 106.06, Wis. Adm. Code. Those facilities that fail have enough mixing and dilution will have to meet a daily maximum limit of 19  $\mu\text{g/L}$  and a weekly and monthly average limit of 7.3  $\mu\text{g/L}$  at the end of the pipe.

### **3.8 Dissolved Oxygen (DO)**

Oxygen scavenging and dechlorination chemical agents designed to reduce chlorine, ozone, or substance consumes oxygen in the process. Therefore, DO monitoring and limits only if oxygen scavenge chemical addition occurs during or ahead of the water treatment process with the wastewater discharge or the water is chemically dechlorinated prior to discharge. Facilities that do not use oxygen scavenging or dechlorination chemicals are expected to meet the DO limits and are not required to monitor DO discharge levels. The permittee shall maintain a DO content of 5 mg/L or greater in the discharge to all surface waters except if the discharge is to a classified trout stream then DO content in the discharge must be 6 mg/L or greater.

If the permittee discharges to a trout stream, the permittee must maintain a DO content of 7 mg/L or greater in the discharge during the spawning season. Trout species are very sensitive to changes in DO levels in the stream especially during spawning so extra protection is provided in this permit

during spawning season. Trout spawning season runs September 15<sup>th</sup> through May 15<sup>th</sup> for all trout streams, the Root River (Racine County), the Kewaunee River (Kewaunee County) and Strawberry Creek (Door County). Permittees may request a waiver or modification to this time permit in writing if they believe this is not representative of the trout spawning season in the receiving water.

### **3.9 Chlorides**

This permit requires chloride monitoring and limits only if the discharge is from demineralizers or ion exchange treatment processes. These chloride concentrations in the discharges from these processes may exceed the acute and chronic water quality criteria in Table 1 and Table 5 of s. NR 105.06, Wis. Adm. Code. Therefore, the permittee shall monitor the discharge for chloride and limit the chloride concentration. The department may approve a higher chloride limit based on the procedures in Section 3.9.1.

#### **3.9.1 Chloride Limitations to High Flow Streams**

If the discharge is to a high flow stream with a stream flow to effluent flow greater than or equal to 2:1 and the receiving water is not listed on the impaired waters list for chlorides, the permittee may request, at the time of the submittal of the Notice of Intent (NOI), a daily maximum chloride limit of 1500 mg/L and a weekly and monthly average limit of 600 mg/L. This calculation for chloride limits to high flow streams is consistent with s. NR 106.87, Wis. Adm. Code. Those facilities that fail have enough mixing and dilution will have to meet a daily maximum chloride limit of 760 mg/L and a weekly and monthly average limit of 400 mg/L at the end of the pipe.

### **3.10 Potassium Permanganate Monitoring**

Potassium permanganate, or  $\text{KMnO}_4$ , is a common inorganic chemical used to treat drinking water for iron, manganese and sulfur odors. It can be used as a disinfectant as well, keeping drinking water free of harmful bacteria. In accordance with 40 CFR 122.28(a)(4), general permits must clearly identify the applicable conditions for each category or subcategory of dischargers covered by the permit. Therefore, the permit requires potassium permanganate monitoring and limits only if the discharge is from water treatment processes that use potassium permanganate. The department may approve a higher limit based on the procedures in Section 3.10.1.

Where sodium permanganate is utilized, the effluent limits and monitoring for potassium permanganate are not applicable. However, the use of the sodium permanganate shall be reviewed and approved, in writing, by the department. Water treatment additive review is only required for substances that may enter surface water or groundwater without receiving treatment or substances that are used in a water treatment process but are not expected to be removed by wastewater treatment. If you believe residual sodium permanganate will be removed by water treatment, then additive review is not necessary and limits may not apply. The permittee shall submit a copy of the Additive Review Worksheet (Form 3400-213) to the department with safety data sheets that include ecotoxicity information. If the department determines that sodium permanganate requires a usage restriction and effluent limits, the department is required to public notice those proposed limits prior to the limits becoming effective and implemented through this general permit. The public notice period is to last 30-days and be issued in a newspaper of general circulation in the area affected by the discharge and the department's public notice webpage. The effluent limitations, limit type, and sample type for substances will be stated in the additive use approval letter.

#### **3.10.1 Potassium Permanganate Limitations to High Flow Streams**

The permittee may request, at the time of the submittal of the Notice of Intent (NOI), a weekly and monthly average limit of 1.2  $\mu\text{g/L}$  if the receiving water flow (7-day flow that occurs once in 10 years) to average effluent flow ratio is greater than or equal to 2:1. Those facilities that fail have enough mixing and dilution will have to meet a weekly and monthly average limit of 0.77

µg/L at the end of the pipe. This calculation for limits to high flow streams is consistent with s. NR 106.06, Wis. Adm. Code.

### **3.10.2 Test Method for Potassium Permanganate**

When testing for potassium permanganate, the permittee shall use approved Spectrophotometric Method #4500 – KMNO<sub>4</sub> from the Standard Methods for the Examination of Waters and Wastewater or another EPA approved test method or department approved test method from ch. NR 219, Wis. Adm. Code.

## **3.11 Total Recoverable Manganese**

Iron/manganese removal processes may concentrate manganese which may result in toxic or harmful to fish and aquatic life. In accordance with 40 CFR 122.28(a)(4), general permits must clearly identify the applicable conditions for each category or subcategory of dischargers covered by the permit. Therefore, the permit requires total recoverable manganese monitoring and limits only if the discharge is from an iron/manganese removal process. The department may approve a higher limit based on the procedures in Section 3.11.1.

### **3.11.1 Total Recoverable Manganese Limitation to High Flow Streams**

The permittee may request, at the time of the submittal of the Notice of Intent (NOI), a weekly and monthly average limit of 140 µg/L if the receiving water flow (7-day flow that occurs once in 10 years) to average effluent flow ratio is greater than or equal to 2:1. Those facilities that fail to have enough mixing and dilution will have to meet a weekly and monthly average limit of 93 µg/L at the end of the pipe. This calculation for limits to high flow streams is consistent with s. NR 106.06, Wis. Adm. Code.

## **3.12 Total Recoverable Iron**

Iron/manganese removal processes may concentrate iron which may result the presence of a yellowish or reddish-brown color. In accordance with 40 CFR 122.28(a)(4), general permits must clearly identify the applicable conditions for each category or subcategory of dischargers covered by the permit. Therefore, the permit requires total recoverable manganese monitoring and limits only if the discharge is from an iron/manganese removal process.

## **3.13 Metals and Hardness Monitoring**

Membrane filtration units are known to concentrate metals in their backwash, concentrate, or reject water. In accordance with 40 CFR 122.28(a)(4), general permits must clearly identify the applicable conditions for each category or subcategory of dischargers covered by the permit. Therefore, metals and hardness monitoring are only required for wastewater discharges from membrane filtration units. The metals monitoring includes total hardness, total recoverable cadmium, total recoverable chromium, total recoverable copper, total recoverable lead, total recoverable nickel, and total recoverable zinc.

### **3.13.1 Metals and Hardness Monitoring Waiver**

The department may approve in writing a monitoring waiver for metals and hardness monitoring if the permittee has collected 11 representative samples of the discharge for total recoverable cadmium, total recoverable chromium, total recoverable copper, total recoverable lead, total recoverable nickel, or total recoverable zinc and results show no detections. The Department may consider samples that exceed the limit of detection but are less than the limit of quantitation for this waiver if there is not a consistent pattern within this range. The permittee certifies that there is no abrupt chance that metals will be present from the water treatment processes. The permittee submits a monitoring waiver request to the department with supporting monitoring results.

Permittees may use historical discharge data, if available, for this monitoring waiver request. Metals monitoring waivers are only valid for the term of the permit. Permittees shall reapply each permit term.

The monitoring waiver procedure is based on reasonable potential analysis procedures in s. NR 106.05, Wis. Adm. Code. If there are no detections of a pollutant than monitoring is typically not required.

### **3.14 Total Phosphorus Monitoring**

Some water treatment facilities will utilize phosphates to sequester iron, manganese, or a combination of the both. Also many water treatment facilities will added orthophosphates to their water distribution system for corrosion control. These phosphates may have the potential to be in the water during operational or maintenance discharges of the treatment processes or in discharges from facilities that will treat source water that contains phosphate compounds (e.g. public water supply water). Therefore, the department has added total phosphorus monitoring to the permit to assess if the levels of phosphorus warrant limitation to protect water quality.

Total phosphorus is the sum of all orthophosphates and condensed phosphates, soluble and particulate, as well as organic and inorganic fractions. Typical orthophosphates, polyphosphates, condensed phosphates, and other phosphate additives used in water treatment include: phosphoric acids, monosodium phosphate, disodium phosphate, trisodium phosphate, monopotassium phosphate, dipotassium phosphate, tricalcium phosphate, sodium acid pyrophosphate, sodium trimetaphosphate, tetrasodium pyrophosphate, sodium tripolyphosphate, tetrapotassium pyrophosphate, tetrapotassium pyrophosphate, and sodium hexametaphosphate.

### **3.15 Surface Water Uses and Criteria**

In response to EPA direction, surface water narrative criteria pursuant to s. NR 102.04(1), Wis. Adm. Code, are included in the permit. These criteria shall be followed at all times and under all flow and water level conditions.

## 4 Groundwater Discharge Requirements

The requirements of this section only apply to groundwater discharges. Groundwater discharge means any wastewater (treated or untreated) that is allowed to infiltrate or seep into the soil from a permeable surface that may impact groundwater quality. The department considers discharges to a storm water pond that is not hydraulically connected to a surface water and completely confined on the property of the permittee as a groundwater discharge.

### 4.1 Sampling Point(s)

In accordance with s. NR 218.07, Wis. Adm. Code, the location of sampling points shall be as specified in an applicable permit. The discharge(s) shall be limited to the waste type(s) designated for the listed sampling point(s).

Sampling Point Designation	
Sampling Point Number	Sampling Point Location, WasteType/Sample Contents and Treatment Description (as applicable)
002	Discharges from potable treatment processes shall be sampled following treatment (if applicable) and prior to discharge to the land surface then to groundwater via Outfall 002. The samples taken shall be representative of the discharge that consists solely of the treated effluent before mixing with any other water. Sampling is only required when wastewater is being discharged during the reporting frequency.

### 4.2 Monitoring Requirements and Effluent Limitations

According to s. NR 205.08(2), Wis. Adm. Code, the department may include monitoring requirements and effluent limitations in general permits. Monitoring results shall be reported at the intervals specified in the permit pursuant to s. NR 205.07(1)(r), Wis. Adm. Code. Additionally, samples shall be taken at the frequencies specified in the WPDES permit authorizing discharge pursuant to s. NR 218.10, Wis. Adm. Code. The permittee shall comply with the following monitoring requirements and limitations.

#### 4.2.1 Sampling Point (Outfall) 002 – Groundwater Discharge

Monitoring Requirements and Effluent Limitations						
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Reporting Frequency	Notes
Flow Rate		gpd	Daily	Total Daily	Monthly	
Chloride, Dissolved	Monthly Avg	125 mg/L	Monthly	Grab	Monthly	
Manganese, Dissolved	Monthly Avg	25 µg/L	Monthly	Grab	Monthly	
Iron, Dissolved	Monthly Avg	150 µg/L	Monthly	Grab	Monthly	
Cadmium, Dissolved	Monthly Avg	0.5 µg/L	Monthly	Grab	Monthly	

<b>Monitoring Requirements and Effluent Limitations</b>						
<b>Parameter</b>	<b>Limit Type</b>	<b>Limit and Units</b>	<b>Sample Frequency</b>	<b>Sample Type</b>	<b>Reporting Frequency</b>	<b>Notes</b>
<b>Chromium, Dissolved</b>	<b>Monthly Avg</b>	<b>10 µg/L</b>	<b>Monthly</b>	<b>Grab</b>	<b>Monthly</b>	
<b>Copper, Dissolved</b>	<b>Monthly Avg</b>	<b>130 µg/L</b>	<b>Monthly</b>	<b>Grab</b>	<b>Monthly</b>	
<b>Lead, Dissolved</b>	<b>Monthly Avg</b>	<b>1.5 µg/L</b>	<b>Monthly</b>	<b>Grab</b>	<b>Monthly</b>	
<b>Nickel, Dissolved</b>	<b>Monthly Avg</b>	<b>20 µg/L</b>	<b>Monthly</b>	<b>Grab</b>	<b>Monthly</b>	
<b>Zinc, Dissolved</b>	<b>Monthly Avg</b>	<b>2.5 mg/L</b>	<b>Monthly</b>	<b>Grab</b>	<b>Monthly</b>	

### **Changes from Previous Permit**

- The permit includes a definition for groundwater discharge under Section 4.
- Outfall and sampling point description for groundwater discharges has been added to the permit under Section 4.1.
- Section on flow estimate has been removed and included under the definitions in Appendix A of this fact sheet.
- Reporting frequency has been added for all parameters.
- Effluent limitations and monitoring for dissolved chlorides have been added to the permit under Sections 4.2.1 for discharges from softening or ion exchange treatment processes.
- Effluent limitations and monitoring for dissolved iron and manganese have been added to the permit under Sections 4.2.1 for discharges from iron/manganese removal processes.
- Effluent limitations and monitoring dissolved cadmium, chromium, copper, lead, nickel, or zinc have been added to the permit under Section 4.2.1 for discharges from membrane filtration units.
- The sample frequency has been changed from “annually” to “monthly” for flow rate. This change was done to improve the effectiveness of the permit in protecting groundwater. Additionally, this change will reduce the time period when a facility could unknowingly be out of compliance with the permit.
- Sample frequency reduction procedures have been added to the permit under Section 4.3.
- Sections 4.4-4.7 have been added to the permit to explain monitoring requirements and applicability for flow rate dissolved chlorides, manganese, iron, and other metals.
- Monitoring waiver procedures for metals monitoring for membrane filtration units has been add to the permit under Section 4.7.1.
- Best management practices for groundwater discharges has been added to the permit under Sections 4.9-4.18. Section NR 205.10, Wis. Adm. Code, gives the department the ability to include Best Management Practices (BMPs) in permits on a case-by-case basis to carry out the purposes and intent of ch. 283, Wis. Stats. and the Clean Water Act. The BMPs are based on similar land treatment activities provided in ch. NR 214, Wis. Adm. Code. These BMPs will help prevent the runoff of the discharge into surface waters and exceedance of any groundwater standards.

## **Explanation of Monitoring Requirements and Effluent Limitations**

**Flow Rate:** In accordance with 40 CFR 122.44(i)(1), to assure compliance with permit limitations, monitoring is required for the volume of effluent discharged from each outfall. Therefore, the permittee is required to estimate the total daily flow rate.

**Dissolved Chlorides and Metals:** The limits for dissolved chloride and metals reflect the preventative action limits (PALs) from the public health and welfare groundwater quality standards found in Table 1 of s. NR 140.10, Wis. Adm. Code and Table 2 of s. NR 140.12, Wis. Adm. Code. The PALs are designed to ensure public health and welfare groundwater quality standards are not exceeded.

### **4.3 Sampling and Reporting Frequency Reduction**

In accordance with s. NR 205.066, Wis. Adm. Code, the department shall determine on a case-by-case basis the monitoring frequency to be required for each effluent limitation in a permit. The sampling frequency reduction requirements are based on the “Interim Guidance for Performance - Based Reductions of NPDES Permit Monitoring Frequencies” prepared by EPA dated April 19, 1996.

### **4.4 Flow Rate**

In accordance with 40 CFR Part 122.44(i)(1), to assure compliance with permit limitations, monitoring is required for the volume of effluent discharged from each outfall. Therefore, the permittee is required to estimate the total daily flow rate being discharge through each outfall. The methods for measuring or estimating flow are based on ss. NR 218.04(15), and NR 218.05, Wis. Adm. Code.

### **4.5 Dissolved Chlorides**

This permit requires dissolved chloride monitoring and limits only if the discharge is from demineralizers or ion exchange treatment processes. The chloride concentration in the discharge from these processes may exceed the public welfare groundwater quality criterion in Table 2 of s. NR 140.12, Wis. Adm. Code. Therefore, the permittee shall monitor the discharge for dissolved chloride and limit the chloride concentration to 125 mg/L or less.

### **4.6 Dissolved Manganese and Iron**

The permit requires dissolved manganese and iron monitoring and limits only if the discharge is from an iron/manganese removal process. The manganese concentration in the discharge from these processes may not exceed the public welfare groundwater quality criterion in Table 2 of s. NR 140.12, Wis. Adm. Code. Therefore, the permittee shall monitor the discharge for dissolved manganese and limit the manganese concentration to 25 µg/L or less. The iron concentration in the discharge from these processes may exceed not the public welfare groundwater quality criterion in Table 2 of s. NR 140.12, Wis. Adm. Code. Therefore, the permittee shall monitor the discharge for dissolved iron and limit the iron concentration to 150 µg/L or less.

### **4.7 Metals Monitoring**

The permit requires dissolved metals monitoring and limits only if the discharge is from a membrane filtration unit. The metals concentration in the discharge from these processes may exceed the public health and welfare groundwater quality criterion in Table 1 of s. NR 140.10, Wis. Adm. Code and Table 2 of s. NR 140.12, Wis. Adm. Code. Therefore, the permittee shall monitor the discharge for dissolved metals and limit the metals concentration to the levels provided in Section 4.2.1.

#### **4.7.1 Metals Monitoring Waiver**

The department may approve in writing a monitoring waiver for metals and hardness monitoring if the permittee has collected 11 representative samples of the discharge for total recoverable cadmium, total recoverable chromium, total recoverable copper, total recoverable lead, total



recoverable nickel, or total recoverable zinc and results show no detections. The Department may consider samples that exceed the limit of detection but are less than the limit of quantitation for this waiver if there is not a consistent pattern within this range. The permittee certifies that there is no abrupt chance that metals will be present from the water treatment processes. The permittee submits a monitoring waiver request to the department with supporting monitoring results. Permittees may use historical discharge data, if available, for this monitoring waiver request. Metals monitoring waivers are only valid for the term of the permit. Permittees shall reapply each permit term.

The monitoring waiver procedure is based on reasonable potential analysis procedures in s. NR 106.05, Wis. Adm. Code. If there are no detections of a pollutant than monitoring is typically not required.

## **4.8 Solids Removal**

In accordance with s. NR 205.07(1)(j), the permittee shall at all times properly operate and maintain all facilities and systems of treatment and control which are installed or used by the permittee to achieve compliance with the conditions of the permit. Therefore, the permittee shall visually inspect seepage areas during times of discharge to check that the infiltrative capacity of the soils is sustained. Any accumulated solids shall be removed from seepage areas to maintain the infiltrative capacity of the soils.

## **4.9 Discharge Location**

The permittee shall direct the discharge to grass, soil, gravel areas, or seepage areas to the extent possible and infiltration of the discharge shall be maximized. This practice is based on s. NR 214.14(2)(a), Wis. Adm. Code.

## **4.10 Discharge Rate**

The permittee shall limit the discharge flow rate to a rate that can infiltrate into the soil surface. This practice is based on s. NR 214.14(2)(a), Wis. Adm. Code.

## **4.11 Runoff Control**

The permittee shall limit the discharge flow rate to prevent the runoff from the site into surface waters. This practice is based on s. NR 214.17(4)(d)3., Wis. Adm. Code.

## **4.12 Rainfall Events**

The water may not be discharged during any rainfall events that cause runoff from the site into surface waters except if the infiltration area is located such that runoff from the area cannot enter a surface water. This practice is based on s. NR 214.14(3)(f), Wis. Adm. Code.

## **4.13 Erosion Control**

The permittee shall limit the discharge flow rate to prevent erosion when the vegetative cover has not developed sufficiently to anchor the soil and create the filter mat necessary for effective wastewater treatment. his practice is based on s. NR 214.15(3)(d), Wis. Adm. Code.

## **4.14 Adequate Design**

Wastewater discharges to absorption, seepage, or stormwater pond systems shall be limited so that the discharge volume combined with the precipitation from a 10–year frequency, 24–hour duration rainfall event does not reduce the available freeboard to less than one foot below the top of the dike. This condition is based on absorption pond systems in s. NR 214.12(3)(f), Wis. Adm. Code.

#### **4.15 Toxic Substances**

The discharge shall not contain substances in concentrations or combinations which are toxic or harmful to humans in amounts found to be of public health significance, nor shall substances be present in amounts that will have a significant damaging effect on groundwater quality. This is based on s. NR 140.02(4), Wis. Adm. Code.

#### **4.16 Winter Operations**

Discharges to groundwater may be allowed during frozen conditions provided infiltration is adequate to prevent long term ponding or pooling of water. Since infiltration decreases in the winter, the department may require storage during cold weather when feasible. This practice is based on s. NR 214.15(3)(e), Wis. Adm. Code.

#### **4.17 Groundwater Quality**

The concentration of any wastewater parameter that may impact groundwater quality shall be limited at the point of discharge to a value that will minimize the concentration of the substance in the groundwater to the extent technically and economically feasible and prevent exceedance of the preventive action limit (PAL) in the groundwater. This condition is based on s. NR 214.14(3)(b), Wis. Adm. Code.

#### **4.18 Discharge Recordkeeping**

The permittee shall keep and maintain records of the discharge volume, date, and time as well as the results of the any visual inspections or monitoring. Records shall be made available for department inspection and submitted to the department upon request pursuant to ss. NR 205.07(1)(d) and (L), Wis. Adm. Code. Records shall be retained for a period of three years unless otherwise required by the department pursuant to s. NR 205.07(1)(f), Wis. Adm. Code.

## **5 Impaired Waters & TMDL Requirements for Surface Water Discharges**

### **5.1 Report Discharge to an Impaired Surface Water**

Permittees are required to report on the NOI, if the permittee has a detectable pollutant of concern discharge to an impaired surface water or a surface water with a State and EPA approved Total Daily Maximum Load (TMDL) allocation. The permittee does not need to report all pollutants of concern only those pollutants for which the receiving water of the discharge is impaired for or has an approved TMDL. If a facility discharges a pollutant of concern to a 303(d)-listed impaired water body, the goal is to minimize the pollutant discharge as much as possible as part of an overall state effort to reduce the pollutant loading to the water body. The department updates the section 303(d) list approximately every two years. The updated list is effective upon approval by EPA. According to s. NR 212.72(9), Wis. Adm. Code, a “Pollutant(s) of concern” means any pollutant discharged that has an applicable technology-based effluent limitation (TBEL), a wasteload allocation from a TMDL or watershed analysis, or is identified as needing a water quality-based effluent limitation (WQBEL) to meet water quality standards.

### **5.2 TMDL Compliance**

Permittees discharging a pollutant of concern that is subject to an approved TMDL under this general permit shall meet the requirements of a State and Federally approved TMDL allocation for their discharge location that is in effect on the effective date of this permit. Existing pollutant discharges covered under this permit are expected to be consistent with the baseline allocation granted to Wisconsin general permit discharges in all State and EPA approved TMDLs in effect on the effective date of this permit.

For this general permit, the most common pollutants of concern may be total suspended solids (TSS) and phosphorus discharges to sediment or phosphorus impaired water bodies. The permittee can use the impaired water search tool (<http://dnr.wi.gov/water/impairedSearch.aspx>) or the surface water data viewer (SWDV) (<http://dnrmaps.wi.gov/sl/?Viewer=SWDV>) to identify waters impaired in the county that the discharge will occur.

### **5.3 New or Increased Pollutant Discharge to a 303(d) Listed Impaired Surface Water**

Federal Statutes, 40 CFR Part 122.4, prohibits the issuance of a WPDES permit to a new source or new discharger that will contribute to a violation of a water quality standard in a 303(d)-listed water. Also, an increased discharge of a pollutant of concern that would cause or contribute to a violation of a water quality standard in a 303(d)-listed water is not to be allowed. Therefore, this general permit specifies that a permittee may not establish a new pollutant of concern discharge to a 303(d)-listed impaired water body or significantly increase the discharge of a pollutant of concern to an impaired water body unless the new or increased discharge does not contribute to the receiving water impairment, or the new discharge is consistent with a department finalized TMDL allocation for the impaired water body as determined by the department. The general permit cannot be used if this requirement is not met for a new discharge.

In response to a NOI, the department will evaluate the proposed pollutant discharge amount and receiving water to determine if the above requirement can be met. A variety of options are available to the applicant to reduce the discharge of the pollutant of concern, with the goal of eliminating the pollutant discharge, such as on-site capture or an alternate discharge location.

## **6 Water Treatment Additives**

### **6.1 Use of Water Treatment Additives**

Permittees shall not add any substance or water treatment water treatment additive to the discharge unless the use of the water treatment additive is reviewed and approved, in writing, by the department. Examples of water treatment water treatment additives include biocides (i.e. algacides, microbicides, fungicides, molluscicides, etc.), water quality conditioners (i.e. scale and corrosion inhibitors, pH adjustment chemicals, oxygen scavengers, conditioning agents, and water softening compounds, etc.), erosion control products, and clarifying agents.

### **6.2 Approval of Water Treatment Additives Usage**

On April 23<sup>rd</sup>, 2015, the department released guidance entitled “Water Quality Review Procedures for Additives” (3400-2015-03), which is available at <http://dnr.wi.gov/topic/wastewater/Guidance.html>. This guidance supports the authority of s. 283.31(3)(d)1. and ss. 105.02(3), NR 105.05, and NR 106.05(1)(b), Wis. Adm. Code, to protect Wisconsin’s surface water resources from such products. This guidance document establishes procedures to calculate secondary acute and chronic values for water-applied or land-applied additives pursuant to ss. NR 105.05 and 105.06, Wis. Adm. Code. Secondary acute values are the concentrations of a pollutant in surface water that protect aquatic life from adverse short-term effects. Therefore, facilities shall submit information regarding the toxicity of any added substances or additives to the discharge as specified in the permit, so the department can determine if it is allowable and will not negatively impact aquatic life or human health. The department shall also be informed of significant changes in additive usage or new additives that would raise the potential for negative impacts on aquatic life or human health.

For each water treatment additive used, the permittee shall submit a copy of the Additive Review Worksheet (Form 3400-213) to the department. Upon approval, the permittee shall comply with the conditions specified in the approval. An additive review is not required for additives with active ingredients consisting of chlorine, hypochlorite, sulfuric acid, hydrochloric acid or sodium hydroxide. Also, chemicals used in an industrial process generating wastewater that eventually receives treatment or chemicals added as part of wastewater treatment process (such as ferric chloride, alum or pickle liquor) are not considered water treatment additives and need not require an additive review.

### **6.3 Water Treatment Additive Usage Record**

Facilities are required to maintain records of additive use for department inspection. Recording additive use will provide documentation for the facility and the department to verify that the additive is being used and discharged in accordance with the permit requirements.

### **6.4 Public Notice of Additive Use Restrictions**

If the department determines that a water treatment additive requires a usage restriction and effluent limits, the department is required to public notice those proposed limits prior to the limits becoming effective and implemented through this general permit. The public notice period is to last 30-days and be issued in a newspaper of general circulation in the area affected by the discharge and the department’s public notice webpage. The public notice procedures are based on s. NR 203.02, Wis. Adm. Code.

## **7 Schedules**

### **7.1 Compliance Schedule for Effluent Limitations**

A reissued permit may, when appropriate, include a schedule for compliance with new or more stringent effluent limitations that are established in the reissued permit pursuant to s. NR 106.117(2), Wis. Adm. Code. Therefore, the department has included a compliance schedule for the following new or more stringent effluent limitations: total residual chlorine, dissolved oxygen, chloride, potassium permanganate, total recoverable manganese, or total recoverable iron limits specified in Section 3.2.1 or any effluent limit specified in Section 4.2.1. However, the compliance schedule shall only be granted to existing permittees that were previously covered under WPDES Permit No. WI-0046540-05-0 and that demonstrate that effluent limits are not readily achievable. The permit allows 3-years for existing permittees to meet the new or more stringent effluent limitations in accordance with s. NR 106.117(3)(a), Wis. Adm. Code. No later than 14 days following each due date, the permittee shall notify the department in writing of its compliance or noncompliance with the required action in compliance schedule pursuant to s. NR 106.117(3)(f), Wis. Adm. Code.

## 8 Standard Requirements

Both the current permit and new permit provide a Standard Requirements (SR) section that contains conditions and requirements that are, for the most part, applicable to all industrial permittees.

### Changes from Previous Permit

Changes to the standard requirements section include:

- SR Section 8.1.1: This section has been moved to the standard requirements. The permit now requires that monitoring results be submitted on an electronic discharge monitoring report (eDMR) instead of a paper annual report. The eDMRs are due 21 days after the end of the reporting frequency. The eDMR shall be submitted regardless if there is a discharge or not during any reporting frequency.
- SR Section 8.2.1: The permit now explains requirements on how to delegate signature authority for a duly authorized representative.
- SR Section 8.2.2: The permit now explains requirements on how to transfer permit coverage to a new permittee.
- SR Section 8.2.3: The permit now explains requirements on how to terminate permit coverage.
- SR Sections 8.3.1-8.3.2, 8.3.7-8.3.10, 8.3.17, and 8.3.19: These sections are required to be included all WPDES permits issued by the department.
- SR Sections 8.3.11-8.2.13: The permit now explains sampling and testing procedures as well as the requirement for testing performed by a certified or registered laboratory with exclusions.
- SR Section 8.3.14: The permit now explains requirements when effluent limits in the permit are less than the limit of detection (LOD) or the limit of quantitation (LOQ).

### 8.1 Reporting Requirements

According to s. NR 205.08(2), Wis. Adm. Code, the department may include reporting requirements in general permits. The reporting requirements are included by reference from chs. NR 106.07(6)(e), NR 106.14(3), and NR 205.07(1) and (3), Wis. Adm. Code.

### 8.2 General Conditions for General Permits

According to s. NR 205.08(2), Wis. Adm. Code, the department may include general conditions in general permits. The general conditions for general permits are included by reference from 40 CFR Parts 122.28(b)(2)(i), 122.61(b) and 122.64(c), and s. NR 205.07(1), Wis. Adm. Code.

### 8.3 General Conditions for WPDES Permits

The general conditions for WPDES permits are included by reference from chs. NR 106.07(6m), NR 205.07(1) and (3), NR 219.037, Wis. Adm. Code, and 33 US 1251.

## 9 Summary of Reports Due

A summary of reports due has been added for informational purposes for permittee and to be consistent with individual WPDES permits.

### Other Changes from Previous Permit

- The general permit name has changed from “Potable Water Treatment and Conditioning” to “Water Treatment and Conditioning”. This name change was made as some facilities covered treat the water for non-potable uses like noncontact cooling water or process wastewater.

- The section on requirements for all discharges have been removed. The requirements on reporting monitoring results has been moved to Section 8.1.1 and design requirements for dikes and berms has been removed.
- Obtaining permit coverage requirements have been added to the permit under Section 2 to provide instruction and guidance to applicants on how to apply for coverage under this general permit.
- Information and policy on discharges to impaired surface waters & surface waters with total maximum daily load allocations have been added to the permit under Section 5.
- Information on the policy and regulations on water treatment additives has been added to the permit in Section 6.
- The Department has included a compliance schedule under Section 7 to allow existing permittees more time to come into compliance with new or more stringent effluent limitations in the general permit.

## **Attachments**

A. Definitions

B. Notice of Intent Form

Prepared by:

**Trevor J. Moen**

**Wastewater Engineer**

**Bureau of Water Quality**

**Date: 09/16/2019**

## **Attachment A – Definitions**

The definitions of terms used in this general permit are based on their applicability to the type of operations and activity covered under this general permit. The definitions of these terms are included by reference from department guidance, 40 CFR 122.2 and chs. NR 200, NR 205, NR 206, NR 211 and NR 218, Wis. Adm. Code. Definitions not specifically outlined in this section can be found in Wisconsin Administrative Code, Wisconsin Statutes, or 40 CFR. Each term is provided with its code reference. If the terms below are found to be inconsistent with the definition in code, permittees shall refer to the code definition.

### **Annual Sampling Frequency**

Annual sampling frequency means sampling the discharge once per calendar year (January 1<sup>st</sup> – December 31<sup>st</sup>). If there is no discharge during a calendar year, the permittee shall state this on the discharge monitoring report form.

### **Business Days**

Business days means each day except Saturday; Sunday; January 1; the third Monday in January, which shall be the day of celebration for January 15; the last Monday in May, which shall be the day of celebration for May 30; July 4; the first Monday in September; the 4th Thursday in November; December 24; December 25; December 31; and the day following if January 1, July 4 or December 25 falls on Sunday. (*s. NR 200.02(1), Wis. Adm. Code*)

### **Continuous Discharge**

Continuous discharge means a facility that discharges 24 hours per day on a year-round basis except for temporary shutdowns for maintenance or other similar activities. (*s. NR 205.03(9g), Wis. Adm. Code*)

### **Daily Maximum Discharge Limitation**

Daily maximum discharge limitation means the highest allowable daily discharge concentration or loading for a certain pollutant. (*40 CFR 122.2*)

### **Daily Sampling Frequency**

Daily sampling frequency means sampling the discharge once in a 24-hour day. If there is no discharge during a daily, the permittee shall state this on the discharge monitoring report form.

### **Domestic Wastewater**

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. (*s. NR 205.03(14), Wis. Adm. Code*)

### **Estimated**

Estimated used to specify the type of sample for flow measurement, means a reasonable approximation of the average daily flow based on water balance, an uncalibrated weir, or any of the methods included in s. NR 218.05(3)(b), Wis. Adm. Code, disregarding requirements for continuously recording flow. (*s. NR 218.04(15), Wis. Adm. Code*)

### **Grab Composite Sample**

A grab composite sample means a combination of individual samples of equal volume taken at approximately equal intervals (not exceeding one hour) over a three-hour time period of normal operation of the facility. (*s. NR 218.04(11), Wis. Adm. Code*)



## **Grab Sample**

Grab sample means a single sample taken at one moment of time or a combination of several smaller samples of equal volume taken in less than a 2-minute period. Where the term is used in connection with monitoring temperature or pH it means a single measurement. (*s. NR 218.04(10), Wis. Adm. Code*)

## **Monthly Average Discharge Limitation**

Monthly average discharge limitation means the highest allowable average of daily discharge concentrations or loadings for a certain pollutant over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month. (*40 CFR 122.2*)

## **Monthly Sampling Frequency**

Monthly sampling frequency means sampling the discharge once per calendar month (Jan., Feb. March, April, May, June, July, Aug., Sept., Oct., Nov. and Dec.). If there is no discharge during a calendar month, the permittee shall state this on the discharge monitoring report form.

## **Municipal Wastewater**

Municipal wastewater means the mixture of domestic, process and other wastewater tributary to any given municipal sanitary sewage or treatment system. (*s. NR 205.03(19), Wis. Adm. Code*)

## **Privately Owned Treatment Works**

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, Wis. Stats. (*s. NR 206.03(18), Wis. Adm. Code*)

## **Process Wastewater**

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. (*s. NR 205.03(30), Wis. Adm. Code*)

## **Publicly Owned Treatment Works**

Publicly owned treatment works or POTW means a treatment works which is owned by a municipality and any sewers that convey wastewater to such a treatment works. This definition includes any devices or systems used by a municipality in the storage, treatment, recycling, and reclamation of municipal sewage or liquid industrial wastes. The term also means the municipality or local unit of government which has jurisdiction over the indirect discharges to, and the discharges from, such a treatment works. (*s. NR 211.03(30), Wis. Adm. Code*)

## **Quarterly Sampling Frequency**

Quarterly sample frequency means monitoring four times per year; once anytime during each of the four annual quarters (Jan.-Feb.-March, April-May-June, July-Aug.-Sept., Oct.-Nov.-Dec.). If there is no discharge during a quarter, the permittee shall state this on the discharge monitoring report form.

## **Surface Waters**

Surface waters means waters of the state except wells and other groundwater. Cooling lakes, farm ponds and facilities constructed for the treatment of wastewaters are also excluded from this definition. (*s. NR 200.03(18), Wis. Adm. Code*)

## **Waters of the State**

Waters of the state 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. (*s. NR 205.03(44), Wis. Adm. Code*)

### **Weekly Average Discharge Limitation**

Weekly Average discharge limitation means the highest allowable average of daily discharge concentrations or loadings for a certain pollutant over a calendar week, calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week. (*40 CFR 122.2*)

### **Weekly Sampling Frequency**

Weekly sampling frequency means sampling the discharge once per calendar week which begins on Sunday and ends on Saturday. If there is no discharge during a calendar week, the permittee shall state this on the discharge monitoring report form.

## **Attachment B – Notice of Intent Form**

**Notice:** Pursuant to chs. NR 200 and 205, Wis. Adm. Code, this notice of intent (NOI) is required to request coverage under the Wisconsin Pollutant Discharge Elimination System (WPDES) Permit No. WI-0046540-06-0 for discharges from water treatment and conditioning facilities to waters of the state of Wisconsin. Failure to complete this form in its entirety may result in a returned NOI or a denied NOI. Personal information collected will be used for administrative purposes and may be provided to requestors to the extent required by Wisconsin Open Records law [ss. 19.31-19.39, Wis. Stats.].

**SECTION I: WPDES PERMITTEE RESPONSIBLE FOR POLLUTANT DISCHARGE**

WPDES Permittee (Municipality, Industry, or Other)			
Permittee Authorized Representative (First and Last Name)	Title	Company	
Mailing Address (i.e. PO BOX, Street, or Route)	Municipality	State	ZIP Code
Email Address	Phone No. (include area code)	Alternative Phone No.	

**SECTION II: APPLICANT INFORMATION**  Check if same as authorized representative

Applicant Name (First and Last Name)	Title	Company	
Mailing Address (i.e. PO Box, Street, or Route)	Municipality	State	ZIP Code
Email Address	Phone No. (include area code)	Alternative Phone No.	

**SECTION III: DISCHARGE MONITORING CONTACT**  Check if the same as authorized representative  
 Check if same as applicant but different from authorized representative

Discharge Monitoring Contact (First and Last Name)	Title	Company	
Mailing Address (i.e. PO Box, Street, or Route)	Municipality	State	ZIP Code
Email Address	Phone No. (include area code)	Alternative Phone No.	

**SECTION IV: CONTRACTOR INFORMATION**  Check if not applicable and skip this section

Role:  Consultant  Contractor  Other — Specify: \_\_\_\_\_

Contact Name (First and Last Name)	Title	Company	
Mailing Address (i.e. PO Box, Street, or Route)	Municipality	State	ZIP Code
Email Address	Phone No. (include area code)	Alternative Phone No.	

**SECTION V: FACILITY LOCATION INFORMATION**

Facility/Project Site Name	County (of facility/project location)
Physical Address (Street, Road, Route, or other)	<input type="radio"/> City <input type="radio"/> Town <input type="radio"/> Village of _____
Public Land Survey System (PLSS) QQ of _____ Q of _____ Section _____ Township _____ N Range _____ <input type="radio"/> E <input type="radio"/> W	Latitude: _____ Longitude: _____

**Note:** PLSS can be identified on the Surface Water Data Viewer here: <https://dnr.wi.gov/topic/surfacewater/Swdv/>.

**Notice of Intent (NOI)  
Water Treatment and Conditioning**

WPDES Permit No. WI-0046540-06-0

Form 3400-242 (R 10/19)

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**SECTION VI: FACILITY ACTIVITY**

**1. Other Environmental Permits or Approvals:** Has the facility received or applied for coverage under any other WPDES general permit or any other environmental permits, such as for management of hazardous wastes, emission of air pollutants or underground injection?

- No. **Proceed to question 2.**
- Yes. Please give the permit number(s) and briefly describe the permit activity.

Permit #	Description of Permit Activity

**2. Nature of Business** - Provide a brief description of the facility operations and activities:

**Proceed to question 3.**

**3. Water treatment process(es) generating wastewater:**

- Demineralizer or ion exchange
- Lime or soda ash softeners
- Coagulation, sedimentation, or clarification units
- Iron/manganese removal process
- Iron/manganese removal process with potassium permanganate addition
- Granular media filters (i.e. sand filters, dual and multimedia filters, GAC filters)
- Membrane filtration units (i.e. microfiltration, ultrafiltration, nanofiltration, reverse osmosis)
- Other similar facilities: \_\_\_\_\_

**Proceed to question 4.**

**4. Were the discharge(s) previously covered under General Permit No. WI-0046540-05-0?**

- No. **Proceed to question 5.**
- Yes. Please specify any changes in your facility operations that would affect the flow or composition of the discharge since general permit coverage was last received. If none state "none". **Proceed to question 5.**

**5. Sanitary Wastes** - Where are sanitary wastes (wastewaters from restrooms, washrooms, lunch/break room sinks, showers, etc.) discharged?

- In a septic tank system and/or subsurface absorption system
- In a privately-owned treatment system owned by you or operated by: \_\_\_\_\_
- In a publicly-owned treatment system operated by: \_\_\_\_\_
- Other - Specify: \_\_\_\_\_

**Proceed to question 6.**

**6. Water Supply** - What are the facility's sources of water?

Source Type	Name of Source	Average Volume or Flow rate (include units)
Municipal Supply		
Surface Water Intake		
Private Well		
Other (specify): _____		
Other (specify): _____		

**Proceed to question 7.**

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**7. Treatment System Description** - Describe any treatment given to wastewaters prior to discharge for all outfalls:

  
  
  

**Proceed to question 8.**

**8. Effluent Flow Monitoring and Sampling Devices**

Flow Monitoring System Type: \_\_\_\_\_

Flow Monitoring Location(s): \_\_\_\_\_

Effluent Sampling System Type: \_\_\_\_\_

Effluent Composite Sample Location (if necessary): \_\_\_\_\_

Effluent Grab Sample Location: \_\_\_\_\_

**Proceed to question 9.**

**9. Removed Substances** – Do treatment processes at the facility/project result in the removal and generation of solids, sludges, or other substances from the treatment of source waters or wastewaters?

**No. Proceed to Section VII.**

**Yes.** If yes, where do you dispose of the solids, sludges, or other substances?

Land Application

Landfill

Hauled to another permitted facility

Facility Name: \_\_\_\_\_

WPDES Permit No. WI- \_\_\_\_\_

Other - Specify: \_\_\_\_\_

**SECTION VII: DISCHARGE CHARACTERIZATION**

**1. Type of Wastewater Discharged** – Please check all that apply and specify the outfall number, average daily flow in gallons per day (gpd), discharge location, discharge duration, and surface water name (if necessary) of each type of wastewater discharged at the facility:

Type of Wastewater	Outfall # (001, 002, etc..)	Average Daily Flow (gallons per day)	Discharge Duration	Discharge Location	Surface Water Discharge Only	
					<input type="checkbox"/> Check if not applicable	
					Surface Water Name	WBIC
<input type="checkbox"/> Filter backwash						
<input type="checkbox"/> Regeneration water						
<input type="checkbox"/> Concentrate or reject water						
<input type="checkbox"/> Unit Washwater						
<input type="checkbox"/> Unit Drainage Water						
<input type="checkbox"/> Decant Water or Supernatant						

**Note: Type of wastewater:** The applicant shall state each wastewater type that is discharged to a water of the state. Wastewater types may include: backwash water, regeneration water, concentrate or reject water, washwater, flushing or drainage water, decant water or supernatant, or other similar wastewaters.

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**Outfall:** An outfall is the point where the wastewater from your facility/project will drain into a water of the state. The applicant should state each separate Outfall located at the site with an outfall number starting at 001.

**Average Daily Flow:** For new applicants when no flow data is available, the applicant shall approximate the highest expected average daily wastewater volume discharged. For existing permittees, the average daily flow shall be determined by the average daily wastewater volume discharged from the previous 24 months.

**Discharge Duration:** The applicant shall specify the duration of discharge from the facility/project. Discharge duration may include: continuous, noncontinuous, or seasonal.

**Discharge Location:** The applicant shall specify the location of the discharge. The applicant may consider the discharge locations below:

- **Groundwater Discharge** means any wastewater discharge that is allowed to infiltrate or seep into the soil from a permeable surface including but not limited to any drain field, agricultural field, ditch, swale, depression, trench or pit, adsorption pond, infiltration pond, rain garden, prairie, or vegetative area that may impact groundwater quality. Discharges to a storm water pond that is not hydraulically connected to a surface water and completely confined on the property of the permittee is considered a groundwater discharge.
- **Surface Water Discharge** means any wastewater discharge via any discernible, confined and discrete conveyance system including but not limited to any pipe, ditch, channel, tunnel, conduit, swale, or storm sewer to a creek, stream, pond, marsh, bay, reservoir, river, lake, or other surface water within the state of Wisconsin. Discharges to a storm water pond that is hydraulically connected to a surface water is considered a surface water discharge.
- **Wetland Discharge** means any wastewater discharge via any discernible, confined and discrete conveyance system including but not limited to any pipe, ditch, channel, tunnel, conduit, swale, or storm sewer to a wetland. Wetland means an area where water is at, near or above the land surface long enough to be capable of supporting aquatic or hydrophytic vegetation and which has soils indicative of wet conditions.

**Surface Water Name:** If the discharge is to a surface water, the applicant shall provide the name of the surface water. Surface waters can be identified on the Surface Water Data Viewer here: <https://dnr.wi.gov/topic/surfacewater/Swdv/>.

**WBIC:** If the discharge is to surface water, the applicant shall provide the Water Body Identification Code (WBIC) for that specific surface water, the WBIC can be found here: <http://dnr.wi.gov/water/waterSearch.aspx>

**SECTION VIII: ELIGIBILITY CHECKLIST**

1. Will all the wastewater be discharged from and/or to properties within tribal lands (i.e. land owned by or held in trust for the tribes and land within recognized reservation boundaries)?

- Yes. **Your discharge is not eligible for this General Permit.** *If all discharges from your facility go to or come from properties in tribal lands, you do not require regulation under a WPDES discharge permit. Therefore, skip the rest of the NOI and sign the last page. We will remove you from our tracking system. The Tribe or United States Environmental Protection Agency (EPA) regulates discharges within tribal lands.*
- No. **Proceed to question 2.**

**Note:** Tribal lands can be identified on the Surface Water Data Viewer here: <https://dnr.wi.gov/topic/surfacewater/Swdv/>.

2. Will all the wastewater be discharged to a sanitary sewer that conveys the wastewater to a publicly or privately-owned treatment works? A septic system is not considered a sanitary sewer. Please contact the owner of the treatment works for approval prior to discharging to the sanitary sewer.

- Yes. **Your discharge is exempt from the need of a WPDES Permit.** *If all discharges from your facility go to a sanitary sewer, you do not need a WPDES discharge permit. Therefore, skip the rest of the NOI and sign the last page. We will remove you from our tracking system. If at some point in the future operations at your facility result in a direct discharge to a water of the state, you will need to inform the Department.*
- No. **Proceed to question 3.**

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3. Will the discharge to surface water or groundwater contain any of the following wastewaters not covered by another permit: domestic wastewater, contaminated stormwater, contaminated groundwater, whey, whey permeate, whey filtrate, contact cooling water, noncontact cooling water, cooling tower blowdown, leachates, boiler blowdown, condensates, process wastewaters from the production of any material or product, or other wastewater that may be more appropriately covered by another general permit?

- Yes. **Your discharge is not eligible for this General Permit.** Skip the rest of the NOI and complete the certification on last page. Contact the Department to obtain application for another general permit or individual WPDES discharge permit.
- No. **Proceed to question 4.**

4. If the proposed discharge will be directly to a surface water, is the surface water classified as an exceptional resource water (ERW) or outstanding resource water (ORW) as defined in ch. NR 102, Wis. Adm. Code?

- Yes. **Your discharge is not eligible for this General Permit.** Skip the rest of the NOI and complete the certification on last page. Contact the Department to obtain application for an individual WPDES discharge permit.
- No. **Proceed to question 5.**
- N/A. **The discharge will be to groundwater via seepage or a wetland. Proceed to question 5.**

**Note:** ERWs or ORWs can be identified on the Surface Water Data Viewer here: <https://dnr.wi.gov/topic/surfacewater/Swdv/>.

**5. Wetlands**

A. Will the proposed discharge be to a wetland?

- Yes. **Proceed to question 5B.**
- No. **Proceed to question 6.**

B. Do no practicable alternative disposal options exist which would avoid discharge to the wetlands pursuant to ch. NR 103, Wis. Adm. Code (Practicable alternatives means available and capable of being implemented after taking into consideration cost, available technology and logistics in light of overall project purposes)?

- Yes. **Proceed to question 5C.**
- No. Please contact the department to discuss practicable alternative disposal options and eligibility under this General Permit. **Proceed to question 6.**

C. Will all practicable measures to minimize adverse impacts of the affected wetlands be taken?

- Yes. **Proceed to question 6.**
- No. **This NOI will be considered incomplete and returned to you.**

**Note:** Wetlands can be identified on the Surface Water Data Viewer here: <https://dnr.wi.gov/topic/surfacewater/Swdv/>.

6. Will the discharge contain water treatment additives (i.e. biocides such as microbicides, fungicides, molluscicides, chlorine, etc.) or water quality conditioners (i.e. scale and corrosion inhibitors, pH adjustment chemicals, oxygen scavengers, conditioning agents, water softening compounds, settling agents, polymers, etc.) that may enter surface water or groundwater without receiving wastewater treatment or that are used in a treatment process but are not expected to be removed by wastewater treatment?

- Yes. **For each additive used, please complete and attach an Additive Review Worksheet (Form 3400-213).**  
*Additive Review Worksheets must be completed to receive coverage under this general permit. The Additive Review Worksheet is not required for additives with active ingredients consisting of chlorine, hypochlorite, sulfuric acid, hydrochloric acid or sodium hydroxide. Also, chemicals used in an industrial process generating wastewater that eventually receives treatment or chemicals added as part of wastewater treatment process (such as ferric chloride, alum or pickle liquor) are not considered water treatment additives and need not require an additive review.*  
**Proceed to question 7.**

- No. **Proceed to question 7.**

**Note:** Water treatment additives which are approved under ANSI/NSF Standard 60 "Drinking Water Treatment Chemical" must be receive additive review and approval by the department for discharges to surface water and are pre-approved for use by the department for discharges to groundwater via seepage.



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7. Does the wastewater come from a water treatment process operated to meet drinking water standards for arsenic, radium or other radionuclides?

- Yes. **Your discharge is not eligible for this General Permit.** Skip the rest of the NOI and complete the certification on last page. Contact the Department to obtain application for an individual WPDES discharge permit.
- No. **Proceed to question 8.**

8. Does the wastewater come from a water treatment process that significantly concentrates metals (e.g. mercury, copper, or nickel) that may exceed water quality standards in chs. NR 105 and NR 106, Wis. Adm. Code or groundwater standards in ch. NR 140, Wis. Adm. Code?

- Yes. **Your discharge is not eligible for this General Permit.** Skip the rest of the NOI and complete the certification on last page. Contact the Department to obtain application for an individual WPDES discharge permit.
- No. **Proceed to question 9.**

9. Does the wastewater come from a sodium or potassium cycle ion exchange regeneration unit?

- Yes. **Your discharge is not eligible for this General Permit.** Skip the rest of the NOI and complete the certification on last page. Contact the Department to obtain application for an individual WPDES discharge permit.
- No. **Proceed to question 10.**

**10. Chlorination, Oxygen Scavenging, and Phosphate Chemicals** - This includes any additives or chemicals introduced to aid in the water treatment or conditioning process. For industrial facilities, this does not include any additives or chemicals already present in the water supply. Please indicate the sources of water used at the facility in question 6 of Section VI above.

A. Will phosphate addition occur during or ahead of the specified water treatment/conditioning process with the wastewater discharge?

- Yes. Phosphate addition will occur. **Proceed to question 10B.**
- No. Phosphate addition does not occur. **Proceed to question 10B.**
- N/A. The discharge will be groundwater via seepage. **Proceed to question 11.**

B. Will chlorination occur during or ahead of the specified water treatment/conditioning process with the wastewater discharge?

- Yes. The water is chlorinated. **Proceed to question 10C.**
- No. The water is not chlorinated. **Proceed to question 10D.**

C. Will chemicals be used to dechlorinate the wastewater prior to discharge to surface water?

- Yes. The wastewater will be dechlorinated with chemicals. **Proceed to question 10D.**
- No. The wastewater will not be dechlorinated with chemicals. **Proceed to question 10D.**

D. Will oxygen scavenging chemical addition occur during or ahead of the specified water treatment process with the wastewater discharge?

- Yes. Oxygen scavenging chemical addition will occur. **Proceed to question 10E.**
- No. Oxygen scavenging chemical addition does not occur. If the answer to 10C is yes, **proceed to question 10E.** If the answer to 10C is no, **proceed to question 11.**
- N/A. The water will not be chlorinated nor will oxygen scavenging chemical addition occur. **Proceed to question 11.**

E. If you answered yes to 10C or 10D, will the discharge be aerated (i.e. natural or artificial) following oxygen scavenging chemical addition or chemical dechlorination?

- Yes. The wastewater will be aerated. **Proceed to question 11.**
- No. **This NOI will be considered incomplete and returned to you.**

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11. For existing permittees, do you wish to request a compliance schedule to any applicable effluent limits for total residual chlorine, dissolved oxygen, chloride, potassium permanganate, total recoverable manganese, or total recoverable iron limits specified in Section 3.2.1 or any effluent limit specified in Section 4.2.1?

- No. The effluent limits for all parameters are readily achievable at the facility, or I am not an existing permittee, therefore, must meet all effluent limits immediately. **Proceed to question 13.**
- Yes. Please specify each applicable parameter and the reason why the effluent limit for that parameter is not readily achievable at the facility. **Proceed to question 13.**

Parameter	Justification for Compliance Schedule

**Note:** Existing permittees means any facility that was previously covered under WPDES Permit No. WI-0046540-05-0.

12. Please prepare a flow diagram that shows the water flow through the facility and attached it to this NOI. Please indicate sources of intake water, operations contributing wastewater to the effluent, and treatment units. Construct a water balance on the line drawing by showing average flows between intakes, operations, treatment units, and outfalls.

- The flow diagram is attached to this NOI. **Proceed to Section 14.**
- The flow diagram is not attached to this NOI. **This NOI will be considered incomplete and returned to you.**

13. Please prepare a site map that shows the facility location and the location of each outfall in relation to the receiving water and attached it to this NOI.

- The site map is attached to this NOI. **Proceed to Section IX.**
- The site map is not attached to this NOI. **This NOI will be considered incomplete and returned to you.**

**SECTION IX: COMMENTS**

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**SECTION X: CERTIFICATION**

*This form must be signed by a responsible executive or municipal officer, manager, partner or proprietor as specified in s. 283.37(3), Wis. Stats., or a duly authorized representative of the officer, manager, partner or proprietor that has been delegated signature authority pursuant to s. NR 205.07(1)(g)2., Wis. Adm. Code. To delegate signatory authority to a duly authorized representative, please complete and attach a Delegation of Signature Authority (DSA) form (Form 3400-220) to this NOI.*

*I certify under penalty of law that these documents and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.*

Authorized Representative Print Name	Title
Authorized Representative Signature	Date Signed
Applicant Print Name (If different from Authorized Representative)	Title
Applicant Signature	Date Signed

Please print and sign this certification page. Scan and email the completed form, certification page and any other supporting information to the department regional general permit reviewer at least thirty (30) business days before the expected start date of discharge. A listing of the general permit reviewers for each region with mailing addresses and phone numbers can be found at <http://dnr.wi.gov/topic/wastewater/GeneralPermits.html>. Please scroll to the "How to Apply" section and click the department region of the discharge location for the appropriate general permit contact.