

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) has 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 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 nor does the EPA 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, however 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 proposed permit would require midocean exchange and effluent discharge limits.

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 and best management practices along with providing valuable education and outreach regarding AIS to the crew members. The proposed state general permit is being reissued under the independent state authority to regulate discharges of pollutants to waters of the state pursuant to Wis. Stat. §283.35 (1m). The reissued permit includes effluent discharge limits for Great Lake vessels, consistent with Minnesota. EPA has not objected to a state permit issued under state authority. Both Michigan and Minnesota have issued state permits regulating ballast water discharges under independent state authority.

Rational for Permit Requirements

1 Applicability

Those vessels issued the 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. 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 others, 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 duplication.

3 Prohibited Discharges

Permitted vessels are prohibited from discharging certain types of substances including: captured intake filtration solids, ballast tank sediment, and seawater. 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 the water and backwash, 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; but, must be disposed of properly (refer to Wisconsin's solid and hazardous

waste regulations as noted in Subsection 3.2 of the permit). The release of sediment violates the water quality standard for objectionable deposits on the bed of a water body 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 is a common practice. The permit 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 Subsection 3.2 should be effective in helping reduce the risk of spreading AIS because 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 chloride effluent limit. Wisconsin has chloride toxicity criteria in ch. NR 106, Wis. Adm. Code that are applicable to the point source discharge from vessel ballast tanks. The 2.7 part per thousand (ppt) limit is necessary to prevent the occurrence of acute toxicity at the point of discharge from the vessel. Because salinity is the parameter measured by oceangoing vessels to determine compliance for ballast tank flushing or exchange with seawater of at least 30 ppt, the 2.7 limit is also expressed in ppt of salinity (equivalent to 1514 mg/L). Explanatory notes in Subsection 3.3 describe the chloride to salinity conversion and that the chloride limit doesn't conflict with the requirement for ballast water exchange or flushing.

4 Ballast Water Requirements

4.1 Ballast Water Treatment Requirements

A table identifies the ballast water discharge standards, requirements for biocides, what vessels the requirements apply to, and the effective date.

The ballast water discharge standard that limits the number of allowable viable organisms is a technology based performance limit. Following the International Maritime Organization's proposed performance standards for the discharge of ballast water, the Department included the IMO's discharge standards.

The limits for chlorine, other biocides, and chloride are water quality based effluent limits to prevent aquatic toxicity, under our authority in ch. 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 to prevent the introduction of any new AIS or diseases (such as Viral Hemorrhagic Septicemia (VHS)) by oceangoing vessels along with the spread of AIS within the Great Lakes while they are operating within the Great Lakes.

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, 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.

4.2 Monitoring Requirements and Effluent Limitations

4.2.1 Ballast Water Discharge Standards

The Department is proposing the same standard as the previous permit and 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.

For macro-zooplankton and nekton (organisms $>50 \mu\text{m}$) the standard is <10 viable organisms per cubic meter (which is only 10 times less than the 100 per cubic meter background concentration of organisms typically observed in ballast water and may need to be more restrictive to protect water quality in future permits, if technology is available).

For protists and phytoplankton (organisms $10\text{-}50 \mu\text{m}$) the standard is <10 per ml (which is equivalent to background concentration of organisms typically observed in ballast water, so the standard represents no improvement and may need to be more restrictive in future permits if technology is available).

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 standards for water used for bathing 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 the quality of Wisconsin's waters and public health. As new research and technologies come available, this permit may be modified to reflect the most current information to protect water quality and public health.

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 they are subject to limitations equivalent to any other surface water discharger. Existing water quality based effluent limits for chlorine apply to a vessel discharge. The acute limit of $38 \mu\text{g/L}$, calculated in accordance with ch. NR 106, Wis. Adm. Code, applies when chlorine or another halogen is used as a biocide. 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 $100 \mu\text{g/L}$ limit contained in the EPA VGP. 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 used in ballast water are also subject to approval under the Federal Insecticide, Fungicide, and Rodenticide Act.

The inclusion of limits for chlorine and other biocide treatments in the permit is not an endorsement by the Department for the use of these dangerous chemicals. Use of chemicals creates concerns including health risks to sailors, corrosion of metal and environmental toxicity. Biocides may only be appropriate in limited use, such as disinfection for VHS or other emergency treatment.

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.

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 ballast water uptake and discharge. 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, minimize as much as possible the uptake in VHS infected waters (i.e., the minimum amount needed to meet safety requirements) and always use ballast water pumps instead of gravity fed or drained ballast water.

4.5 Monitoring Plan

Because of variations among ships and treatment systems, and to allow flexibility, ballast water discharge monitoring must be established by each vessel depending on the monitoring that would be useful for the operation of the treatment system, and for determining compliance with discharge standards. The permit does contain some minimum monitoring requirements. The permittee must prepare a monitoring plan prior to treating ballast water. The plan must be revised as necessary whenever appropriate. The Department intends to review these plans during inspections and may request them to be submitted.

4.6 Ballast Water Treatment System Approval

Onboard BWTs 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.

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 consist of two components: (1) an on-board log book to document activities associated with discharging ballast water that must be kept and made available to the Department upon request, and (2) an annual discharge monitoring report (DMR). 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.

5 Compliance Schedules

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

5.1 Permit Coverage

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

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. For new oceangoing vessels, December 1, 2013 is the effective date, for existing oceangoing vessels, the first dry dock after January 1, 2016 is the effective date, and for Great Lake Vessels the first dry dock after March 30, 2018 is the effective date.

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

5.3 Treatment System Plan Approval

The permittee must obtain Department approval of plans and specifications for ballast water treatment systems. However, there is an automatic streamlined process described in Subsection 4.6. The requirements for the approval must be met prior to installation of the onboard treatment system.

5.4 Monitoring Plan

The permittee must prepare a monitoring plan prior to treating ballast water. It does not need to be submitted to the Department for approval.

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

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