

Subject

"Final 2013 Vessel General Permit issued by US Environmental Protection Agency"

ClassNK

Technical Information

No. TEC-0968
Date 18 October 2013

To whom it may concern

2013 Vessel General Permit (herein after, 2013VGP) for discharges of pollutants incidental to their normal operation of vessels, published by the U.S. Environmental Protection Agency (herein after, EPA) on March 28, 2013 will become effective on December 19, 2013. This will replace the 2008 Vessel General Permit (herein after, 2008VGP) which is currently enforced.

The vessels which intend to navigate within 3 miles from US territorial waters except recreational vessels are subject to the 2013VGP.

The 2013VGP incorporated fish hold effluent to its coverage and made more stringent regulations for the vessels entering the Great Lakes.

Also, remarkable points added to the 2013VGP are described as follows.

Remarkable points added to the permit:

1) Ballast water monitoring

Ballast water numeric discharge limitations and implementation schedule which are aligned with the requirements of USCG rules has been established. In addition to USCG requirements, in case of using ballast water treatment system, monitoring requirements like functionality monitoring, applicable sensors' calibration monitoring, Effluent biological organism monitoring and residual biocide and derivative monitoring for using active substances etc. in treated water are added to ensure that the ballast water treatment system is working correctly. Also, records of the sampling and testing results are required to be retained on-board for at least 3 years in the vessel's recordkeeping documentation.

2) Bilge water monitoring

New build vessel which the keel is laid after 19 December 2013 and greater than 400 gross tons, that may discharge treated bilge water into the waters must sample and analyse the discharges in every year. Bilge water effluent must be monitored at least once in a year in accordance with 2.2.2.1 of 2013VGP. Also, records of the sampling and result of analysis are required to be retained on-board for at least 3 years in the vessel's recordkeeping documentation. The oil content of the effluent should not exceed 15ppm.

(To be continued)

NOTES:

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3) Gray water monitoring

New build vessel which the keel is laid on or after 19 December 2013, has a maximum crew capacity greater or equal to 15 and/or any vessel operating on the Great Lakes that may discharge gray water into the waters must collect two samples at least 14 days apart of gray water to be monitored in accordance with 2.2.15.2 of 2013VGP. Also, records of the sampling and result of analysis are required to be retained on-board for at least 3 years in the vessel's recordkeeping documentation.

4) Use of an Environmentally accepted lubricants (herein after, EAL)

All the vessels subject to the 2013VGP are required to use an EAL that is "biodegradable", "minimally-toxic" and "not bioaccumulative" as defined in Appendix A of 2013VGP in all oil-to-sea interferences that may leak oil e.g. stern tubes, thrusters, controllable pitch propellers, rudder stocks and pintle bearings etc. unless technically infeasible.

According to the 2013VGP, "technically infeasible" means that;

- a) No EAL products are approved for use in a given application that meets manufacturer specifications for that equipment.
- b) Products which come pre-lubricated (e.g., wire ropes) have no available alternatives manufactured with an EAL.
- c) Products meeting a manufacturer's specifications are not available within any port in which the vessel calls.
- d) Change over and use of an EAL must wait until the vessel's next dry docking.

Also, with regard to the use of an EAL in the sealing devices for the stern tube or the thruster, the seal ring may swell, and it may have an unfavorable effect on the use of the sealing device for the stern tube or the thruster in case where the seal ring has a high affinity for the EAL.

Therefore, if you consider to use an EAL in the currently used sealing devices for the stern tube or the thruster, you need to inquire to the sealing device manufacturer about whether the currently used seal ring is compatible with the EAL or not (whether the EAL is available to it or not) in advance of using it.

5) Exhaust gas scrubber washwater monitoring

All the vessels subject to the 2013VGP are required to continuously monitor and record pH, PAHs (as available), turbidity, and temperature of exhaust gas scrubber wash water discharge, and to sample and analyse pH, PAHs, Dissolved and Total Metals, and Nitrate-Nitrite exhaust of gas scrubber washwater discharge in every year in accordance with 2.2.26.1 of 2013VGP.

Also, records of the sampling and result of analysis are required to be retained on-board for at least 3 years in the vessel's recordkeeping documentation.

(To be continued)

6) Training requirements

Owners/Operators must ensure that all concerned who 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 to this, operators should also ensure that appropriate vessel personnel is trained in the procedures for responding to fuel spills and overflows, including notification of appropriate vessel personnel, emergency response agencies and regulatory agencies.

Also, Owners/Operators must keep all training-related record.

Details and final permit can be downloaded from
<http://cfpub.epa.gov/npdes/vessels/vgpermit.cfm>

For any questions about the above, please contact:

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Attachment:

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2. 2013VGP 2.2.15.2
3. 2013VGP 2.2.26.1
4. 2013VGP Appendix A

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operation of a vessel. The use of oil solidifiers, flocculants, or other required additives are allowed only as part of an oil water separation system provided they do not alter the chemical make-up of the oils being discharged and any discharge of such materials into waters subject to this permit must be minimized. Routine cleaning and maintenance activities associated with vessel equipment and structures are considered to be normal operation of a vessel if those practices fall within normal marine practice.

- All vessels must minimize the discharge of bilgewater into waters subject to this permit. This can be done by minimizing the production of bilgewater, disposing of bilgewater on shore where adequate facilities exist, or discharging into waters not subject to this permit (i.e., more than 3 nautical miles [nm] from shore) for vessels that regularly travel into such waters. Though not regulated under this permit, EPA notes that discharges of bilgewater outside waters subject to this permit (i.e., more than 3 nm from shore) are regulated under Annex I of the International Convention for the Prevention of Pollution from Ships as implemented by the Act to Prevent Pollution from Ships and U.S. Coast Guard regulations found in 33 CFR part 151.
- Vessels greater than 400 gross tons shall not discharge untreated oily bilgewater (i.e., bilgewater not treated with an onboard separator or bilgewater with a concentration of oil greater than 15 ppm) into waters subject to this permit.
- Vessels greater than 400 gross tons that regularly sail outside the territorial sea (at least once per month) shall not discharge treated bilgewater within 1 nm of shore if technologically feasible (e.g., holding would not impact safety and stability, would not contaminate other holds or cargo, or would not interfere with essential operations of the vessel). Any discharge which is not technologically feasible to avoid must be documented as part of the requirements in Part 4.2 and reported to EPA as part of the vessel's annual report.
- Vessels greater than 400 gross tons shall not discharge treated bilgewater into waters referenced in Appendix G unless the discharge is necessary to maintain the safety and stability of the ship. Any discharge of bilgewater into these waters must be documented as part of the recordkeeping requirements in Part 4.2 and reported to EPA as part of the vessel's annual report.
- For vessels greater than 400 gross tons that regularly sail outside the territorial sea (at least once per month), if treated bilgewater is discharged into waters subject to this permit, it must be discharged when the vessel is underway (sailing at speeds greater than 6 knots), unless doing so would threaten the safety and stability of the ship. EPA notes that vessel operators may also choose to dispose of bilgewater on shore where adequate facilities exist. Any discharge which is made for safety reasons must be documented as part of the requirements in Part 4.2 and reported to EPA as part of the vessel's annual report.

2.2.2.1 Bilgewater Monitoring

“New Build” vessels built after December 19, 2013 greater than 400 gross tons that may discharge bilgewater into waters subject to this permit must monitor (i.e., sample and analyze)

their bilgewater effluent at least once a year for oil and grease content. That monitoring can be conducted as part of the vessel's annual survey.

To demonstrate treatment equipment maintenance and compliance with this permit, the bilgewater sample must be analyzed for oil by either Method ISO 9377-2 (2000) Water Quality–Determination of Hydrocarbon Oil Index–Part 2: Method Using Solvent Extraction and Gas Chromatography (incorporation by reference, see 46 CFR §162.050–4) or EPA Method 1664. At the time of sample collection, the reading on the oil content meter (OCM) must be recorded such that the oil and grease concentration measured by the laboratory can be compared to the OCM.

If your analytical results show oil and grease concentrations of less than 5 ppm for two consecutive years, you need not sample and analyze subsequent years of permit coverage if:

- Your vessel uses an oily water separator capable of meeting a 5 ppm oil and grease limit, or you use an alarm which prevents the discharge of oil and grease above 5 ppm whenever you discharge in waters subject to this permit,
- You calibrate your OCM at least annually (calibrations during a vessel survey meet this requirement), and
- Your OCM never reads above 5 ppm during discharges into waters subject to this permit. If this information is recorded in the oil record book, you need not record these data in other recordkeeping documentation.

Records of monitoring must be retained onboard for at least 3 years in the vessel's recordkeeping documentation and must include:

- The date, exact place, and time of sampling or measurements;
- The individual(s) who performed the sampling or measurements;
- The individual(s) who performed the analyses and any meter recalibration;
- The techniques or methods used for sample analyses;
- The results of such analyses and OCM readings.

2.2.2.2 Monitoring Reporting

For those vessels for which monitoring must be conducted, analytical and corresponding OCM monitoring data must be submitted at least once per calendar year no later than February 28 of the year after the data are collected. Additionally, if you have met the requirements in part 2.2.2.1 to waive analytical monitoring after two years, you must note your waiver qualifications on your report. Data may be submitted as part of the vessel's annual report (Appendix H) on the VGP bilgewater DMR.

2.2.3 Ballast Water

All discharges of ballast water must comply with the requirements in this permit as described below. Additionally, owner/operators of all vessels subject to coverage under this permit which are equipped with Ballast Tanks must comply with any additional BMPs in this section.

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conducted while the vessel is underway in areas with significant circulation and depth to the extent feasible. Graywater stored while in such waters can later be disposed of onshore or discharged in accordance with the other requirements of this permit.

2.2.15.1 Additional Graywater Requirements for Certain VGP Vessels Operating in the Great Lakes

Any vessel operating on the Great Lakes that is not a “commercial vessel” as defined in CWA section 312(a)(10) must meet one of the following requirements for graywater management:

- (i) The vessel must hold all graywater for onshore discharge to an appropriate shoreside facility (an appropriate shoreside facility is either an NPDES permitted facility or an entity that delivers wastewater directly to an NPDES permitted facility); or
- (ii) The graywater discharge must not exceed 200 fecal coliform forming units per 100 milliliters and contain no more than 150 milligrams per liter of suspended solids.

Vessels subject to this part must conduct monitoring required under Part 2.2.15.2 to demonstrate treatment equipment maintenance and compliance with the limits of this part. Records of the sampling and analysis results must be retained onboard for at least 3 years in the vessel’s recordkeeping documentation consistent with Part 4.2 of this permit.

2.2.15.2 Graywater Monitoring

The following monitoring requirements are applicable to vessels which discharge graywater into waters subject to this permit and meet one of the following conditions:

- The vessel is a new build vessel constructed on or after December 19, 2013, has a maximum crew capacity greater or equal to 15, and provides overnight accommodations to those crew; or
- The vessel is subject to Part 2.2.15.1 of this permit.

Vessel owners/operators must collect and analyze two samples per year, collected at least 14 days apart, and report the results of those samples as part of their Annual Report. Samples must be taken for Biochemical Oxygen Demand (BOD), fecal coliform, suspended solids, pH, and total residual chlorine. Vessel owner/operators may choose to conduct monitoring for *e. coli* in lieu of fecal coliform. Fecal Coliform or *e. coli* must only be analyzed once per year if vessels have difficulty analyzing the results within recommended holding times. Sampling and testing shall be conducted according to 40 CFR Part 136. If the vessel is subject to Part 2.2.15.1, measured samples must meet the standards specified in that part.

Records of monitoring information shall include:

- The date, exact place, time, and sampling port location(s) of sampling or measurements;

- The individual(s) who performed the sampling or measurements;
- The date(s) analyses were performed;
- The individual(s) who performed the analyses;
- The analytical techniques or methods used;
- The results of such analyses; and
- Proportions of wastestreams being treated and sampled (such as mixed graywater, mixed graywater and blackwater, and galley. If actual amounts are not available, the estimated proportions should be provided).

Vessels subject to this part must note whether the graywater effluent is treated or untreated, and also note whether the effluent is graywater alone or if it is mixed with another effluent type (e.g., graywater mixed with sewage). Records of the sampling and testing results must be retained onboard for at least 3 years in the vessel's recordkeeping documentation consistent with Part 4.2.

Vessels which do not enter waters subject to this permit for the calendar year need not conduct monitoring for that year, but must clearly indicate on their Annual Report that they did not enter waters subject to this permit during that year.

2.2.16 Motor Gasoline and Compensating Discharge

The discharge of motor gasoline and compensating effluent must not have oil in quantities that may be harmful as defined in 40 CFR §110.3, which includes discharges resulting in a visible sheen, or an oil concentration that exceeds 15 ppm. Determination of oil concentration may be measured by EPA Method 1664 or other appropriate method for determination of oil content as accepted by the IMO (e.g., ISO Method 9377) or U.S. Coast Guard. Compliance with the 15 ppm oil concentration limitation may be established with visual monitoring for an oily sheen. Minimize discharge of motor gasoline and compensating discharge in port. If an oily sheen is observed, the vessel operator must deploy appropriate oil containment practices. Vessels shall not discharge motor gasoline and compensating discharge in waters subject to this permit listed in Appendix G.

2.2.17 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 pursuant to 40 CFR Part 110 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.

2.2.18 Refrigeration and Air Condensate Discharge

You must not allow refrigeration and air condensate discharge to come into contact with oily or toxic materials if it is discharged directly overboard. Refrigeration and air conditioning condensate that is collected and plumbed for internal recycling (e.g., recycled as "technical

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2.2.26.1 Exhaust Gas Scrubber Washwater Discharge Standards

2.2.26.1.1 pH

The discharge of washwater from the exhaust gas scrubber treatment system must have a pH of no less than 6.0 measured at the ship’s overboard discharge, with the exception that during maneuvering and transit, the maximum difference between inlet and outlet of 2.0 pH units is allowed. This difference is to be measured at the ship’s inlet and overboard discharge.

2.2.26.1.2 PAHs (Polycyclic Aromatic Hydrocarbons)

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 contained in Table 7.

Table 7: PAH Permit Limits in Exhaust Gas Scrubber Discharge

Flow Rate (t/MWh)	Discharge Concentration Limit (µg/L PAH_{phe} equivalents)	Measurement Technology
0 - 1	2,250	Ultraviolet Light
2.5	900	Ultraviolet Light
5	450	Fluorescence ²
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.

2.2.26.1.3 Turbidity

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

² For any flow rate greater than 2.5 t/MWh fluorescence technology should be used.

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.

2.2.26.1.4 Nitrates +Nitrites

The washwater treatment system must prevent the discharge of nitrates, plus nitrites beyond that associated with a 12 percent removal of NO_x 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.

Table 8: Nitrates + Nitrites Permit Limits in Exhaust Gas Scrubber Discharge

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

2.2.26.2 Exhaust Gas Scrubber Analytical Monitoring Requirements

2.2.26.2.1 Continuous Monitoring

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.

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Appendix A– Definitions

The following definitions apply to this permit. Terms not defined in this Appendix have the meaning given by 40 CFR §122.2. When a defined term appears in a definition, the defined term is placed in quotation marks as an aid to readers.

“Active Substance” means a substance or organism, including a virus or a fungus, that has a general or specific action on or against harmful aquatic organisms and pathogens. *[source: BW Treaty Reg A-1(7)]*

“Alternative Management System” means the meaning given to ballast water treatment systems given by the U.S. Coast Guard under 33 CFR 151.2026.

“Appropriate Regional Office” means the regional office listed in Appendix B of the Permit responsible for the waters where the vessel spends the most time or is based in a home port.

“Aqueous Film-Forming Foam” means the firefighting foam and seawater mixture discharged during training, testing, or maintenance operations. *[source: 40 C.F.R 1700.4]*

“Ballast Tank” means any tank or hold on a vessel used for carrying “ballast water,” whether or not the tank or hold was designed for that purpose *[source: 33 CFR §151.2025]*

“Ballast Water Exchange” see “Exchange.”

“Ballast Water” means any water and suspended matter taken on board a vessel to control or maintain, trim, draught, stability, or stresses of the vessel, regardless of how it is carried. *[source: 33 C.F.R 151.1504]*

“Ballast Water Capacity” means the total volumetric capacity of any tanks, spaces, or compartments for carrying, loading, or discharging “ballast water,” including any multi-use tanks, space or compartment designed to allow carriage of “ballast water.”

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

“Bioaccumulative” means the opposite of “Not Bioaccumulative”.

“Biocide” means a substance or organism, including a virus or a fungus, which is introduced or produced to kill or eliminate organisms to prevent biofouling, to prevent the transfer of invasive species, or to eliminate organisms as part of the ballast water treatment process.

“Biodegradable” means the following for purposes of the VGP:

- Regarding environmentally acceptable lubricants and greases, biodegradable means lubricant formulations that contain at least 90% (w/w (weight in weight concentration)) or grease formulations that contain at least 75% (w/w) of a constituent substance or constituent substances (only stated substances present above 0.10% shall be assessed) that each demonstrate either the removal of at least 70 percent of dissolved organic

carbon, production of at least 60 percent of the theoretical carbon dioxide, or consumption of at least 60 percent of the theoretical oxygen demand within 28 days. Acceptable test methods include: Organization for Economic Co-operation and Development Test Guidelines 301 A-F, 306, and 310, ASTM 5864, ASTM D-7373, OCSPP Harmonized Guideline 835.3110, and International Organization for Standardization 14593:1999. For lubricant formulations, the 10% (w/w) of the formulation that need not meet the above biodegradability requirements, up to 5% (w/w) may be nonbiodegradable (but not bioaccumulative) while the remainder must be inherently biodegradable. For grease formulations, the 25% (w/w) of the formulation that need not meet the above biodegradability requirement, the constituent substances may be either inherently biodegradable or non-biodegradable, but may not be bioaccumulative. Acceptable test methods to demonstrate inherent biodegradability include: OECD Test Guidelines 302C (>70% biodegradation after 28 days) or OECD Test Guidelines 301 A-F (>20% but <60% biodegradation after 28 days).

- Regarding cleaning products, biodegradable means products that demonstrate either the removal of at least 70 percent of dissolved organic carbon, production of at least 60 percent of the theoretical carbon dioxide, or consumption of at least 60 percent of the theoretical oxygen demand within 28 days. Acceptable test methods include: Organization for Economic Co-operation and Development Test Guidelines 301 A-F, 306, and 310, and International Organization for Standardization 14593:1999.
- Regarding biocidal substances, biodegradable means a compound or mixture that yields 60 percent of theoretical maximum carbon dioxide and demonstrate a removal of at least 70 percent of dissolved organic carbon within 28 days as described in EPA 712-C-98-075 (OPPTS 835.3100 Aerobic Aquatic Biodegradation).

“Boat Engine Wet Exhaust” means the seawater that is mixed and discharged with small boat propulsion engine exhaust to cool the exhaust and quiet the engine. *[source: 40 C.F.R 1700.4]*

“Captain of the Port” (COTP) means the Coast Guard officer designated as the COTP, or a person designated by that officer, for the COTP zone covering the U.S. port of destination. These COTP zones are listed in 33 CFR Part 3. *[source: 33 CFR §151.2025]*

“Chain Locker Effluent” means the accumulated precipitation and seawater that is emptied from the compartment used to store the vessel's anchor chain. *[source: 40 CFR §1700.4]*

“Coastal Exchange Zone” means an area greater than 50 nm from shore and greater than 200 meters in depth.

“Commercial Fishing Vessel” means any vessel which is documented under the laws of the United States or, if under five net tons, registered under the laws of any state, and used for commercial fishing or activities directly related to commercial fishing. *(source: modified from 50 CFR §296.2)*

“Commercial Vessel” means any “vessel” other than a “recreational vessel” or a vessel of the U.S. armed forces.

“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)]

"Control Measure" means any BMP or other method (including effluent limitations) used to prevent or reduce the discharge of pollutants to waters of the United States.

“Controllable Pitch Propeller Hydraulic Fluid” means the hydraulic fluid that discharges into the surrounding seawater from propeller seals as part of normal operation, and the hydraulic fluid released during routine maintenance of the propellers. [source: 40 CFR §1700.4]

“Cruise Ship” means a passenger ship used commercially for pleasure cruises that provides overnight accommodations to passengers.

“Darkness” means sunset to sunrise.

“Deck” means a horizontal surface or part thereof serving as a floor or structural support over the upper section of the hull and which is exposed to weather and sea such as freeboard and superstructure decks from which runoff may originate.

“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]

“Delivered” means the date of the owner’s/operator’s formal acceptance of the ship from the builder or another seller or the point in time when custody or ownership of the vessel officially transfers from the shipbuilder or other seller to the owner/operator.

“Devices for which high quality data are available” means either:

- a) any ballast water treatment system type approved by the United States Coast Guard under 46 CFR Part 162.060 or granted alternate management system status by the US Coast Guard under 33 CFR 151.2026; or
- b) any ballast water treatment system:
 - (i) type approved by a foreign administration;
 - (ii) for which efficacy testing was conducted by an independent third party testing organization, either in accordance with the ETV protocol or in a manner consistent with the ETV protocol with respect to QA/QC procedures, the use of validated methods including appropriate volumes of representative samples, and full description and documentation of test procedures, results and analyses; and

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(iii) all “Active Substance” or “Biocide” data (e.g., the full data package as submitted to the International Maritime Organization for approval) have all been made available to the US EPA.

“Discharge Incidental to the Normal Operation of a Vessel” means those discharges that were excluded from the NPDES permitting program by operation of 40 CFR §122.3(a) as in effect on September 29, 2008.

“Distillation and Reverse Osmosis Brine” means the concentrated seawater (brine) produced as a by-product of the processes used to generate freshwater from seawater. *[source: 40 CFR §1700.4]*

“Drydocking” or “next drydocking” for purposes of the VGP, means the next scheduled drydocking, consistent with the requirements of 46 CFR 31.10-21 (typically, at least every five years or sooner). In the context of ballast water implementation schedule, it means hauling out of a vessel or placing a vessel in a drydock or slipway for an examination of all accessible parts of the vessel's underwater body and all through-hull fittings and does not include emergency drydocking and emergency hull repairs.

“Elevator Pit Effluent” means the liquid that accumulates in, and is discharged from, the sumps of elevator wells on vessels. *[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).

“ETV Protocol” means EPA’s final protocol for verification of ballast water treatment systems published in September 2010 and subsequent revisions.

“Exchange” means to replace the water in a ballast tank using one of the following methods:

- “Empty/refill exchange” means to pump out the “ballast water” taken on in ports, estuarine, or territorial waters until the tank is empty, then refilling it with water from the “mid-ocean” or “coastal exchange zone” (as applicable); masters/operators should pump out as close to 100 percent of the “ballast water” as is safe to do so. *[modified from: 33 CFR §151.2025]*
- “Flow through exchange” means to flush out “ballast water” by pumping in water from the “mid-ocean” or “coastal exchange zone” (as applicable) into the bottom of the tank and continuously overflowing the tank from the top until three full volumes of water has been changed to minimize the number of original organisms remaining in the tank.

“Exclusive Economic Zone” (EEZ) means the area established by Presidential Proclamation Number 5030, dated March 10, 1983 (48 FR 10605) which extends from the base line of the

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territorial sea of the United States seaward 200 miles, and the equivalent zone of Canada. [source: 33 CFR §151.2025]

“Ferry” means a vessel having provisions for deck passengers and/or vehicles operating between two points over the most direct water route, operating on a frequent schedule, and offering a public service of a type normally attributed to a bridge or tunnel. [modified from: 46 CFR §70.10-1]

“Firemain Systems” means the seawater pumped through the firemain system for firemain testing, maintenance, and training, and to supply water for the operation of certain vessel systems. [source: 40 CFR §1700.4]

“Fish Hold” means the area where seafood or seafood products are kept once caught and kept fresh during the remainder of the voyage before being offloaded to shore or another tender vessel. The fish hold is typically a refrigerated seawater holding tank, where the seafood product is kept cool by mechanical refrigeration or ice. It can also include continuous flow systems needed to keep certain organisms such as lobster and crab alive until they are unloaded. Fish hold effluent is the water discharged from fish holds.

“Fouling Organisms” means any aquatic flora and/or fauna which attach to, associate with, and/or grow on or in the vessel.

“Freshwater Layup” means the potable water or freshwater taken from surrounding waters that is discharged from the water cooling system while the vessel is in port, and the cooling system is in lay-up mode (a standby mode where seawater in the system is replaced with potable water for corrosion protection). [modified from: 40 CFR §1700.5(d)]

“Gas Turbine Water Wash” means the water released from washing gas turbine components. [source: 40 CFR §1700.4]

“Graywater” means galley, bath, and shower water, as well as wastewater from lavatory sinks, laundry, and water fountains. [modified from 40 CFR §1700.4 but removed shop sinks]

“Gross Ton” means the size of the vessel as calculated using the formula set by the International Convention on Tonnage Measurement of Ships, 1969. $GT = K * V$ where V = total volume in m^3 and K = a figure from 0.22 up to 0.32, depending on the ship’s size (calculated by: $K = 0.2 + 0.02 * \log_{10}V$).

“Hazardous materials” means, for purposes of the VGP, any hazardous material as defined in 49 CFR § 171.8.

“High quality data” see “Devices for which high quality data are available”

“Hull Coating Leachate” means the constituents that leach, dissolve, ablate, or erode from the paint on the hull into the surrounding seawater. [source: 40 CFR §1700.4]

“IMO Guidelines” mean the Guidelines for the Control and Management of Ships’ Ballast Water to Minimize the Transfer of Harmful Aquatic Organisms and Pathogens (IMO Resolution A.868 (20), adopted November 1997). [source: 33 CFR §151.2025]

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“In Port” means, for the purposes of this permit, anchored, moored, or otherwise secured while located in waters subject to this permit which are inside the baseline of the U.S. territorial sea.

“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).

“Large Cruise Ship” means a passenger ship, used commercially for pleasure cruises, that provides overnight accommodations to passengers, and is authorized by the U.S. Coast Guard to carry 500 or more passengers.

“Large Ferry” means a “ferry” that: a) has a capacity greater than or equal to 100 tons of cargo (e.g., for cars, trucks, trains, or other land-based transportation) or b) is authorized by the U.S. Coast Guard to carry 250 or more people.

“Length of Vessel” means the horizontal distance between the foremost part of a vessel's stem to the aftermost part of its stern, excluding fittings and attachments.

“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].

“MARPOL 73/78” means the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto. *[source: modified from 40 CFR §110.1]*

“MARPOL vessel” means a ship subject to Annex I of the International Convention for the Prevention of Pollution from Ships as implemented by the Act to Prevent Pollution from Ships and the oil pollution provisions of U.S. Coast Guard regulations in 33 CFR Part 151, Subpart A.

“Master” means captain, person-in-charge, or other party responsible for operation of the vessel.

“Medium Cruise Ship” means a passenger ship, used commercially for pleasure cruises, that provides overnight accommodations to passengers, and is authorized by the U.S. Coast Guard to carry 100 to 499 passengers.

“Mid-Ocean” means waters greater than 200 nm from any shore.

“Mile” means nautical mile as used in this permit, or 6076.1 feet or 1.852 kilometers.

“Minimally-Toxic” means a substance must pass either OECD 201, 202, and 203 for acute toxicity testing, or OECD 210 and 211 for chronic toxicity testing. For purposes of the VGP,

equivalent toxicity data for marine species, including methods ISO/DIS 10253 for algae, ISO TC147/SC5/W62 for crustacean, and OSPAR 2005 for fish, may be substituted for OECD 201, 202, and 203. If a substance is evaluated for the formulation and main constituents, the LC₅₀ of fluids must be at least 100 mg/L and the LC₅₀ of greases, two-stroke oils, and all other total loss lubricants must be at least 1000 mg/L. If a substance is evaluated for each constituent substance, rather than the complete formulation and main compounds, then constituents comprising less than 20 percent of fluids can have an LC₅₀ between 10-100 mg/L or a no observed effect concentration (NOEC) between 1-10 mg/L, constituents comprising less than 5 percent of fluids can have an LC₅₀ between 1-10 mg/L or a NOEC between 0.1-1 mg/L, and constituents comprising less than 1 percent of fluids can have an LC₅₀ less than 1 mg/L or a NOEC between 0-0.1 mg/L.

“Minimally-Toxic Soaps, Cleaners, and Detergents” means any substance or mixture of substances which has an acute aquatic toxicity value (LE50) corresponding to a concentration greater than 10 ppm and does not produce “byproducts” with an acute aquatic toxicity value (LE50) less than 10 ppm. EPA expects that minimally-toxic soaps, cleaners, and detergents will contain little to no nonylphenols.

“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.

“Motor Gasoline and Compensating Discharge” means the seawater taken into, and discharged from, motor gasoline tanks to eliminate free space where vapors could accumulate. *[source: 40 C.F.R 1700.4]*

“NANPCA” means the Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990. *[source: 33 CFR §151.2025]*

“NBIC” means the National Ballast Water Information Clearinghouse operated by the Coast Guard and the Smithsonian Environmental Research Center as mandated under “NISA”. *[source: 33 CFR §151.2025]*

“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)

“Niche Areas,” for purposes of Parts 2.2.23, 4.1.3, and 4.1.4, means the areas identified in MEPC.207(62) found at 7.3 of that document. Those areas include “propeller thrusters and propulsion units, sea chests, rudder stocks and hinges, stabilizer fin apertures, rope guards, stern tube seals, and propeller shafts, cathodic protection anodes, anchor chain and chain lockers, free flood spaces inherent to the ship’s design, sea chest and thruster tunnel grates, echo sounders and velocity probes, overboard discharge outlets and sea inlets, and areas prone to anti-fouling coating system damage or grounding. . .” *[source, modified from MEPC.207(62)]*

“NISA” means the National Invasive Species Act of 1996, which reauthorized and amended “NANPCA”. *[source: 33 CFR §151.2025]*

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“Non-Oily Machinery Wastewater” means the combined wastewater from the operation of distilling plants, water chillers, valve packings, water piping, low- and high-pressure air compressors, propulsion engine jacket coolers, fire pumps, and seawater and potable water pumps. *[modified from: 40 CFR §1700.4]*

“Not Bioaccumulative” means -

- the partition coefficient in the marine environment is $\log K_{OW} < 3$ or > 7 using test methods OECD 117 and 107,
- molecular mass > 800 Daltons,
- molecular diameter > 1.5 nanometer,
- BCF or BAF is < 100 L/kg, using OECD 305, OCSPP 850.1710 or OCSPP 850.1730, or a field-measured BAF or
- polymer with MW fraction below 1,000 g/mol is $< 1\%$.

“Noxious Liquid Substance” (“NLS”) has the same meaning given that term by 33 CFR Part 151, Subpart A.

“Oil” means oil of any kind or in any form, including but not limited to, petroleum, fuel oil, sludge, oil refuse, and oil mixed with wastes other than dredged spoil. *[modified from: 33 CFR §154.105]*

“Oil in Quantities that May be Harmful” means any discharge of oil having the effects identified in 40 CFR 110.3, provided that this term does not include those discharges specified in 40 CFR 110.5(a) – (c).

“Oily Mixture” means a mixture, in any form, with any oil content, including, but not limited to: (1) slops from bilges; (2) slops from oil cargoes (such as cargo tank washings, oily waste, and oily refuse); (3) oil residue; and (4) oily ballast water from cargo or fuel oil tanks. *[source: 33 CFR §151.05]*

“Owner or Operator” and “Owner/Operator” mean the owner or operator of any facility or activity subject to regulation under the NPDES program. For purposes of this permit, an “operator” means a party, including a charterer by demise, who:

- has operational control over vessel activities, including the ability to modify those activities; or
- has day-to-day operational control of those activities that are necessary to ensure compliance with the permit or to direct workers to carry out activities required to comply with the permit.

“Pacific Coastwise Trade” means vessels engaged in coastwise trade along the Pacific Coast of the United States, operating in and between ports in Alaska, California, Oregon, and Washington.

“Pacific Nearshore Voyages” means voyages by any vessels engaged in the “Pacific Coastwise Trade” and vessels transiting between Pacific Ports that travel between more than one “Captain

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of the Port Zone”, and all other vessels that sail from foreign, non U.S. Pacific, Atlantic, or Gulf of Mexico ports, which do not sail further than 200 nm from any shore, and that discharge or will discharge ballast water into the territorial sea or inland waters of Alaska or of the West Coast of the continental United States.

“Permittee” means the “Owner or Operator” of a permitted vessel.

“Person” means an individual, association, partnership, corporation, municipality, state or federal agency, or an agent or employee thereof. *[source – 40 CFR §122.2]*

“Phosphate Free” soaps, cleaners, and detergents means these materials which contain, by weight, 0.5 percent or less of phosphates or derivatives of phosphates.

“Photographic Laboratory Drains” means the drains containing laboratory wastewater resulting from processing of photographic film. *[adapted from: 40 CFR §1700.4]*

“Port” see “In Port.”

“Port or Place of Departure” means any port or place in which a vessel is anchored or moored. *[source: 33 CFR §151.2025]*

“Port or Place of Destination” means any port or place to which a vessel is bound to anchor or moor. *[source: 33 CFR §151.2025]*

“Recreational Vessel” means any “Vessel” that is manufactured or operated primarily for pleasure or leased, rented, or chartered to another for the pleasure of that person. This term does not include a vessel that is subject to Coast Guard inspection and that is engaged in commercial use or carries paying passengers. *[source: 33 U.S.C. 1362(25)]*

“Saltwater Flushing” means the addition of “Mid-Ocean” (in the case of 2.2.3.7) or “Coastal Exchange Zone” (in Part 2.2.3.8) water to empty ballast water tanks; the mixing of the added water with residual ballast water and sediment through the motion of the vessel; and the discharge of the mixed water until loss of suction, such that the resulting residual water remaining in the tank has either a salinity greater than or equal to 30 parts per thousand (ppt) or a salinity concentration equal to the ambient salinity of the location where the uptake of the added water took place.

“Seafood Processing” means the conversion of aquatic animals from a raw to marketable form which involves more than evisceration of fish or other seafood at sea.

“Seawater Cooling Overboard Discharge” means the discharge of seawater from a dedicated system that provides noncontact cooling water for other vessel systems. *[source: 40 CFR §1700.4]*

“Seawater Piping Biofouling Prevention” means the discharge of seawater containing additives used to prevent the growth and attachment of biofouling organisms in dedicated seawater cooling systems on selected vessels. *[source: 40 CFR §1700.4]*

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“Sewage” means human body wastes and the wastes from toilets and other receptacles intended to receive or retain body wastes that are discharged from vessels, except that with respect to commercial vessels on the Great Lakes, this term includes galley, bath, and shower water.

“Sonar Dome Discharge” means the leaching of antifoulant materials into the surrounding seawater and the release of seawater or freshwater retained within the sonar dome. *[source: 40 CFR §1700.4]*

“Surface Vessel Bilgewater/Oily Water Separator Effluent” means the wastewater from a variety of sources that accumulates in the lowest part of the vessel (the bilge), and the effluent produced when the wastewater is processed by an oil water separator. *[source: 40 CFR §1700.4]*

“Technical Water” means water that is collected, generated or managed on board for uses other than potable water.

“Territorial sea” has the meaning assigned by section 502(8) of the Federal Water Pollution Control Act (33 USC 1362(8)).

“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.

“Toxic Materials” means, for purposes of the VGP: any toxic pollutant identified in 40 CFR 401.15.

“United States” means the States, the District of Columbia, the Commonwealth of Puerto Rico, Guam, American Samoa, the Virgin Islands, the Commonwealth of the Northern Mariana Islands, and the Trust Territory of the Pacific Islands. *[modified from CWA section 502(3)]*

“Underwater Ship Husbandry Discharges” means the materials discharged during the inspection, maintenance, cleaning, and repair of hulls or hull appendages performed while the vessel is waterborne. *[modified from: 40 CFR §1700.4]*

“Untreated Bilgewater” means “Bilgewater” that is not treated or “Bilgewater” with a concentration of oil greater than 15 ppm.

“Untreated Graywater” means graywater that is not treated to the standards found in Part 5.1.2.2 of this permit for large and medium cruise ships and the standards found in part 2.2.15.1(ii) for all other vessels.

“Vessel” means every description of watercraft or other artificial contrivance being used as a means of transportation on “Waters Subject to this Permit.” *[modified from CWA section 312(a)]*

“Vessels Unable to Voyage More than 1 mile from Shore” or “Vessels Unable to Voyage More than 3 miles from Shore” means vessels operating in waters which do not physically allow them to voyage more than 1 nm or 3 nm (as applicable) from shore (e.g., underway on inland river systems) or vessels which do not possess required certifications from the U.S. Coast Guard to operate more than 1 nm or 3 nm (as applicable) from shore.

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“Visible Sheen” means a “silvery” or “metallic” sheen, gloss, or increased reflectivity; visual color; iridescence, or oil slick on the surface. *[Source: 58 FR 12507]*.

“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 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.

- For vessels such as mobile oil and gas rigs, which are in a mode of transportation only when relocating between drill sites, a voyage for purposes of VGP Part 4.1.1 begins when the rig departs one site and ends when it arrives at the new site to commence operations which are not transportation-oriented, such as drilling.
- For vessels such as harbor tugs, which may be in semi-continuous operation for up to a week within the same harbor and do not carry passengers or cargo, for purposes of VGP Part 4.1.1 a voyage begins when the crew or master takes charge of the vessel and ends when that crew or master are replaced by another crew or master, at which point a new voyage would begin due to the arrival of the new crew or master. For example, if crew changes occur every seven days on a harbor tug, the voyage begins with crew arrival, ends on day seven with departure of that crew, and a new voyage begins on day seven with arrival of the new crew.

“Waters Subject to this Permit” means “waters of the U.S.” as defined in as 40 CFR 122.2 and extends to the outer reach of the 3-mile territorial sea as defined in section 502(8) of the CWA, unless otherwise excluded from coverage by Part 6 of the permit.

“Welldeck Discharges” means the water that accumulates from seawater flooding of the docking well (weldeck) of a vessel used to transport, load, and unload amphibious vessels, and from maintenance and freshwater washings of the welldeck and equipment and vessels stored in the welldeck. *[source: 40 CFR §1700.4]*

“You” means the “Owner” or “Operator” of a permitted vessel.