

Permit Fact Sheet

General Information

Permit Number:	WI-0063835-02-0 General Permit
Activity:	Ballast Water Discharge
Permittee:	U.S. and international commercial vessels ≥ 24.1 meters in length and ≥ 8 m ³ ballast capacity
Discharge Location:	Ports of call or in transit on commercial shipping routes
Receiving Water:	Lake Michigan, Lake Superior, and other locations with commercial shipping traffic

General Description of Activities Covered Under This GP

General permits (GP) are designed to cover discharges from a category of activities that are similar in character. When a GP is issued, many dischargers meeting its requirements may be covered under the same GP. The Department of Natural Resources (Department) has several categories of GPs covering hundreds of facilities. For activities eligible for coverage under a general permit, the Department sends a cover letter and a copy of the permit to the facility. The cover letter includes the Department's determination that a discharge is covered under the GP. A facility may need to be covered under more than one GP, depending on the different types of waste streams that a facility discharges. However, a facility that requires an individual permit for any part of its discharge may have all of its discharges covered under one individual permit.

Growing concerns and damage to the environment caused by aquatic invasive species (AIS) have raised the awareness on the need to regulate ballast water from vessels, which are the major vector for AIS introduction into the Great Lakes along with spreading existing AIS throughout the Great Lakes. However, the discharges incidental to the normal operation of a vessel, including ballast water, have been exempt through Environmental Protection Agency (EPA) regulations under the Clean Water Act since 1973. In 2005 the U.S. District Court for the Northern District of California determined the exemption by EPA exceeded its authority. In accordance with the court ordered time frame EPA prepared a NPDES general permit to regulate ballast water and 25 other discharges from commercial vessels, which became effective December 19, 2008 and was reissued December 19, 2013. The vacatur of the exemption became effective February 6, 2009. For more information on the history regulating ballast water and other discharges incidental to the normal operation of a vessel, refer to the EPA Vessel General Permit (VGP) and accompanying fact sheet available at the EPA web site:

<http://water.epa.gov/polwaste/npdes/vessels/index.cfm>

The discharge of ballast water is a fairly new category of dischargers that EPA regulates under a National Pollutant Discharge Elimination System (NPDES) general permit. The Vessel General Permit (VGP) now requires effluent discharge limits and ballast water exchange for oceangoing vessels; however, this discharge standard is not applicable to Great Lake vessels in the VGP. The EPA does not have inspectors to conduct ballast water inspections onboard vessels. The US Coast Guard (USCG) Ballast Water Discharge Standard Final Rule was adopted on March 23, 2012 and includes effluent discharge limits for oceangoing vessels. Once treatment systems are installed, they will no longer be required to conduct midocean ballast water exchange under the USCG rule. The USCG does not regulate ballast water discharges from Great Lake Vessels. The current Wisconsin permit requires effluent discharge limits for all vessels in addition to midocean exchange for ocean going vessels.

The Department strongly supports federal numerical standards for ballast water discharges, but also believes: both oceangoing and Great Lake vessels need to be regulated with numeric discharge standards, midocean ballast water exchange should be continued even after treatment systems are installed, and that onboard inspections need to be conducted to ensure: compliance with discharge limits, the continued use of best management practices, and the vessel crews are provided with valuable education and outreach regarding AIS. The state general permit was reissued under the independent state authority to regulate discharges of pollutants to waters of the state pursuant to Wis. Stat. §283.35 (1m). EPA has not objected to a state permit issued under state authority. The reissued permit includes new effluent discharge limits for Great Lake vessels, consistent with Minnesota's requirement for Great Lake Vessels to comply with the International Maritime Organization (IMO) ballast water standards. Both Michigan and Minnesota have issued state permits regulating ballast water discharges under their independent state authorities.

Rational for Permit Requirements

1 Applicability

Those vessels issued an EPA VGP that have a ballast tank capacity of at least 2114 gallons (8 cubic meters) and are at least 79 feet in length (24.1 meters), must receive coverage under this permit to discharge ballast water in the waters of Wisconsin. These two criteria are consistent with the EPA VGP and the Minnesota criteria for their State Disposal System permit.

The permit recognizes five criteria that would qualify a vessel for an exemption from coverage under the Wisconsin General Permit. A permit does not need to be obtained, if any of the following apply:

1. Vessels with sealed ballast tanks that are unable to discharge. If the ballast tanks have the potential to discharge the vessel must obtain permit coverage, even if it does not intend to discharge ballast into waters of the state.
2. The vessel's movement is restrained to only one Captain of the Port Zone, as defined by the US Coast Guard.
3. The vessel's ballast water is removed and treated by another entity, such as an on-shore treatment facility.
4. Vessels with flow-through ballast that is constantly being exchanged such as the ballast-free ship concept designed and patented at the University of Michigan.
5. Vessels of the U.S. Armed Forces because they are subject to their own regulation.

2 Permit Coverage

To obtain permit coverage, vessel owners or operators must submit a Notice of Intent (NOI) 30 days prior to operating in waters of the state. Vessels with current permit coverage must submit a NOI 30 days prior to the 5 year anniversary after the original permit coverage date. Automatic coverage is authorized upon submittal of a NOI. In order to avoid any unnecessary duplication, a copy of the same NOI sent to EPA requesting coverage under the VGP may be used to request the Wisconsin Ballast Water Discharge General Permit. The Department will grant coverage for a period of 5 years under the permit after the NOI is reviewed. A PDF version of the NOI is available at the EPA web site:

http://www.epa.gov/npdes/pubs/vessel_vgp_noi.pdf

Coverage under the Wisconsin general permit would be terminated upon the submittal of a Notice of Termination by a vessel or for failure to pay application and or annual fees. As with the NOI process, the Department will make use of the EPA termination of coverage process to avoid unnecessary paperwork duplication.

3 Prohibited Discharges

Permitted vessels are prohibited from discharging certain types of substances including: captured intake filtration solids, ballast tank sediment, and seawater above a specific salinity (see subsection 3.3). These prohibitions and limitations on what may be discharged are effective immediately.

3.1 Intake Filtration Residuals

Any solid material strained out of the water intake system or sea chest, other than fine material entrained in backwash water, must be collected and disposed of properly (refer to Wisconsin's solid and hazardous waste regulations as noted in Subsection 3.2 of the permit). This requirement is similar to what the Department requires of facilities that have surface water intakes, such as power plants that withdraw cooling water from Lake Michigan. Any of the larger material collected by the intake may not be returned to the water, even though the vessel isn't the source of the material.

3.2 Disposal of Solids Removed from Ballast Tanks or by Treatment System

Any accumulated solids, sediment, or biological material in the ballast tanks, or generated by a treatment system, may not be discharged back into waters of the state. The release of sediment violates the water quality standard for objectionable deposits on the bed of a water body as specified in s. NR 102.04(1)(a), Wis. Adm. Code. The re-suspension of sediment when washing ballast tanks and then discharging the sediment laden wash water into surface water while in transit has been a common practice; however, the Wisconsin General Permit explicitly prohibits this practice effective immediately, consistent with the constraints on sediment in EPA VGP (Subsection 2.2.3.3) which states vessels must “clean ballast tanks regularly to remove sediments in mid-ocean or under controlled arrangement in port or at dry dock”. The permit also requires the documentation of when ballast tanks are cleaned and where solids are disposed of, if that occurs within the jurisdiction of Wisconsin. The prohibition on the discharge of sediment in Subsection 3.2 should be effective in helping reduce the risk of spreading AIS because many organisms in various life stages are present and more concentrated in this sediment.

3.3 Seawater

Seawater in other than residual amounts may not be discharged unless the effluent complies with the Wisconsin acute chloride effluent limit. Wisconsin has a chloride toxicity criterion in ch. NR 106, Wis. Adm. Code that is applicable to the point source discharge from vessel ballast tanks. A 1514 chloride limit, which is approximately 2.7 parts per thousand (ppt) salinity, is necessary to prevent the occurrence of acute toxicity at the point of discharge from the vessel. Subsection 3.3 does not conflict with the requirement for midocean ballast water exchange or flushing which is necessary to reduce AIS transfers into the Great Lakes. This chloride salinity discharge limit is required to prevent acute toxicity effects on indigenous freshwater species from saltwater ballast discharges.

4 Ballast Water Requirements

4.1 Ballast Water Treatment Requirements

The table in section 4.1 lists the ballast water discharge standards, requirements for the use of biocides, what vessels the requirements apply to, and the effective date for the implementation for vessels to utilize a type-approved ballast water treatment system.

The ballast water discharge standards that limit the number of allowable viable organisms are technology based performance limits. Following the IMO’s proposed performance standards for the discharge of ballast water, the Department included the IMO’s discharge standards into this permit.

The limits for chlorine, other biocides, and chloride are water quality based effluent limits to prevent acute toxicity to aquatic organisms. The criteria and procedures used to develop these limits are found in chs. NR 105 and 106, Wis. Adm. Code.

4.1.1 Oceangoing Vessel Requirements

Oceangoing vessels are subject to ballast water discharge standards in the Wisconsin general permit. The immediate concern addressed by this permit is the prevention of new AIS or disease introductions along with the spread of existing AIS within the Great Lakes while they are operating in Wisconsin waters. Mid ocean ballast water exchange, along with best management practices, will thus be required even after ballast water treatment systems are installed.

4.1.2 Great Lakes Vessel Requirements

Great Lakes vessels are now subject to ballast water discharge standards in the Wisconsin general permit. The Department, following Minnesota, believes these discharges need to be regulated to protect state waters from spreading AIS. While oceangoing vessels are responsible for introducing nonindigenous species from overseas, the Great Lakes vessels are not. Great Lakes vessels however, with their large ballast water capacities, have the potential to spread organisms from port to port in the Great Lakes. To reduce this threat, Great Lakes vessels will be required to meet the discharge standards in addition to following best management practices to prevent the spread of existing AIS or disease.

4.1.3 USCG Type Approval Delay

If there are not USCG approved systems for use in fresh water by the dates specified in the permit, the permittee shall demonstrate this annually to the Department by February 1st. This information must be submitted to DNRWisconsinBallastWater@Wisconsin.gov.

4.2 Monitoring Requirements and Effluent Limitations

4.2.1 Ballast Water Discharge Standards

The Department included the same standard as the previous general permit and as in the International Maritime Organization (IMO) 2004 convention. With the exception of the dates and Wisconsin including Great Lake vessels, the Wisconsin Standard is consistent with the EPA VGP and the USCG Ballast Water Discharge Final Rule. The standard to comply with how many viable organisms may be contained in ballast water discharges in Wisconsin will be implemented after the first scheduled dry docking after January 1, 2016 for existing oceangoing vessels and the first scheduled dry docking after March 30, 2018 for Great Lake vessels. New ocean going vessels constructed after December 1, 2013, must comply with the Wisconsin Standard immediately. See section 4.1.3 for USCG type approval delay.

For larger organisms, >50 µm, the standard is <10 viable organisms per cubic meter (this standard may need to be more restrictive to protect Wisconsin waters in the future. As technology becomes available, future permits may include a more restrictive standard than what is required today to protect Wisconsin waters).

For smaller organisms (10-50 µm) the standard is <10 per ml (this standard may not be stringent enough to protect Wisconsin waters. Therefore, this standard may also need to be more restrictive to protect Wisconsin waters in the future. As technology becomes available, future permits may include a more restrictive standard than what is required today to protect Wisconsin waters).

For microbial organisms *E. coli* and *Enterococci* the standards are < 250 cfu per 100 ml and <100 cfu per 100 ml respectively (the Wisconsin permit limit reflects water standards where bathing occurs and may need to be more restrictive to protect human health in future permits).

For *Vibrio cholerae* the standard is <1 cfu per 100 ml.

The Department is committed to fulfilling its duty to protect Wisconsin's water quality and public health. As new research and technologies become available, this permit may be modified to contain more stringent standards and advanced treatment requirements, if necessary, to protect public interests.

4.2.2 Biocides

This section of the permit applies to all vessels that choose to use biocide treatments in their ballast water. If a vessel uses chlorine or other biocides at any time, their ballast water discharges are subject to limitations based on Wisconsin chemical toxicity criteria and limit calculation procedures.

The Wisconsin ballast water permit contains a daily maximum limit of 38 µg/L, (0.038 mg/L) for Total Residual Halogen Oxidants (TRO), measured as Total Residual Chlorine (TRC), calculated in accordance with ch. NR 105 and 106, Wis. Adm. Code. A chronic limit is unnecessary for the short term and intermittent discharges of ballast water. The established Wisconsin water quality based limit is more stringent than the 100 µg/L limit contained in the EPA VGP.

The TRO, measured as TRC, daily maximum effluent limitation of 0.038 mg/L is based on the acute water quality criterion for chlorine contained in ch. NR 105, Wis. Adm. Code. Since the discharges from these vessels are short in duration, chronic limits are not applied. To ensure that a discharge is in compliance with the 0.038 mg/L TRC limit, a vessel will need to monitor their discharge according to Table B. An appropriate analytical method with a limit of detection (LOD) low enough to determine compliance with the permit should be used. However, current Department policy allows using an analytical method with a limit of detection (LOD) equal to or less than 0.1 mg/L. If an approved test method is used that can achieve a LOD of 0.1 mg/L or lower and the substance is not detected (i.e., reported level is less than the LOD), the vessel is considered in compliance with the permit limit. U.S. EPA methods 330.1 and 330.2 are two acceptable analytical methods that can regularly achieve a LOD of 0.1 mg/L or lower.

If other biocides or water treatment additives are used for treatment, the Department will determine the use restriction (serves as a surrogate effluent limit) according to Subsection 4.2.2.2. Biocides other than Total Halogen Oxidants need to be approved by the Department prior to discharging in Wisconsin Waters. Biocides used in ballast water are also subject to approval under the Federal Insecticide, Fungicide, and Rodenticide Act.

The inclusion of limits for TRO and other biocide treatments in the permit does not constitute an endorsement by the Department for the use of potentially toxic chemicals; the use of TROs or other biocides create concerns for the health of sailors, corrosion of metal and environmental toxicity. Biocides may only be appropriate in limited use, such as disinfection for VHS or other emergency treatment, and the use of chemicals, if necessary to achieve compliance with permit conditions, should be minimized to the lowest extent possible to avoid secondary impacts on the vessel and environment.

4.3 Ballast Water and Sediment Management Plan

Vessels must maintain a current Ballast Water and Sediment Management plan, to comply with USCG requirements, EPA VGP and the Wisconsin permit. The Department intends to review these plans during vessel inspections and if requested, to be submitted. Sediment records should be maintained in the ballast log book and should include a description of how much sediment was removed, where and when it was removed and the ultimate disposal location of it. Typically, the removal of sediment occurs when the vessel is in dry dock, as the sediment is not allowed to be discharged into U.S. waters. A receipt from the facility removing and handling the sediments (which are considered a solid waste in Wisconsin) should also be maintained with the ballast water log book.

4.4 Best Management Practices

Vessels must implement best management practices (BMPs) to help avoid up taking or discharging AIS, sediment or diseases such as VHS during ballasting activities. In addition to following Part 2.2.3 of the EPA VGP, vessels must annually inspect and maintain ballast water sea chest intakes, minimize sediment uptake, and minimize to the extent practicable, the uptake in VHS infected waters (i.e., the minimum amount needed to meet safety requirements). Ballast water pumps should also be used instead of gravity fed or drained ballast water to increase shear stresses on AIS passing into or out of a ballast water tank.

4.5 Monitoring Plan for Vessels with Ballast Water Treatment Systems

Because of variations among ships and treatment systems, and to allow flexibility, ballast water discharge monitoring must be established for each vessel based on the characteristics of the individual treatment system and parameters required to demonstrate compliance with the permit limits. The permittee must prepare a monitoring plan prior to treating ballast water and should consult the 2013 EPA VGP for guidance on developing or revising these plans. The Department intends to review these plans during inspections and requests that electronic copies of the required EPA VGP annual reporting to also be submitted to the Department at DNRWisconsinBallastWater@Wisconsin.gov.

4.6 Ballast Water Treatment System Approval

Onboard BWTSs for the removal of or destruction of AIS will need to be type approved by the USCG for use in freshwater. The Department will rely on the USCG for approval of treatment systems; however, electronic copies of the treatment system specifications should be submitted to the Department at DNRWisconsinBallastWater@Wisconsin.gov with a copy of the EPA VGP annual report.

4.7 Safety Exemption

In recognition that vessels may be subject to adverse conditions on the water, an exemption is provided to automatically allow the curtailment of permit requirements. When the safety exemption is needed the vessel must document the circumstances in the on-board log book. The exemption provision is consistent within the EPA VGP.

4.8 Record Keeping and Reporting

Record keeping consists of two components: (1) an on-board log book to document activities associated with ballast water uptake and discharge must be kept and made available to the Department upon request, and (2) an annual discharge monitoring report (DMR) for those vessels with BWTSs onboard. Information on the disposal of sediment cleaned from the vessel is also to be reported with the annual DMR in accordance with Subsection 3.2. To avoid duplicative paperwork, a copy of the EPA VGP Ballast Water Discharge Monitoring Report and Supplemental Ballast Water DMR Addendum can be submitted annually to the Department at DNRWisconsinBallastWater@Wisconsin.gov, to meet this requirement. In addition to the first annual report after BWTSs are installed, permittees shall also submit an electronic copy of the ballast water treatment system specifications to the Department.

5 Compliance Schedules

The permit contains four tables with dates for compliance with permit requirements.

5.1 Permit Coverage Compliance Schedule

To obtain coverage under WPDES general permit WI-0063835-02, permittees are directed to submit a copy of the NOI form for the EPA Vessel General Permit 30 days prior to entering Wisconsin Waters. Upon submittal of a NOI, in accordance with Subsection 2.2, automatic coverage is authorized.

5.2 Monitoring Requirements and Effluent Limitations Compliance Schedule

The effective dates for the applicable discharge standards in Subsection 4.2 are set to prevent the introduction and spread of AIS in the Great Lakes in an expeditious time frame. The ballast water treatment system effective dates for the Wisconsin Ballast Water General Permit are as follows: for new oceangoing vessels; December 1, 2013, for existing oceangoing vessels; the first dry dock after January 1, 2016, and for Great Lake Vessels; the first dry dock after March 30, 2018. If permittees do not have treatment systems installed by these dates due to USCG type approval delay, they must submit a letter to the Department by February 1st each year documenting the absence of a USCG type approved system for use in freshwater to: DNRWisconsinBallastWater@Wisconsin.gov.

The biocide effluent limits in Subsection 4.2.2 are effective immediately. The Department has the authority in chs. NR 105 and 106, Wis. Adm. Code for calculating water quality based effluent limits or use restrictions for biocides. These limits are independent of the effective dates for the discharge standards in Subsection 4.2.1.

5.3 Treatment System Plan Approval Compliance Schedule

BWTSs must be type approved by the USCG for use in fresh water. The Department does not need approve these systems if they have the proper USCG type approval to meet Table A; however the Department does have TRO discharge limits and will need to approve other biocides prior to use in Wisconsin waters. BWTS specifications shall be submitted to the Department as an electronic attachment to the discharge monitoring reports required under 4.8.2.

5.4 Monitoring Plan Compliance Schedule

The permittee must prepare a monitoring plan prior to treating ballast water. To streamline the paperwork process for permittees, they shall submit a copy of the EPA VGP annual report (including ballast water addendum) and an electronic copy of the ballast water treatment systems specifications to the Department at: DNRWisconsinBallastWater@Wisconsin.gov.

Other Comments:

An antidegradation review for the issuance of this reissued general permit has not been performed because it is not applicable in situations for existing dischargers that may or may not have been previously permitted. The Department is in agreement with the EPA fact sheet for the VGP that says vessels covered should not be considered a new or increased point source discharge, which is what typically triggers an antidegradation review.

Proposed Expiration Date:

March 31, 2020

Prepared by:

Wisconsin Department of Natural Resources
Bureau of Water Quality

Date: April 1, 2015 *updated May 27, 2016*