

Frequently Asked Questions (FAQs) for Municipal Water Systems

Operation and Maintenance of Municipal Water Systems

WPDES Permit No. WI-B057681-05-0

FAQs:

1. What is a WPDES permit?

A Wisconsin Pollutant Discharge Elimination System (WPDES) permit is an allowance for a person to discharge a certain amount of pollutants into a water of the state under specific conditions. The goal of a WPDES permit is to reduce and eliminate pollution to protect surface water quality and groundwater quality of waters of the state. The Wisconsin Department of Natural Resources (Department) is authorized to issue WPDES permits under Chapter 283 of Wisconsin Statutes. The Department administers and issues WPDES permits through the WPDES permit program within the Bureau of Water Quality.

2. What's a WPDES general permit?

A general permit covers a group or category of dischargers within the state of Wisconsin under one WPDES permit that perform the same or substantially similar operations, produce the same types of wastewater streams, employ the same or substantially similar wastewater treatment operations to control specific pollutants, and are subject to the same effluent limitations and monitoring requirements. A general permit is not specific to one individual discharger, so the name of the discharger will not appear on the general permit. The general permit will contain a broad set of monitoring requirements and conditions applicable to each category of discharger. If a discharger is eligible for the general permit, the discharger may apply for coverage under general permit by submitting a notice of intent (NOI) to authorize the discharge to a water of the state. General permits have to consider all discharge situations, water quality standards, and groundwater quality standards that may apply. General permits will implement the most conservative of these situations and requirements.

3. I have never seen this general permit before and was not aware that I had coverage under the previous general permit?

Many municipal water systems were granted coverage under the previous versions of this general permit many years ago. The previous general permit required that municipal water systems covered under this general permit perform sampling of the discharges from the operation and maintenance of water systems but did not require that these samples be reported to the Department. Not reporting monitoring results to the department is inconsistent with state rules and the Clean Water Act. An exemption was previously codified in ch. NR 106, Wis. Adm. Code, which allowed permits to exempt monitoring for discharges that only contained water supply water treated to meet safe drinking water standards. However, the U.S. Environmental Protection Agency (EPA) determined that this code exemption violated the Clean Water Act. The department therefore revised ch. NR 106, Wis. Adm. Code to remove this exemption. This reissued general permit requires that municipal water systems report

these sample results to the Department and provides a new electronic reporting system to ease administrative burden of this task. Any municipal water system that was not covered previously will be covered under this general permit upon the effective date.

4. Which discharge activities does the general permit apply to?

This general permit is applicable to short-term point source discharges of pollutants to a water of the state from operational and maintenance activities of municipal water systems. Operational and maintenance activities of municipal water systems include:

- Flushing of fire hydrants (scheduled and unscheduled)
- Flushing following cleaning or disinfection of water distribution systems, water storage systems, or water supply wells
- Hydrostatic testing of water Distribution and Storage Systems
- Development, installation, and/or purging water supply wells
- Pigging/swabbing water distribution systems
- Other similar discharges from operation and maintenance of municipal water systems

5. What's the risk of discharges from municipal water systems?

Discharges from operational and maintenance activities of municipal water systems may contain pollutants like total residual chlorine that may be acutely toxic to fish and aquatic life even at low levels if not properly managed and treated. The department has received numerous reports of discharges from operational and maintenance activities of municipal water systems that have resulted in fish kills due to improper management of the water.

By having coverage under this general permit, the municipality will be provided with a “permit shield.” Under this provision, the municipality is shielded from both department enforcement and citizen suits, provided the municipality complies with permit conditions.

6. For how long is the permit effective?

General permits are required to have permit terms of 5 years. This permit will expire on July 31, 2026. If the department does not reissue the permit prior to its expiration date, all conditions of an expired general permit shall continue to apply to existing permittees until the effective date of a new general permit. Coverage under the permit for a municipal water system will be effective upon the effective date of the general permit or upon the date stated in a coverage letter to entities that apply for coverage under the general permit during the permit term.

7. What's the costs?

There are no permit application fees or annual fees associated with this general permit. However, there may be monitoring costs associated with having a certified lab sample and analyze the discharge for certain parameters in the permit.

8. Do I need to apply?

Any existing municipal water system is automatically granted coverage under this general permit upon the effective date of general permit for scheduled and unscheduled fire hydrant flushing discharges. Any new municipal water system or similar water system not granted coverage upon the effective date of this general permit will be required to apply for coverage during the permit term.

Any new permittee will be required to apply for coverage during the permit term. New permittees must submit an electronic notice of intent (eNOI) to obtain coverage under this general permit using the online ePermitting System. The ePermitting System is available for use at the water permit applications webpage (<https://dnr.wisconsin.gov/permits/water>). The ePermitting System does not require any special software and is completely web-based and available using any internet browser. Applicants must have or create a Wisconsin Web Access Management System (WAMS) ID to access the eNOI. If the applicant already has a WAMS ID, then the applicant does not need to recreate one and they may access the eNOI.

9. How do I know if I am covered under the permit?

The department will transmit a reissuance letter via mail addressed to the existing permittee stating that the discharge from the facility is granted continued coverage under this general permit. All municipal water systems will be given outfalls for scheduled and unscheduled hydrant flushing of the water distribution system.

10. How do I get other water system discharges covered under this general permit?

If an existing permittee will have other water system discharges (i.e. water tower flushing or hydrostatic testing of water mains), the permittee may choose to have those discharges covered under their general permit coverage or allow other non-municipal entities working on behalf of municipal water system owners to apply for coverage under this general permit separately. So, a contractor may apply for this general permit separately if they are performing a one-time discharge and plan on discharging to a water of state. If the municipality does not wish for their discharges to be covered by the municipality's permit coverage, the department recommends that municipalities include a statement in the contract or specifications requiring that the non-municipal entities apply for coverage under this general permit for the discharge activity. If you do wish to be responsible for the other water system discharges to a water of the state and have them covered under this general permit, please contact the Department via the planned change requirements under Section 8.3.3 of the permit. The Department will then transmit a revised coverage letter stating that the discharge is granted coverage under this general permit with sampling and reporting requirements for the new outfall.

Any new permittee will be required to apply for coverage during the permit term. New permittees must submit an electronic notice of intent (eNOI) to obtain coverage under this general permit using the online ePermitting System. The ePermitting System is available for use at the water permit applications webpage (<https://dnr.wisconsin.gov/permits/water>). The ePermitting System does not require any special software and is completely web-based and available using any internet browser. Applicants must have or create a Wisconsin Web Access Management System (WAMS) ID to access the eNOI. If the

applicant already has a WAMS ID, then the applicant does not need to recreate one and they may access the eNOI.

11. I do not discharge my water straight to a surface water such as via a storm sewer, ditch, or storm water pond. Do I still need coverage under the general permit?

Yes, the department requires a WPDES permit for any discharge of pollutants to waters of the state, including discharges to surface or groundwater via storm sewers or infiltration. See 40 CFR 122.2.

A “discharge of a pollutant” or “discharge of pollutants” means any addition of any pollutant to the waters of this state from any point source pursuant to s. 283.01(5), Wis. Stats. This definition includes a “point source” which means a discernible, confined, and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft from which pollutants may be discharged either into the waters of the state or into a publicly owned treatment works except for a conveyance that conveys only storm water. This term does not include agricultural storm water discharges and return flows from irrigated agriculture pursuant to s. 283.01(12)(a), Wis. Adm. Code. See 40 CFR 122.2. This is differentiated from an “indirect discharger” which means a nondomestic discharger introducing pollutants to a publicly owned treatment works. See 40 CFR 122.2. Therefore, the department considers any water flushed from a water system to be a direct discharge to waters of the state and requires a WPDES permit because they are conveyed through point sources and are not directed to a wastewater treatment plant.

Nevertheless, the department has included conditions in the permit for discharge activities that allow the discharger to request a higher total residual chlorine limit of 38 ug/L if a discharge will be a high-flowing stream. Additionally, for fire hydrant flushing activities, the department has included conditions in the permit so that the permittee may elect to utilize best management practices (BMPs) in lieu of monitoring for total residual chlorine. However, the permittee must still report to the department a certification statement, certifying that they utilized BMPs each year to reduce or remove total chlorine at each fire hydrant. Hydrant flushing discharges that go directly to surface water still require chlorine monitoring and compliance with chlorine limitations.

Also, the department has included total residual chlorine monitoring waiver conditions in the permit for other water system discharges where discharge to storm water conveyance systems, storm water pond systems (e.g. municipal regional storm water ponds), or combination of both to be used to demonstrate that the total residual chlorine levels will be dissipated below the chlorine limits prior to entering the surface water.

12. Do I need to reapply under the general permit for each hydrant flushing event?

No, this general permit may cover recurring discharges from scheduled and unscheduled hydrant flushing of the water distribution across the entire water supply system for a municipality under one blanket municipal-wide coverage. This general permit is also applicable to other operational and maintenance water system discharges (e.g. water tower flushing) across the entire water supply system for a municipality. However, the permittee may choose to have those discharges covered under their

general permit coverage or allow other non-municipal entities working on behalf of municipal water system owners to apply for coverage under this general permit separately. See question 10 for more detail.

13.Can my ID for reporting drinking water results be used for reporting results under this general permit?

Yes, ID for reporting drinking water results can be used for reporting results under this general permit. The electronic reporting systems used for reporting drinking water results requires the same Wisconsin Web Access Management System (WAMS) ID and password to log-in. However, you will be required to request reporting roles and access to the facility/permit to be able to see the electronic discharge monitoring reports required under this general permit.

14.Do I need to take samples from each hydrant being flushed during a flushing event within the municipality or community?

No, in accordance with Section 3.2.3 of the general permit, if multiple hydrant flushing discharges occur in one year from the water distribution system within the municipality, the permittee need only sample one hydrant flushing discharge that occurred from that flushing event. However, the permittee must employ the same standard flushing operations at each hydrant to be in compliance with this permit. If the flushing events occur on consecutive years, the permittee shall resample the hydrant flushing discharge and report the results for that year as well. The permittee shall estimate the total annual discharge volume of all hydrants flushed each year. This estimate includes scheduled and unscheduled hydrant flushing that may occur in a year.

For municipalities that disinfect their water supply, the permittee may elect to sample for total residual chlorine from one hydrant per year or utilize best management practices (BMPs) in lieu of monitoring for total residual chlorine if the conditions of Section 3.2.2.1.3 of the permit are met. The permittee must still report to the department a certification statement into the general remarks section of the eDMR, certifying that they utilized BMPs each year to reduce or remove total chlorine at each fire hydrant. Hydrant flushing discharges that are flushed straight to surface water still require chlorine monitoring and compliance with chlorine limitations.

Also for municipalities that add phosphates to the water supply, the permittee may either collect a sample of total phosphorus from one hydrant per year or calculate concentration estimated in the discharge based on source water concentrations and the dosage rate of phosphate chemicals added to the finished water supply system water based on Section 3.2.2.2 of the general permit. If you select to calculate the concentration estimated in the flushed water based on source water concentrations and the dosage rate of phosphate chemicals added to the finished water supply system water then the estimated concentration result should be reported in the general remarks section of the eDMR.

15. Do the permit and monitoring requirements apply to discharges from emergency situations (i.e. water main breaks, firefighting, and other emergency and after-hours situations)?

This general permit is not applicable to discharges of water from any fire emergency, accidental or uncontrolled release, spill, leak, or overflow. The permittee shall follow the noncompliance reporting procedures under Section 8.3.16 of the general permit for reporting accidental and uncontrolled releases from emergency situations. Noncompliance reporting is only required if the accidental and uncontrolled release may endanger health or the environment. For instance, if a water break had the potential to discharge into a surface water then that shall be reported under Section 8.3.16 of the general permit. However, if the water break was contained and infiltrated into the groundwater then no reporting is necessary as the discharge may not endanger health or the environment.

16. Do I need a certified or registered laboratory to analyze my samples?

Testing for pH, total residual chlorine, and dissolved oxygen are excluded from needing to be tested and analyzed by a laboratory certified or registered under ch. NR 149, Wis. Adm. Code. All other parameters in the permit need to be tested and analyzed by a laboratory certified or registered under ch. NR 149, Wis. Adm. Code for wastewater sampling. See Section 8.2.13 of the general permit. A list of Wisconsin certified or registered laboratories can be found here: <https://dnr.wisconsin.gov/topic/labCert/certified-lab-lists>. A municipal wastewater laboratory registered under ch. NR 149, Wis. Adm. Code may be used, provided that the municipal laboratory is under common ownership or control and has the accredited technology necessary to perform the testing needed to comply with this general permit.

17. What are the approved test methods for parameters in the permit?

Approved test methods for parameters in permit are listed below from ch. NR 219, Wis. Adm. Code and 40 CFR Part 136. Samples are required to be tested and analyzed for total residual chlorine, pH, and dissolved oxygen within 15 minutes of sample collection.

Parameter	Methodology	EPA Test Method	Standard methods	ASTM	USGS/AOAC/other
Chlorine-Total residual	Amperometric direct		4500-Cl D-2011	D1253-08	
	Amperometric direct (low level)		4500-Cl E-2011		
	Iodometric direct		4500-Cl B-2011		
	Back titration ether end-point ¹⁵		4500-Cl C-2011		
	DPD-FAS		4500-Cl F-2011		

Parameter	Methodology	EPA Test Method	Standard methods	ASTM	USGS/AOAC/other
	Spectrophotometric, DPD		4500-Cl G-2011		
	Electrode				See footnote. ¹⁶
Phosphorus—Total	Digestion,20 followed by any of the following:		4500-P B(5)-2011		973.55.3
	Manual	365.3 (Issued 1978)	4500-P E-2011	D515-88 (A)	
	Automated ascorbic acid reduction	365.1 Rev. 2.0 (1993)	4500-P (F-H)-2011		973.56,3 I-4600-85.2
	ICP/AES4 36	200.7, Rev. 4.4 (1994)	3120 B-2011		I-4471-97.50
	Semi-automated block digester (TKP digestion)	365.4 (Issued 1974)		D515-88 (B)	I-4610-91.48
	Digestion with persulfate, followed by Colorimetric				NCASI TNTP W10900.77
Residue—non-filterable (TSS)	Gravimetric, 103-105° post washing of residue		2540 D-2011	D5907-13	I-3765-85.2
Hydrogen ion (pH), pH units	Electrometric measurement		4500-H+ B-2011	D1293-99 (A or B)	973.41,3 I-1586-85.2
	Automated electrode	150.2 (Dec. 1982)			See footnote, ²¹ I-2587-85.2
Oil and grease—Total recoverable	Hexane extractable material (HEM): n-Hexane extraction and gravimetry	1664 Rev. A; 1664 Rev. B42	5520 B-201138		
	Silica gel treated HEM (SGT-HEM): Silica gel treatment and gravimetry	1664 Rev. A; 1664 Rev. B42	5520 B-201138 and 5520 F-201138		
Oxygen, dissolved	Winkler (Azide modification)		4500-O (B-F)-2011	D888-09 (A)	973.45B,3 I-1575-78.8
	Electrode		4500-O G-2011	D888-09 (B)	I-1576-78.8
	Luminescence Based Sensor			D888-09 (C)	See footnote. ⁶³ See footnote. ⁶⁴

18. If the discharge of water is conveyed to a large river or lake, do I get any relief or dilution for total residual chlorine?

Under Sections 3.2.2.1.1 and 3.3.2.2.1 of the general permit, If the receiving water of the discharge has an average low flow (7-day average flow that occurs once in 10 years) to average volume discharged greater than or equal to 2:1 or the discharge is to a lake or impoundment that does not exhibit unidirectional flow, the department may determine that a daily maximum limit of 38 µg/L for total residual chlorine applies instead of 19 µg/L. The permittee must notify the department if they want this evaluation conducted. The permittee should provide the name of the surface water that receives the flushed water and expected average volume of water discharged per day with the notification.

19. Can I use existing equipment to test for total residual chlorine?

Yes, permittees may use existing equipment to test for total residual chlorine, provided it is consistent with one of the methodologies listed in ch. NR 219, Wis. Adm. Code. See question 17 for approved test methods. The same is true for pH and dissolved oxygen.

The department acknowledges that some municipal water systems that disinfect do so sample for free chlorine and these systems may need to obtain either an analyzer or the proper reagents to be able to analyze for total residual chlorine. The department suggests sharing reagents with other municipal water systems since many reagents are sold in packets of 100 and have an expiration date.

20. Who is responsible for sampling and reporting under the general permit if flushed water enters a nearby community's storm sewer system?

The municipality that owns the hydrant being flushed is responsible for taking samples in compliance with this general permit regardless of what storm sewer system it may enter.

21. My field or laboratory test methods cannot achieve a level of detection (LOD) below the effluent limit for total residual chlorine (TRC). Will I violate the total residual chlorine effluent limitations?

Under Sections 3.2.2.1.2 and 3.3.2.2.2, when a limitation for TRC in this permit is less than the LOD for an approved test method, the permittee shall comply with the conditions:

(a) The permittee shall perform TRC monitoring required in this permit using an approved analytical methodology for TRC from ch. NR 219, Wis. Adm. Code, in the water which produces the lowest possible LOD and LOQ. See question 17 above for approved test methods for total residual chlorine. Samples are required to be tested and analyzed for total residual chlorine within 15 minutes of sample collection.

(b) The permittee shall determine the LOD and limit of quantitation (LOQ) using an TRC test method specified in ch. NR 219, Wis. Adm. Code. If the test method does not provide a way to determine a LOD and LOQ, please reach out to the department or a laboratory for help to estimate a LOD and LOQ for the test method. The department considers the LOD to be equivalent to the method detection limit (MDL).

Generally, the LOD for total residual chlorine titration methods can be determined by titrating the smallest drop possible and the LOQ is (10/3) times the LOD.

(c) The permittee shall determine compliance with the TRC limitation as follows:

1. TRC levels in the water that are less than the LOD are in compliance with the TRC limitation. The permittee shall report the results as "<LOD".
2. TRC levels in the water that are greater than the LOD but less than the LOQ are in compliance with the TRC limitation except when consistently reported between the LOD and LOQ.
3. TRC levels in the water that are greater than the LOQ are not in compliance with the TRC limitation. The permittee shall report the level as a limit exceedance.