

# LAKE CARRIERS' ASSOCIATION

Review of EPA's Vessel General Permit  
Effective 12/19/13; Expires 12/19/18

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## Key Definitions

"Bilgewater" means the wastewater from a variety of sources that accumulates in the lowest part of the vessel (the bilge).

"Constructed" means a state of construction of a vessel at which—

- "the keel is laid;
- "construction identifiable with the specific vessel begins;
- "assembly of the vessel has begun comprising at least 50 tons or 1 percent of the estimated mass of all structural material of the vessel, whichever is less; or
- "the vessel undergoes a major conversion." [patterned after the International Convention for the Control and Management of Ships' Ballast Water and Sediments, 2004, regulation A-1(4)].

"Major Conversion" means a conversion of a vessel, that —

- substantially alters the dimensions or carrying capacity of the vessel;
- changes the type of the vessel; or
- the intent of which, in the opinion of the director, is substantially to prolong its life [*modified from 33 CFR §151.05 with the exception language specific to MARPOL removed*].

"Deck Runoff" means the precipitation, washdowns, and seawater falling on the weather deck of a vessel and discharged overboard through deck openings. [*source: 40 CFR §1700.4*]

"Environmentally Acceptable Lubricants" means lubricants that are "biodegradable" and "minimally toxic," and are "not bioaccumulative" as defined in this permit. For purposes of the VGP, products meeting the permit's definitions of being an "Environmentally Acceptable Lubricant" include those labeled by the following labeling programs: Blue Angel, European Ecolabel, Nordic Swan, the Swedish Standards SS 155434 and 155470, Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR) requirements, and EPA's Design for the Environment (DfE).

"Laker" means Existing Bulk Carrier Vessels built before January 1, 2009, that operate exclusively in Lake Ontario, Lake Erie, Lake Huron (including Lake Saint Clair), Lake Michigan, Lake Superior, and the connecting channels (Saint Mary's River, Saint Clair River, Detroit River, Niagara River, and Saint Lawrence River to the Canadian border), including all other bodies of water within the drainage basin of such Lakes and connecting channels).

"Laurentian Great Lakes" means upstream of the waters of the St. Lawrence River west of a rhumb line drawn from Cap de Rosiers to West Point, Anticosti Island, and west of a line along 63 W. longitude from Anticosti Island to the north shore of the St. Lawrence River and includes all other bodies of water within the drainage basin of such lakers and connecting channels.

"Minimize" means to reduce and/or eliminate to the extent achievable using control measures (including best management practices) that are technologically available and economically practicable and achievable in light of best marine practice.

"New Build" means vessels "constructed" after a given date. This permit contains "New Build" dates of December 19, 2008 (See Part 5.2), January 1, 2009 (See Part 2.2.3.5.3.3), December 1, 2013 (See Part 2.2.3.5), and December 19, 2013 (See Parts 2.2.2, 2.2.9, 2.2.15.2)

"Treated Bilgewater" means bilgewater treated with an oily water separator and having oil concentrations less than 15 ppm and that does not result in a discharge of oil in quantities that may be harmful, pursuant to 40 CFR Part 110.

"Voyage" means, for the purposes of VGP Part 4.1.1 (including its routine visual inspection provisions), that a voyage begins when the vessel departs a dock or other location at which it has loaded or unloaded (in whole or in part) cargo or passengers, and ends after it has tied-up at another dock or location in order to again conduct either of such activities. For example, for a barge on the Mississippi River, such voyage would begin when it departs a location at which it has cargo

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loaded onto it and end when cargo is unloaded at another location. For the purposes of the inspection provisions, an inspection can be conducted while the vessel is at the dock.

### **Discharges Covered by the VGP**

Deck Washdown and Runoff and Above Water Line Hull Cleaning  
Bilgewater/Oily Water Separator Effluent  
Ballast Water  
Anti-fouling Hull Coatings/Hull Coating Leachate  
Aqueous Film Forming Foam (AFFF)  
Boiler/Economizer Blowdown  
Cathodic Protection  
Chain Locker Effluent  
Controllable Pitch Propeller and Thruster Hydraulic Fluid and other Oil Sea Interfaces including Lubrication Discharges from Paddle Wheel Propulsion, Stern Tubes, Thruster Bearings, Stabilizers, Rudder Bearings, Azimuth Thrusters, and Propulsion Pod Lubrication, and Wire Rope and Mechanical Equipment Subject to Immersion  
Distillation and Reverse Osmosis Brine  
Elevator Pit Effluent  
Firemain Systems  
Freshwater Layup  
Gas Turbine Washwater  
Graywater (except that Graywater from commercial vessels within the meaning of CWA section 312 that are operating in the Great Lakes is excluded from the requirement to obtain an NPDES permit (see CWA section 502(6)), and thus is not within the scope of this permit).  
Motor Gasoline and Compensating Discharge  
Non-Oily Machinery Wastewater  
Refrigeration and Air Condensate Discharge  
Seawater Cooling Overboard Discharge (Including Non-Contact Engine Cooling Water; Hydraulic System Cooling Water, Refrigeration Cooling Water)  
Seawater Piping Biofouling Prevention  
Boat Engine Wet Exhaust  
Sonar Dome Discharge  
Underwater Ship Husbandry  
Welldeck Discharges  
Graywater Mixed with Sewage from Vessels  
Exhaust Gas Scrubber Washwater Discharge  
Fish Hold Effluent

### **General Exemptions**

1. Permit does not apply to any vessel when it is operating in a capacity other than as a means of transportation (pg. 10).
2. Discharges of rubbish, trash, garbage, other such materials discharged overboard are not eligible for coverage under this permit. "Garbage" includes discharges of bulk dry cargo residues as defined at 33 CFR §151.66(b) and agricultural cargo residues. Discharges of garbage are subject to regulation under 33 CFR Part 151, Subpart A.

### **Violations**

Each day a violation continues is a separate violation of this permit.

### **Certification of Truthfulness (new)**

The Notice of Intention ("NOI"), Notice of Termination ("NOT"), and must include the following statement:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information contained therein. Based on my inquiry of the person or persons who

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manage the system, or those persons directly responsible for gathering the information, the information contained is, to the best of my knowledge and belief, true, accurate, and complete. I have no personal knowledge that the information submitted is other than 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.”

EPA believes this additional certification language is necessitated by the decision in *U.S. v. Robison*, 505 F.3d 1208 (11th Cir. 2007). In *Robison*, the Court of Appeals struck down the defendant's conviction for a false statement on the grounds that the certification language did not require him to have personal knowledge regarding the truth or falsity of the information submitted to EPA. Rather, the court reasoned that EPA's certification required the defendant to certify, in part, that he made an inquiry of the persons who prepared and submitted the information and based on that inquiry, the information was accurate to the best of his knowledge. The Court further reasoned that there is no requirement in the certification that the person attest to his personal knowledge regarding the information submitted. The government had argued at trial that the defendant had personal knowledge that the facility had committed violations. As a result, EPA feels it is necessary to include language which clarifies that the signatory is certifying that he or she has no personal knowledge that the information submitted is other than true, accurate, and complete. (Fact Sheet, pg. 40.)

### **Permit Reopener Clause**

EPA reserves the right to reopen the permit during the term of the permit. Specific to ballast water, new information that will be considered in determining whether to modify this permit includes, but is not limited to, data or information from permittees, the general public, states, academia, scientific or technical articles or studies, results of monitoring conducted under this permit, and whether the U.S. Coast Guard has received a written extension request pursuant to 33 CFR 151.2036 indicating that:

- Treatment technology has improved such that these improved technologies would have justified the application of significantly more stringent effluent limitations or other permit conditions had they been known at the time of permit issuance;
- Treatment technologies known of at the time of permit issuance perform better than understood at the time of permit issuance such that this improved performance would have justified the application of significantly more stringent effluent limitations or other permit conditions had this been understood at the time of permit issuance;
- Treatment technology for a certain vessel(s) will not be available within the timeframe specified in Part 2.2.3.5.2, Table 6, such that this information would have justified the imposition of a different implementation date had it been known at the time of permit issuance.
- Scientific understanding of pollutant effects or of invasion biology has evolved such that this new information would have justified the application of significantly more stringent effluent limitations or other permit conditions had this been understood at the time of permit issuance; or
- The cumulative effects of any discharge authorized by the VGP on the environment are unacceptable.

In the Fact Sheet (pg. 43), the EPA states: “In considering whether to reopen the permit to address such new information, EPA will consider several factors, including the remaining time before expiration date of the 2013 VGP, and the practicability of implementing new requirements before the end of the statutorily mandated 5-year term of the VGP in 2018.

### **State Laws**

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation under authority preserved by section 510 of the CWA.

### **Safety First**

EPA acknowledges that vessel masters have the responsibility to ensure the safety and stability of the vessel and the safety of the crew and passengers, and nothing in this permit is intended to interfere with their fulfillment of that responsibility.

**General Training (new)**

All owner/operators of vessels must ensure that the master, operator, person-in-charge, and crew members who actively take part in the management of incidental discharges or who may affect those discharges are adequately trained in implementing the terms of this permit. In addition, all owner/operators of vessels must ensure appropriate vessel personnel be trained in the procedures for responding to fuel spills and overflows, including notification of appropriate vessel personnel, emergency response agencies, and regulatory agencies. This training need not be formal or accredited courses; however, it is the vessel owners/operators’ responsibility to ensure these staff are given the necessary information to conduct shipboard activities in accordance with the terms of this permit.

Vessel owners/operators must also meet all training-related recordkeeping requirements of Part 4.2 of this permit.

The VGP does not require that “formal” training be provided, but all key personnel must understand how to use key pollution prevention equipment. Vessel owners/operators “must outline their training plans in their recordkeeping documentation to show they have made **good faith efforts** (emphasis added) to assure their crews can adequately maintain and use pollution equipment and otherwise meet the terms of this permit.” (Fact Sheet pgs. 59-60.)

**How To Obtain Coverage**

**If you were authorized to discharge under the 2008 Permit, you must submit a Notice of Intent (“NOI”) to receive permit coverage seven days before the effective date of this permit (December 19, 2013) to continue uninterrupted coverage.**

You must submit your NOI using EPA’s Electronic Notice of Intent (eNOI) system ([www.epa.gov/npdes/vessels/eNOI](http://www.epa.gov/npdes/vessels/eNOI)). The NOI form can be found on pg. 157 of the Permit.

**Table 1: NOI Submission Deadlines/Discharge Authorization Dates**

Category	NOI Deadline	Discharge Authorization Date*
Vessels authorized to discharge under the 2008 Vessel General Permit (VGP)	No later than December 12, 2013 or 7 days prior to discharge into waters subject to this permit, whichever is later	For eNOIs: December 19, 2013 or, if not submitted by December 12, 2013, 7 days after complete NOI processed** by EPA For Paper NOIs: 30 days after complete NOI processed by EPA
New Owner/Operator of Vessel – transfer of ownership and/or operation of a vessel whose discharge is previously authorized under this permit	By date of transfer of ownership and/or operation	Date of transfer or date EPA processes NOI, whichever is later
New vessels delivered to owner or operator after December 19, 2013	For vessels submitting eNOIs: 7 days prior to discharge into waters subject to this permit For vessels submitting Paper NOIs: At least 30 days prior to discharge into waters subject to this permit	For eNOIs: 7 days after complete NOI processed by EPA For Paper NOIs: 30 days after complete NOI processed by EPA
Existing vessels delivered to owner or operator after December 19, 2013 that were not previously authorized under this permit	For vessels submitting eNOIs: 7 days prior to discharge into waters subject to this permit For vessels submitting Paper NOIs: At least 30 days prior to discharge into waters subject to this permit	For eNOIs: 7 days after complete NOI processed by EPA For Paper NOIs: 30 days after complete NOI processed by EPA

**Vessel Discharges**

**Deck Washdown and Runoff and Above Water Line Hull Cleaning:** Must minimize the introduction of on-deck debris, garbage, residue and spill into deck washdown and runoff discharges. THIS DOES NOT INCLUDE CARGO RESIDUE. Before washdown, must broom clean deck (or equivalent) or use comparable management measures to remove existing debris. Where feasible, machinery on deck must have coamings or drip pans to collect oily leaks and prevent spills. EPA STRONGLY ENCOURAGES USE OF ENVIRONMENTALLY ACCEPTALBE LUBRICANTS IN ALL ABOVE DECK EQUIPMENT.

Decks and topside surfaces must be maintained in a condition to minimize the rust, cleaning compounds, paint chips and other materials associated with topside surface preservation.

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If deck washdown above water line hull cleaning will result in a discharge, must use minimally toxic and phosphate free cleaners. Cleaners and detergents should not be caustic and must be biodegradable.

In the Fact Sheet, EPA acknowledges that “in the case of deck runoff, vessel operators have little control as to when water may runoff from the deck without potentially creating major safety concerns.”

**Bilgewater/Oily Water Separator Effluent:** Can't use anything to remove appearance of a sheen in bilgewater discharges. May use flocculants or other required additives to enhance oil/water separation.

Must minimize discharge of bilgewater by either reducing amount generated on the vessel or pumping ashore.

Vessels over 400 GRT shall not discharge untreated bilgewater into waters covered by this permit.

**Bilgewater Monitoring:** Vessels Built After December 19, 2013 and greater than 400 GRT must sample and analyze bilgewater effluent at least once per for oil and grease content. If effluent is less than 5 ppm, need not sample and analyze in subsequent years if vessel's oily water separator is capable of meeting a 5 ppm limit, or an alarm goes off when effluent exceeds 5 ppm. If annual sampling must be collected, must submit results to EPA.

In the Fact Sheet, EPA stresses it aiming at 5 ppm in the future. “Although EPA is not today adopting the 5 ppm option, as suggested in public comment, EPA plans to work with our international partners at the IMO to explore whether systems and alarms that do actually perform at 5 ppm are available in the marketplace. Working at IMO to obtain broad international acceptance of a 5 ppm limit would increased the economic achievability by providing a more widespread international market for such systems and broad international acceptance of, and type-approval test to, the 5 ppm standard.”

**Ballast Water:** Owner/operators must maintain a written training plan describing the training to be provided and a record of the date of training provided to each person trained. Persons required to be trained must be trained promptly upon installation of treatment technology and in the event of a significant change in ballast water treatment practices or technology.

All vessels must employ these Best Management Practices:

- Avoid the discharge or uptake of ballast water in areas / into waters subject to this permit within, or that may directly affect, marine sanctuaries, marine preserves, marine parks, or coral reefs or other waters listed in Appendix G waters.
- Minimize or avoid uptake of ballast water in the following areas and situations:

— Areas known to have infestations or populations of harmful organisms and pathogens (e.g., toxic algal blooms).

— Areas near sewage outfalls.

— Areas near dredging operations.

— Areas where tidal flushing is known to be poor or times when a tidal stream is known to be turbid.

— In darkness, when bottom-dwelling organisms may rise up in the water column.

— Where propellers may stir up the sediment.

— Areas with pods of whales, convergence zones, and boundaries of major currents

• Clean ballast tanks regularly to remove sediments in mid-ocean (when not otherwise prohibited by applicable law) or under controlled arrangements in port, or at drydock.

• No discharge of sediments from cleaning of ballast tanks is authorized in waters subject to this permit.

• **NEW:** Where feasible, utilize the high sea suction when the clearance is less than 5 meters (approximately 15 feet) to the lower edge of the seachest or the vessel is dockside to reduce sediment intake.

• **NEW:** When feasible and safe, you must use your ballast water pumps instead of gravity draining to empty your ballast water tanks, unless you meet the treatment limits found in Part 2.2.3.5 of this permit.

• Minimize the discharge of ballast water essential for vessel operations while in waters subject to this permit.

**The last BMP is a subtle rewrite of the provision in the first VGP. The current VGP requires the owner/operator to “discharge only the minimal amount of ballast water essential for vessel operations while in the waters subject to this permit.” When looking at the new provision, remember the definition of minimize:**

**“Minimize” means to reduce and/or eliminate to the extent achievable using control measures (including best management practices) that are technologically available and economically practicable and achievable in light of best marine practice.**

**The VGP suggests that ballast discharge can be minimized by transferring ballast between tanks within the vessel or using public water supply water for ballast.**

**NEW: Mandatory Ballast Water Management Practices for Lakers:**

- Each owner/operator must perform annual inspections on their vessel to assess sediment accumulations. Removal of sediment, if necessary, must be carried out. Each vessel owner/operator must develop sediment removal policies as part of the Ballast Water Management Plan. Records of sediment removal and disposal (including facility name and location and all invoices) shall be kept onboard the vessel. EPA notes the discharge of sediments from cleaning of ballast tanks is not authorized in waters subject to this permit (see Part 2.2.3.3 of this permit).
- When practical and safe, vessels must minimize the ballast water taken up at dockside. This will typically mean limiting uptake to the amount of ballast water required to safely depart the dock and then complete ballasting in deeper water.
- The vessel sea chest screen is the first line of defense in keeping large living organisms out of the vessel ballast water tanks. Owner/operators of Laker vessels must perform annual inspections of their sea chest screens to assure that they are fully intact. The inspection must assure that there is no deterioration which has resulted in wider openings or holes in the screen. If the screen has deteriorated such that there are wider openings than the screen design, the vessel owner operator must repair or replace the screen. Any repairs must be of sufficient quality that they are expected to last at least one year.

When these provisions were proposed, LCA responded that since the ballast in lakers' tanks originated on the Lakes, flushing should be permitted well offshore and suggested using the cargo residue rules as a model. EPA rejected that outright. “First, sediment poses a risk for the further distribution (emphasis added) of aquatic nuisance or invasive species. Organisms can survive in ballast tank sediment for prolonged periods in resting stages. Secondly, and of equal importance in the Great Lakes (emphasis added), sediment is a traditional pollutant which can be linked to violations of water quality standards ... Sediment can be substantially altered from when it was taken onboard the vessel due to other constituents of ballast water and chemical changes in the ballast water tank.”

The EPA also notes the 2008 VGP prohibits the discharge of ballast tank sediment, so concludes industry has adapted to the requirement.

It is interesting to note the Fact Sheet states “Loadings of sediment from vessel discharges are likely much smaller than from other sources such as construction, urban storm water, and agriculture.”

**Specific Exemption for Lakers from Treatment Requirement:**

Vessels That Operate Exclusively on the Laurentian Great Lakes (Commonly Known as Lakers) Built Before January 1, 2009: Existing Lakers built before January 1, 2009 confined exclusively to the Laurentian Great Lakes (i.e., existing vessels that operates upstream of the waters of the St. Lawrence River west of a rhumb line drawn from Cap de Rosiers to West Point, Anticosti Island, and west of a line along 63 W. longitude from Anticosti Island to the north shore of the St. Lawrence River) are not required to meet the requirements of Part 2.2.3.5 (Ballast Water Numeric Discharge Limitations [The IMO D2 Standard]).

Lakers built on or after January 1, 2009 must meet the IMO D2 Standard by their first scheduled drydocking after January 1, 2016.

(Note: The Fact Sheet acknowledges that no new invasives have been detected in the Lakes since 2006. Also, be aware the EPA intends to make any ballast water monitoring data available in electronic form available to the public.)

**Anti-Fouling Hull Coatings/Hull Coating Leachate:** In our response to the EPA when the first Vessel General Permit was proposed, we stated that “Only one vessel registered with Lake Carriers’ Association uses an anti-fouling hull coating.

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The vessel has a strip about 6 feet wide, at the waterline, along its 410-foot length. The strip was applied in a U.S. shipyard in accordance with all rules and regulations.” (The vessel is the BADGER.)

In keeping with that, we did not comment on Anti-Fouling Hull Coatings when responding to the proposed VGPII. However, a member recently told me that the seachest screens on many vessels are painted with anti-fouling coatings. If that is the case, the VGPII has these requirements:

- All anti-fouling coatings subject to this permit must meet the requirements of the Clean Hull Act of 2010 (33 U.S.C. §§ 3801), which basically says no anti-fouling coating can contain organotin, and if one was used, it must be seal so it cannot leach out.
- Any anti-fouling coatings subject to registration under Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), must be registered, sold or distributed, applied, maintained and removed in a manner consistent with applicable requirements on the coatings’ FIFRA label.
- If using a coating not subject FIFRA, the coating cannot contain any biocides or toxic materials banned for use in the U.S.

**Aqueous Film Forming Foam (AFFF):** Discharge allowed in emergency situations.

If vessel maintenance and training discharges are required, AFFF must be collected and stored for onshore disposal unless the vessel uses a non-fluorinated or alternative foaming agent. Training should be conducted as far from shore as is practicable. Maintenance and training discharges are not allowed in port. AFFF discharges may not occur in or within 1 nm of a National Park or Marine Sanctuary unless they are discharged for emergency purposes.

**Boiler/Economizer Blowdown:** Minimize discharge of boiler/economizer blow down in port if chemicals or other additives used to reduce impurities or prevent scale formation. Discharge as far as possible from shore and no discharge in National Parks or Marine Sanctuaries.

**Cathodic Protection:** Does not apply to lakers.

**Chain Locker Effluent:** Anchor chain must be carefully and thoroughly washed down as being raised. Chain lockers must be cleaned thoroughly during dry-docking to eliminate accumulated sediment and pollutants.

**Controllable Pitch Propeller and Thruster Hydraulic Fluid and other Oil Sea Interfaces including Lubrication Discharges from Paddle Wheel Propulsion, Stern Tubes, Thruster Bearings, Stabilizers, Rudder Bearings, Azimuth Thrusters, and Propulsion Pod Lubrication, and Wire Rope and Mechanical Equipment Subject to Immersion:** Maintain seals in good operating order to minimize leaks. Minimize maintenance of stern tube seals when vessel is afloat.

All vessels must use Environmentally Acceptable Lubricants (“EAL”) in all oil to sea interfaces, unless technically infeasible. Environmentally Acceptable Lubricants means lubricants that are “biodegradable” and “minimally-toxic,” and are “not bioaccumulative” as defined in this permit. For purposes of the VGP, products meeting the permit’s definitions of being an “Environmentally Acceptable Lubricant” include those labeled by the following labeling programs: Blue Angel, European Ecolabel, Nordic Swan, the Swedish Standards SS 155434 and 155470, Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR) requirements, and EPA’s Design for the Environment (DfE).

If vessel cannot use an EAL, must document reason why and report use of non-environmentally acceptable lubricant in Annual Report to EPA.

EPA recommends that all new builds endeavor to use seawater-based systems for stern tube lubrication to eliminate discharge of oil from these interfaces.

One note on Controllable Pitch Propellers - the Fact Sheet says “up to 20 ounces of oil may be released for every CCP blade that is replaced, with blade replacement occurring several times per month on average.” I am not aware of such frequent blade replacement. It is different on the oceans or harbor tugs?

**Distillation and Reverse Osmosis Brine:** Not applicable to lakers.

**Elevator Pit Effluent:** Not too many elevators on lakers, but any effluent must be managed as part of bilgewater.

**Firemain Systems:** Firemain systems may be used for deck washdown or other secondary uses if the intake comes directly from the surrounding waters or potable water supplies and the discharge meets all relevant effluent limitations associated with that activity. When feasible, maintenance and training should be conducted outside port and/or outside waters subject to this permit. The vessel owner/operator shall not discharge firemain systems in National Parks or Marine Sanctuaries except in emergency situations or when washing down the anchor chain.

**Freshwater Lay-Up:** Use minimum amount of disinfection or biocidal agents used to prevent aquatic growth.

**Gas Turbine Washwater:** Not applicable to lakers.

**Graywater:** Not applicable to lakers. Lakers' graywater covered by Clean Water Act.

**Motor Gasoline and Compensating Discharge:** Discharge cannot exceed 15 ppm. Minimize in port and banned in National Parks and Marine Sanctuaries.

**Non-Oily Machinery Wastewater:** If discharged directly overboard, non-oily machinery wastewater, technical water, or potable water must be free from oils in quantities that may be harmful and any additives that are toxic or bioaccumulative in nature. Non-oily machinery wastewater may also be drained to the bilge. Any discharge of packing gland or stuffing box effluent must not contain oil, including oily materials, in quantities that may be harmful. These discharges must not produce a visible sheen of oil or oily materials.

**Refrigeration and Air Condensate Discharge:** Refrigeration and air condensate discharge must not come into contact with oily or toxic materials if discharged directly overboard. Refrigeration and air conditioning condensate that is collected and plumbed for internal recycling (e.g., recycled as "technical water") is allowed to commingle with oily water; however, the commingled discharge must meet all requirements of this permit.

**Seawater Cooling Overboard Discharge (Including Non-Contact Engine Cooling Water; Hydraulic System Cooling Water; Refrigeration Cooling Water):** When possible, non-contact engine cooling water, hydraulic system cooling water, refrigeration cooling water and other seawater cooling overboard discharges should occur when vessel is underway to minimize any thermal impacts to receiving water.

To reduce the production and discharge of seawater cooling overboard discharge, EPA recommends that vessel owner/operators use shore-based power when the vessel is in port if:

- Shore power is readily available from utilities or port authorities;
- Shore-based power supply systems are capable of providing all needed electricity required for vessel operations; and
- The vessel is equipped to connect to shore-based power and such systems are compatible with the available shore power.

Maintenance of all piping and seawater cooling systems must meet the requirements of Part 2.2.20 (Seawater-Piping Biofouling Prevention).

**Seawater Piping Biofouling Prevention:** Seawater piping biofouling chemicals subject to Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) registration must be used in accordance with their FIFRA label. No pesticides or chemicals banned for use in the United States may be discharged into waters subject to this permit. Vessel owner/operators must use minimum amount of biofouling chemicals needed to keep fouling under control. Discharges containing active agents must contain as little chlorine as possible.

Vessel owner/operators must remove fouling organisms from seawater piping on a regular basis and dispose of removed substances in accordance with local, state, and federal regulations. Removed fouling organisms shall not be discharged into waters subject to this permit. Vessel owner/operators should remove any organisms while at sea where technically feasible to reduce the risk of invasive species introduction in ports.

**Boat Engine Wet Exhaust:** Vessel engines generating wet exhaust must be maintained in good operating order, well tuned, and function according to manufacturer specifications to decrease pollutant contributions to wet exhaust. Vessel owner/operators should use low sulfur or alternative fuels for their vessels to reduce the concentration of pollutants in discharges from boat engine wet exhaust. EPA encourages vessel operators to consider four stroke engines instead of two stroke engines for vessels generating wet exhaust that are covered under this permit. Use of a four stroke engine

may minimize the discharge of pollutants. Where vessels utilize two stroke engines, environmentally acceptable lubricants must be used unless technologically infeasible. If technologically infeasible, the vessel owner/operator must document in their recordkeeping documentation why they are not using environmentally acceptable lubricants.

**Sonar Dome Discharge:** Not applicable to lakers.

**Underwater Ship Husbandry and Hull Fouling Discharges:** Whenever possible, rigorous hull-cleaning activities should take place in drydock, or at a land-based facility where removal of fouling organisms or spent antifouling coatings paint can be contained. If water-pressure-based systems are used to clean the hull and remove old paint, you must use facilities which treat the washwater prior to discharge into water in order to remove the antifouling compound(s) and fouling growth from the washwater. If mechanical means (scraping, etc.) are used to clean the hull and remove old paint, the materials removed from the hull during that process must be collected and disposed of properly (e.g., onshore). These materials must not be allowed to contaminate nearby waters.

Vessel owners/operators who remove fouling organisms from hulls while the vessel is waterborne must employ methods that minimize the discharge of fouling organisms and antifouling hull coatings. These shall include:

- Use of appropriate cleaning brush or sponge rigidity to minimize removal of antifouling coatings and biocide releases into the water column;
- Limiting use of hard brushes and surfaces to the removal of hard growth; and
- When available and feasible, use of vacuum or other control technologies to minimize the release or dispersion of antifouling hull coatings and fouling organisms into the water column.

**Welldeck Discharges:** Not applicable to lakers.

**Graywater Mixed with Sewage from Vessels:** Not applicable to lakers.

**Exhaust Gas Scrubber Washwater Discharge:** Cannot contain oil in harmful quantities. Any sludge or residue generated must be delivered ashore to adequate reception facilities.

Exhaust Gas Scrubber washwater must have a pH of no less than 6.00 measured at the ship's overboard discharge, except when maneuvering or in transit, the maximum difference between inlet and outlet of 2.0 pH s allowed. Difference to be measured at ship's inlet and overboard discharge.

The maximum continuous PAH concentration in the washwater must not be greater than 50 µg/L PAHphe (phenanthrene equivalence) above the inlet water PAH concentration for washwater flow rates normalized to 45 t/MWh. MWh refers to the maximum continuous rating (MCR) or 80 percent of the power rating of the fuel oil combustion unit. For the purposes of this criterion, the PAH concentration in the washwater must be measured downstream of the water treatment equipment, but upstream of any washwater dilution or other reactant dosing unit, if used, prior to discharge.

The 50- µg/L limit is adjusted upward for lower washwater flow rates per MWH, and vice-versa, and the applicable permit limits are:

**Table 7: PAH Permit Limits in Exhaust Gas Scrubber Discharge**

Flow Rate (t/MWh)	Discharge Concentration Limit (µg/L PAHphe equivalents)	Measurement Technology
0 - 1	2,250	Ultraviolet Light
2.5	900	Ultraviolet Light
5	450	Fluorescence2
11.25	200	Fluorescence
22.5	100	Fluorescence
45	50	Fluorescence
90	25	Fluorescence

For a 15-minute period in any 12-hour period, the continuous PAH concentration limit may exceed the limit described above by 100 percent. This is to allow for an abnormal start up of the exhaust gas scrubber unit.

The washwater treatment system must be designed to minimize suspended particulate matter, including heavy metals and ash. The maximum turbidity (monitored continuously) in washwater must not be greater than 25 FNU (formazin nephelometric units) or 25 NTU (nephelometric turbidity units) or equivalent units, above the inlet water turbidity. However, during periods of high inlet turbidity, the precision of the measurement device and the time lapse between inlet measurement and outlet measurement are such that the use of a difference limit is unreliable. Therefore, all turbidity difference readings must be a rolling average over a 15-minute period to a maximum of 25 FNU or NTU. For the purposes of this criterion, the turbidity in the washwater must be measured downstream of the water treatment equipment but upstream of washwater dilution (or other reactant dosing) prior to discharge. For a maximum of one 15-minute period within any 12-hour period, the continuous turbidity discharge limit may be exceeded by 20 percent.

The washwater treatment system must prevent the discharge of nitrates, plus nitrites beyond that associated with a 12 percent removal of NO<sub>x</sub> from the exhaust, or beyond 60 mg/l normalized for washwater discharge rate of 45 tons/MWh, whichever is greater. MWh refers to the MCR or 80 percent of the power rating of the fuel oil combustion unit. For the purposes of this criterion, the nitrate concentration in the washwater must be measured downstream of the water treatment equipment, but upstream of any washwater dilution or other reactant dosing unit, if used, prior to discharge.

The 60-mg/L limit is adjusted upward for lower washwater flow rates per MWh, and vice-versa, and the applicable permit limits are contained in Table 8.

<b>Flow Rate (t/MWh)</b>	<b>Discharge Concentration Limit (mg/L nitrate + nitrite)</b>
0 - 1	2,700
2.5	1,080
5	640
11.25	240
22.5	120
45	60
90	30

The data recording system must comply with the guidelines in sections 7 and 8 of MEPC.184(59) and must continuously record pH, PAH (as available), and turbidity. The vessel owner/operator must continuously monitor for PAH discharges where continuous monitoring technologies (e.g., probes/analyzers) are available (availability should include the technology's robustness, reliability and ability to perform over for a minimum of two years). When the EGC system is operated in waters subject to this permit, the washwater monitoring and recording must be continuous. The values monitored and recorded must include pH, PAH (as available), turbidity, and temperature.

The pH electrode and pH meter must have a resolution of 0.1 pH units and temperature compensation. The electrode must comply with the requirements defined in BS 2586 or of equivalent or better performance and the meter should meet or exceed BS EN ISO 60746-2:2003.

The PAH monitoring equipment must be capable of monitoring PAH in water in a range of at least twice the discharge concentration limit given in the table above. A demonstration must be made that the equipment operates correctly and does not deviate more than 5 percent in washwater with turbidity within the working range of the application. For those applications discharging at lower flow rates and higher PAH concentrations, ultraviolet light monitoring technology or equivalent should be used due to its reliable operating range.

The turbidity monitoring equipment must meet requirements defined in ISO 7027:1999 or USEPA 180.1.

All continuous monitoring equipment must be calibrated as recommended by probe manufacturers or Exhaust Gas scrubber manufacturers. At a minimum, all probes must be calibrated at least annually. EPA expects many probe types (e.g., turbidity probes) will need to be calibrated on a more frequent basis.

The pH electrode and pH meter must have a resolution of 0.1 pH units and temperature compensation. The electrode must comply with the requirements defined in BS 2586 or of equivalent or better performance and the meter should meet or exceed BS EN ISO 60746-2:2003.

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The PAH monitoring equipment must be capable of monitoring PAH in water in a range of at least twice the discharge concentration limit given in the table above. A demonstration must be made that the equipment operates correctly and does not deviate more than 5 percent in washwater with turbidity within the working range of the application. For those applications discharging at lower flow rates and higher PAH concentrations, ultraviolet light monitoring technology or equivalent should be used due to its reliable operating range.

The turbidity monitoring equipment must meet requirements defined in ISO 7027:1999 or USEPA 180.1.

All continuous monitoring equipment must be calibrated as recommended by probe manufacturers or Exhaust Gas scrubber manufacturers. At a minimum, all probes must be calibrated at least annually. EPA expects many probe types (e.g., turbidity probes) will need to be calibrated on a more frequent basis.

Vessels conducting monitoring must monitor for the following parameters, choosing either sufficiently sensitive EPA Part 136 methods or other methods if specifically allowed:

- Dissolved and Total Metals, including, Arsenic, Cadmium, Chromium, Copper, Lead, , Nickel, Selenium, Thallium, Vanadium, and Zinc (recommend using EPA Methods 200.8 or 200.9. Because matrix interference is a known issue for arsenic and selenium in saltwater samples, the Agency strongly recommends operators using Octopole Racation Cell ICP-MS, Dynamic Reaction Cell ICP-MS, hydride generation with a graphite furnace, or other appropriate approach consistent with 200.8 or 200.9 to minimize this interference);
- PAHs including Acenaphthylene, Acenaphthene, Anthracene Benz[*a*]anthracene, Benzo[*ghi*]perylene, Benzo[*a*]pyrene, Benzo[*b*]fluoranthene+, benzo[*k*]fluoranthene, Chrysene, Dibenz[*a,h*]anthracene, Fluoranthene, Fluorene, Indeno[1,2,3,*c,d*]pyrene, Naphthalene, Phenanthrene, and Pyrene (recommend using EPA Methods 550.1, 610, 625, 8100, 8270c, 8310);
- Nitrate-Nitrite (recommend using EPA Method 353.2);
- pH (using Standard Methods (SM) 4500-H B);

Vessel owners/operators must submit all monitoring data to EPA electronically, unless exempted from electronic reporting consistent with Part 1.14 of this permit. Monitoring data must be submitted at least once per calendar year no later than February 28 of the following year on the vessel annual report. Data must be submitted on or attached to the exhaust gas scrubber DMR available in Appendix H of this permit or submitted to EPA electronically. The system is scheduled to be available at [www.epa.gov/vessels/eNOI](http://www.epa.gov/vessels/eNOI). Data may be submitted as part of the vessel's annual report.

**Fish Hold Effluent:** Not applicable to lakers.

### **Additional Water Quality-Based Effluent Limits**

Discharges must be controlled as necessary to meet applicable water quality standards in the receiving water body or another water body impacted by your discharges. EPA generally expects (emphasis added) that compliance with the other conditions in this permit will control discharges as necessary to meet applicable water quality standards. If at any time the vessel owner/operator becomes aware, or EPA determines, that a discharge causes or contributes to an exceedance of applicable water quality standards, corrective actions must be undertaken. EPA may impose additional water quality-based limitations on a site-specific basis, or require vessel owner/operator to obtain coverage under an individual permit, if information in the NOI (if applicable), required reports, or from other sources indicates that, after meeting the water quality-based limitations in this part, discharges are not controlled as necessary to meet applicable water quality standards, either in the receiving water body or another water body impacted by discharges. EPA or an authorized representative of EPA may inform vessel owner/operators of specific requirements.

### **Problems Triggering Need for Corrective Action**

- Violation of one or more effluent limits or any other requirement of this permit, or an inspection or evaluation of vessel by an EPA official or an official agent acting on EPA's behalf determines that modifications to the control measures are necessary to meet the effluent limits;
- Vessel owner/operator becomes aware, or EPA determines, that measures do not control discharges as stringently as necessary to meet applicable water quality standards; or

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- Vessel owner/operator finds, or EPA determines, that pollution control measures or best management practices are not being properly operated and maintained, or are not having the intended effect in minimizing pollutant discharges.

Problems might be identified through: the routine visual inspections or comprehensive annual inspections required by this permit under Part 4; any other inspection or evaluation of your operations by you, a government official, or anyone else; or through any other means.

### **Corrective Action Assessment**

Corrective Action Assessment must 1) describe problem, including time, date, location on vessel where it occurred, impacts observed, and name and title of person who identified the problem; 2) explain cause (if known); 3) describe action taken to eliminate problem and a schedule of activities for completing such actions; 4) include date vessel will be dry docked (if necessary); and 5) once implemented, record time and date actions taken.

### **Deadlines for Eliminating Problem**

- Two weeks for simple adjustment to control measures performed by existing personnel and resources;
- No later than 3 months if new parts not on vessel are required;
- For large or comprehensive repairs, including those that require drydocking, achieve compliance before returning to service.

### **Self Inspections and Monitoring**

Routine visual inspection must be conducted at least once per week or per voyage, whichever is more frequent, unless vessel meets requirements for Extended Unmanned Period inspections. (This is why they defined voyage.) If vessel makes more than one voyage per day, once inspection suffices that day.

Routine visual inspections should coincide with other routine vessel inspections if feasible. Visually inspect all areas addressed in this permit (cargo holds, boiler areas, machinery storage areas, deck areas....) Must monitor water around and behind the vessel for sheens, dust.... Pay particular attention to deck runoff, ballast water and bilgewater.

If vessel makes multiple voyages per week, you may conduct a limited visual inspection that focuses on only those areas affected by docking and cargo operations. However, you must still conduct one full visual inspection per week.

### **Documentation of Routine Visual Inspection**

Document in logbook or other recordkeeping. Record date and time, areas inspected, personnel conducting inspection, and note any problem(s) found.

### **Extended Unmanned Period (“EUP”) Inspections**

For lakers, a vessel will be considered to be in an Extended Unmanned Period if its navigation and main propulsion systems have been shutdown for 13 days or longer.

Immediately before a vessel is placed in an EUP, the vessel operator must conduct the pre lay-up inspection, which will consist of:

- A routine visual inspection.
- Ensuring material storage and toxic and hazardous material requirements are met.
- Ensuring all oils and oily machinery are properly secured, covered, and protected. Any spilled or leaked oils must be cleaned up immediately. If machinery or equipment is leaking oil, the leaks must be stopped or appropriate containment must be in place to capture any leaking oil.
- Documenting whether automatic bilge water pump(s) will be engaged on the vessel during the EUP.
- Documenting the amount of fuel on board.
- Documenting the amount of ballast water on board.
- Documenting the date the EUP began.

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While a vessel is in EUP, the owner/operator or authorized representative must examine the outside of the vessel and surrounding waters at least once every two weeks for any evidence of leaks, loss of cargo or spills.

### **Comprehensive Annual Vessel Inspections**

Comprehensive annual inspection must cover all areas of the vessel affected by the requirements of this permit that can be inspected safely and without forcing a vessel into drydock. Areas to focus on include:

- The vessel hull, including niche areas, for fouling organisms, flaking anti-foulant paint, exposed TBT or other organotin surfaces;
- Ballast water tanks, as applicable;
- Bilges, pumps, and oily water separator (OWS) sensors, as applicable;
- Oil discharge monitoring system and electronic valve switching function, as applicable;
- Protective seals for lubrication and hydraulic oil;
- Oil and chemical storage areas, cargo areas, and waste storage areas; and
- All visible pollution control measures to ensure that they are functioning properly.

### **Drydock Inspection Reports**

Any drydock reports prepared by class society or flag state administrations must be supplied to the EPA upon request. These reports must record that:

- The chain locker has been cleaned and/or flushed to remove sediment, living organisms, and other constituents of concern as applicable;
- The vessel hull, propeller, rudder, thruster gratings, sea chest, and other surface and niche areas of the vessel have been inspected for attached living organisms and those organisms have been removed or neutralized;
- Any antifoulant hull coatings have been applied, maintained, and removed consistent with the FIFRA label if applicable; any exposed existing or any new coating does not contain biocides or toxics that are banned for use in the United States;
- For all cathodic protection, anodes or dialectic coatings have been cleaned and/or replaced to reduce flaking; and
- All pollution control equipment is properly functioning.

### **Recordkeeping**

There is a lengthy section listing recordkeeping requirements on pages 68-72. I don't think anything is out of the ordinary, but just too much to try to condense. You have to review and make sure you comply.

### **Annual Report**

**An Annual Report must be submitted by February 28 of the following year.** No report necessary for the period December 19-31, 2013. Anything that needs to be reported for that period should be included in the 2014 Annual Report due by February 28, 2015.

You will use EPA's form for the Annual Report. It is Appendix H of the Permit and begins on pg. 181.

### **Large Ferries**

The BAGER is a large ferry as per the EPA definition applied to this permit. See pages 86-87 for requirements.

### **Key Elements of State Certifications**

#### **Illinois**

- No effluent shall contain settleable solids, floating debris, visible oil, grease, scum, or sludge. Color, odor, and turbidity must be reduced below obvious levels.

### **Indiana**

- Permittee will allow representatives of the State to enter and inspect vessel and pollution control equipment, access and copy any records required by the VGP, and sample or monitor any discharge of pollutants.

### **Michigan**

- All ballast water provisions apply to oceangoing vessels. The State does reiterate, however, that discharges of blackwater and greywater from any vessel are prohibited in its waters.

### **Minnesota**

- Obtaining coverage under the 2013 VGP does not release any person from the duty to obtain a permit required by state law (MNG300000, Minnesota Ballast Water General Permit);
- Lakers must:
- Annually inspect and replace, as necessary, sea chest screens. Replace with smallest openings possible. Inspections must be documented by log entry, diver's report, video report, drydocking report, marine inspection note, or surveyor's report;
- During cargo operations (while accounting for boom list, hull stress, and bending moments), lighten the ship as much as practical to elevate water intakes before ballasting to minimize sediment uptake and increase water flow;
- Ballast water taken aboard shall be the minimum needed to ensure the safety of the crew and vessel. Additional ballast water can be taken aboard, once deeper water is reached;
- Ballast water shall always be taken aboard or discharged via the pumps and never "gravity fed or drained." This ensures an organism that somehow makes it past the screen is pulverized by the high speed, high pressure, and tight tolerance pump;
- Within 24 months of issuance of VGP (December 19, 2015), vessel will have the ability to collect samples of organisms in ballast water discharge;
- Within 24 months of issuance, annually perform at least one sample and analyze for organism density and composition. Sample must be taken in a Great Lakes port for discharge into Minnesota waters. Record uptake location(s) and volumes(s) and well as volume to be discharged in MN waters, BMPs employed, and other factors affecting composition of sample; and
- Complete, individually or in partnership with other permittees, a ballast discharge biological study approved by the MPCA. The study must include actual discharge data representing designated vessels that may discharge native and non-native organisms into Minnesota waters. The purposes of the study must include an evaluation of the risk that ballast discharges pose to Minnesota waters.

### **New York**

- New York has deferred a Water Quality Based Effluent Limit for ballast water until the next VGP.
- Lakers must annually inspect and, as necessary, replace ballast sea chest screens.
- Replace screens with smallest possible opening.
- Document by log entry, diver's report, video report, drydocking report, marine inspection note, or surveyor's report.
- During cargo operations while accounting for boom list, hull stress, and bending moments, lighten the ship as much as practical to elevate water intakes before ballasting to minimize sediment uptake and increase water flow.
- If ballast is taken on in waters affected by Viral Hemorrhagic Septicemia, implement steps that were required by LCA's plan (see pg. 127 of Permit).
- Bilge water may not be discharged in NY waters unless Master deems compliance would threaten safety and stability of vessels, crew and passengers.

### **Ohio**

- All vessels are prohibited from discharging ballast water sediment in Ohio waters.
- Ohio believes that IMO treatment standards are not "practical and possible" at this time for existing vessels operating exclusively with the Great Lakes.

### **Pennsylvania**

Pennsylvania did not file a Section 401 certification.

### **Wisconsin**

- Permittee will allow WDNR reasonable entry to vessel for inspection, access to records, and collection of a discharge sample for determining compliance with water quality certification and applicable laws;
- Fills or deposition of material in navigable waters prohibited;
- Must obtain permits required by State of Wisconsin for vessel discharges;
- Vessels that operate exclusively within the Great Lakes, and which meet the EPA VGP applicability requirements will be addressed in Wisconsin's next Ballast Water Discharge General Permit, to be issued in 2015;
- WDNR may require emergency treatment as part of a temporary compliance plan or temporary alternative strategy for vessels with unexchanged or untreated ballast water discharge of high-risk ballast water [s. NR 102.01(2), Wis. Adm. Code].