

NPDES Compliance Inspection Manual

Chapter 16



EPA Publication Number: 305-K-17-001
Interim Revised Version, January 2017

CHAPTER 16– VESSEL GENERAL PERMIT (VGP)

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Related Websites

Vessel General Permit webpage: <https://www.epa.gov/npdes/vessels-incident-discharge-permitting-3>.
Vessels Notice of Intent (eNOI) webpage: <https://ofmpub.epa.gov/apex/vgpenoi/f?p=102:101>.
Vessels One-Time Report webpage: https://ofmpub.epa.gov/apex/aps/f?p=VGP_2008:HOME::::.

A. BACKGROUND AND OVERVIEW

BACKGROUND AND HISTORY OF THE VGP

In addition to materials in this chapter, inspectors must be familiar with Chapter 1, “Introduction,” and Chapter 2, “Inspection Procedures.”

In December 2003, a long-standing exclusion of discharges incidental to the normal operation of vessels¹⁷ from the NPDES program became the subject of a lawsuit in the U.S. District Court for the Northern District of California (Northwest Env'tl. Advocates et al. v. United States EPA, 2005). On March 30, 2005, the U.S. District Court for the Northern District of California determined that the exclusion exceeded the Environmental Protection Agency's (EPA's) authority under the Clean Water Act (CWA) and in September 2006 issued a final order stating:

- The blanket exemption for discharges incidental to the normal operation of a vessel, contained in Title 40 of the *Code of Federal Regulations* (CFR) Part 122.3(a), shall be vacated as of September 30, 2008.
- Northwest Env'tl. Advocates et al. v. United States EPA, 2006 U.S. Dist. LEXIS 69476 (N.D. Cal., 2006).

EPA appealed the District Court's decision to the Ninth Circuit, and on July 23, 2008, the Court upheld the decision (Northwest Env'tl. Advocates v. EPA, 2008).

This meant that, effective December 19, 2008, except for those vessels exempted from National Pollutant Discharge Elimination System (NPDES) permitting by Congressional legislation, discharges incidental to the normal operation of vessels which were excluded from NPDES permitting by 40 CFR 122.3(a), were subject to CWA section 301's prohibition against discharging, unless covered under an NPDES permit. The CWA authorizes civil and criminal enforcement for violations of that prohibition and allows for citizen suits against violators.

In response to the court decisions, the EPA issued the first Vessel General Permit (VGP) in December 2008, which expired on December 19, 2013. On April 12, 2013, EPA issued the final 2013 NPDES VGP, which replaces the 2008 NPDES VGP at expiration and extends to December 19, 2018.

VGP OVERVIEW

Eligibility and Limitation on Coverage

The VGP is applicable to discharges incidental to the normal operation of non-recreational, non-military vessels into waters subject to the permit. The permit applies to all vessels operating in a capacity as a means of transportation that have discharges incidental to their normal operations into waters subject to the permit, with some exceptions.

¹⁷ “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)).

Operating in a Capacity as a Means of Transportation

Vessels that are NOT being operated in a capacity as a means of transportation as set out in 40 CFR 122.3(a) (and whose discharges are accordingly NOT applicable to the VGP) include vessels being used as energy or mining facilities, storage facilities, seafood processing facilities, or vessels that are secured to a storage facility or a seafood processing facility, or when secured to the bed of the ocean, contiguous zone, or water of the United States for the purpose of mineral or oil exploration or development.

Similarly, vessels in drydock and “floating” craft that are permanently moored to piers (e.g., “floating” casinos, hotels, restaurants, and bars) are not covered by the VGP, as they are not operating in a capacity as a means of transportation.

With respect to vessels under construction, when the vessel is engaged in sea trials that result in operational discharges, because testing is a critical part of vessel operation, such discharges would be incidental to the normal operation of a vessel, and thus eligible for coverage under the VGP; however, any discharges resulting from construction activities are not covered by the VGP as they are incidental to vessel construction, not vessel operation.

Generally, except as provided for above, a vessel is operating in the capacity as a means of transportation while underway (in transit), temporarily moored to a pier or other mooring device, performing cargo loading/off-loading operations, fueling or defueling, during tug or tow operations, or while performing maintenance outside of a drydock while temporarily moored.

Discharges Incidental to the Normal Operation of Vessels

The discharges eligible for coverage under the VGP are those discharges incidental to the normal operation of a vessel covered by the exclusion in 40 CFR 122.3(a) prior to any vacatur of that exclusion. Discharges incidental to normal operation include deck runoff from routine deck cleaning, bilgewater from properly functioning oily water separators, and ballast water. Some potential discharges are not incidental to the normal operation of a vessel. For example, intentionally adding used motor oil to the bilge tank will result in a discharge that is not incidental to the normal operation of a vessel. Furthermore, any discharge that results from a failure to properly maintain the vessel and equipment, even if the discharge is of a type that is otherwise covered by the permit, is not eligible for permit coverage. Discharges that are neither covered by the VGP nor exempt from section 402 of the CWA must be covered under a separate individual or general permit.

The list below identifies each of the 27 effluent streams eligible for coverage under the permit (listed in the same order as Part 2.2 of the permit):

- 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-to-sea interfaces including lubrication discharges from paddle wheel propulsion, stern tubes, thruster bearings, stabilizers, rudder bearings, azimuth thrusters, 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 operating in the Great Lakes within the meaning of CWA section 312 is excluded from the requirement to obtain a NPDES permit (see CWA section 502(6)), and thus is not within the scope of the VGP);
- 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 protection.
- Boat engine wet exhaust.
- Sonar dome discharge.
- Underwater ship husbandry and hull fouling discharges.
- Weldeck discharges.
- Graywater mixed with sewage from vessels.
- Exhaust gas scrubber washwater discharge.
- Fish hold effluent.

Waters Subject to the VGP

Waters subject to the VGP are “waters of the United States” as defined in 40 CFR Part 122.2 (extending to the outer reach of the 3-mile territorial sea as defined in section 502(8) of the CWA). This includes all navigable waters of the Great Lakes subject to the jurisdiction of the United States. The permit does not apply to discharges beyond the 3-mile territorial sea.

The general permit covers vessel discharges into the waters of the United States in all states, tribes and territories, regardless of whether a state or territory is authorized to implement other aspects of the NPDES permit program within its jurisdiction, except as otherwise excluded by Part 6 of the permit (Specific Requirements for Individual States or Indian Country Lands).

Vessel Universe Affected by the VGP

Vessels covered under the VGP include, cruise ships, ferries, barges, mobile offshore drilling units, oil tankers or petroleum tankers, bulk carriers, cargo ships, container ships, other cargo freighters, refrigerant ships, research vessels, emergency response vessels, including firefighting and police vessels, and any other non-military, non-recreational vessel that is greater than or equal to 79 feet in length and operating in a capacity of transportation. EPA estimates that there are approximately 61,000 U.S. flagged vessels that may be eligible for coverage under the permit. Additionally, EPA estimates that there are up to 8,000 additional foreign flagged vessels that may need coverage under the permit.

With respect to commercial fishing vessels of any size as defined in Title 46 of the *United States Code* (USC) section 2101, and non-recreational vessels that are less than 79 feet in length, the coverage of the VGP is limited to ballast water discharges only. Public Law (P.L.) 110-299 (July 31, 2008) provided for a temporary two-year moratorium on NPDES permitting of discharges incidental to normal operation of all commercial fishing vessels (except ballast water) and non-recreational vessels less than 79 feet in length. This moratorium was extended multiple times, with the current moratorium lasting until to December 18, 2018 as of this publication. After December 18, 2018, these vessels will be covered by the VGP, unless Congress takes further action.

Recreational vessels as defined in CWA section 502(25) are not subject to the VGP. Recreational vessels are not subject to NPDES permitting under CWA section 402, and are instead subject to regulation under CWA section 312(o).

Vessels of the Armed Forces as defined in CWA section 312(a)(14) are also not subject to the VGP.

B. PERMITS

AUTHORIZATION UNDER THE VGP

To obtain authorization to discharge under the VGP, vessel operators/owners must meet the Part 1.2 eligibility requirements. If the vessel meets the requirements under Part 1.5.1.1, and was authorized to discharge under the 2008 VGP, the vessel operator/owner must submit an NOI to receive permit coverage seven days before the effective date of the VGP to continue uninterrupted coverage.

Vessels authorized to discharge under the 2008 VGP were vessels that had submitted an NOI or were not subject to the NOI requirement by Part 1.5.1.2 of the 2008 VGP. If the vessel was not authorized to discharge under the 2008 VGP and meets the requirements under Part 1.5.1.1, the vessel operator/owner must submit an NOI to receive permit coverage at least 7 days or more than 30 days (as applicable) before discharging into waters subject to the VGP.

Owner/operators of vessels that meet the requirements under Part 1.5.1.2 are not required to submit NOIs. Instead these owner/operators must sign and maintain a copy of the Permit Authorization and Record of Inspection (PARI) form onboard at all times. Vessels in this category are still subject to all applicable VGP requirements.

If the vessel is greater than or equal to 300 gross tons or the vessel has the capacity to hold or discharge more than 8 cubic meters (2,113 gallons) of ballast water, the vessel operator/owner must submit a signed and certified, complete and accurate NOI in accordance with the requirements.

If the vessel is less than 300 gross tons and the vessel does not have the capacity to hold or discharge more than 8 cubic meters (2113 gallons) of ballast water, the vessel owner/operator does not need to submit an NOI; however, they must complete the PARI form.

DISCHARGE TYPES SPECIFICALLY NOT AUTHORIZED BY THE VGP

EPA has identified several discharge types not authorized by the VGP because, among other things, the discharge is not within the scope of the current 40 CFR 122.3(a) exclusion or not within the scope of EPA's NPDES permitting authority (see Part 1.2.3 of the permit). These discharges include:

- Discharges not subject to former NPDES permit exclusion.
- Discharges generated from vessels when they are operated in a capacity other than as a means of transportation.
- Sewage as defined at CWA section 502(6) and 40 CFR 122.2 (sewage is instead regulated under CWA section 312 and 40 CFR Part 140 and 33 CFR Part 159).
- Used or spent oil.
- Garbage or trash (including discharges of bulk dry cargo residues as defined at 33 CFR 151.66(b) and agricultural cargo residues) (discharges of garbage continue to be subject to regulation under 33 CFR Part 151, Subpart A).
- Photo-processing effluent.
- Effluent from dry cleaning operations.
- Discharges of medical waste and related materials.
- Discharges of noxious liquid substance residues.
- Tetrachloroethylene (perchloroethylene) and trichloroethylene degreasers.
- Discharges currently or previously covered by NPDES permits.

TECHNOLOGY-BASED EFFLUENT LIMITS AND RELATED REQUIREMENTS APPLICABLE TO ALL VESSELS

The following effluent limits are required by the VGP, regardless of the type of vessel owned or operated.

Material Storage

For cargoes or other onboard materials that might wash overboard or dissolve because of contact with precipitation or surface water spray, or which may be blown overboard by air currents, minimize the amount of time these items are exposed to such conditions. Locate storage areas on the vessel for such items in covered areas where feasible and consistent with

any applicable regulations promulgated by the Secretary of the Department in which the Coast Guard is operating that establish specifications for safe transportation, handling, carriage, and storage of pollutants (see Part 2.1.5 of the permit). If water draining from storage areas contacts oily materials, vessel owners/operators must:

- Use dry cleanup methods or absorbents to clean up the wastewater.
- Store the water for onshore disposal.
- Run the water through an oily water separator when so required by Coast Guard regulations, or if not subject to such requirement, use other effective methods to comply with Part 2.1.4 of the permit to prevent the discharge into waters subject to the permit of any oils, including oily materials, in quantities which may be harmful as defined in 40 CFR Part 110.

Toxic and Hazardous Materials

Where consistent with vessel design and construction, vessel owners/operators must locate toxic and hazardous materials in protected areas of the vessel unless the master determines this would interfere with essential vessel operations or safety of the vessel, or doing so would violate any applicable regulations promulgated by the Secretary of the Department in which the Coast Guard is operating that establish specifications for safe transportation, handling, carriage, and storage of pollutants (see Part 2.1.5 of the permit). Any discharge that is made for safety reasons must be documented as part of the requirements in Part 4.2 of the permit. This includes ensuring that toxic and hazardous materials are in appropriate sealed containers constructed of a suitable material, labeled, and secured. Containers must not be overfilled and incompatible wastes should not be mixed. Exposure of containers to ocean spray or precipitation must be minimized. Jettisoning of containers holding toxic or hazardous material is not authorized by the VGP.

Fuel Spills/Overflows

Fuel spills or overflows must not result in a discharge of oil in quantities that may be harmful, pursuant to 40 CFR Part 110. Vessel owners/operators must conduct all fueling operations using control measures and practices designed to minimize spills and overflows and ensure prompt containment and cleanup if they occur. Vessel operators must not overfill fuel tanks. For vessels with interconnected fuel tanks, fueling must be conducted in a manner that prevents overfilling and release from the system to the environment.

Vessels with air vents from fuel tanks must use spill containment or other methods to prevent or contain any fuel or oil spills. Large scale fuel spills or overflows are not incidental to the normal operation of the vessel and are not authorized by the VGP.

The following requirements apply to fueling of auxiliary vessels such as lifeboats, tenders or rescue boats deployed from “host” vessels subject to the VGP:

- While fueling, examine the surrounding water for the presence of a visible sheen. If a visible sheen is observed as a result of fueling, it must be cleaned up immediately.

- It is important to know the capacity of the fuel tanks before fueling begins to prevent unintentionally overfilling the tank.
- Prevent overfilling and do not top off fuel tanks.
- When possible, fill fuel tanks while boat is on shore or recovered from the water.
- When possible, fill portable tanks on shore or on the host vessel, not on the auxiliary vessel.
- Use an oil absorbent material or other appropriate device while fueling the auxiliary vessel to catch drips from the vent overflow and fuel intake.
- Regularly inspect the fuel and hydraulic systems for any damage or leaks.

Owner/operators shall ensure that all crew responsible for conducting fueling operations are trained in methods to minimize spills caused by human error and/or the improper use of equipment.

Discharges of Oil Including Oily Mixtures

All discharges of oil, including oily mixtures, from ships subject to Annex I of the International Convention for the Prevention of Pollution from Ships as implemented by the CWA to Prevent Pollution from Ships and U.S. Coast Guard regulations found in 33 CFR 151.09 (hereinafter referred to as “MARPOL vessels”) must have concentrations of oil less than 15 parts per million (ppm) (as measured by EPA Method 1664 or other appropriate method for determination of oil content as accepted by the International Maritime Organization (IMO) (e.g., ISO Method 9377) or U.S. Coast Guard) before discharge. All MARPOL vessels must have a current International Oil Pollution Prevention Certificate (IOPP) issued in accordance with 33 CFR 151.19 or 151.21. All other discharges of oil including oily mixtures must not contain oil in quantities that may be harmful, pursuant to 40 CFR Part 110.

Compliance with Other Statutes and Regulations

As required by 40 CFR 122.44(p), vessel owners/operators must comply with any applicable regulations promulgated by the Secretary of the Department in which the Coast Guard is operating, that establish specifications for safe transportation, handling, carriage, and storage of pollutants.

Any discharge from vessels must comply with: section 311 (40 CFR Part 110) of the CWA; regulations requiring prevention of pollution from ships (40 CFR Part 1043); the National Marine Sanctuaries Act and implementing regulations (15 CFR Part 922 and 50 CFR Part 404); the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA, 40 CFR Part 152); and, the Oil Pollution Control Act (OPA of 1990, 40 CFR Part 112).

General Training

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 the VGP. 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 the staff are given the necessary information to conduct shipboard activities in accordance with the terms of the VGP.

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

EFFLUENT LIMITS AND RELATED REQUIREMENTS FOR SPECIFIC DISCHARGE CATEGORIES

EPA's discharge-specific permit requirements applicable to all covered vessels that discharge them are provided in Part 2.2 of the permit by discharge. Below are examples of key permit requirements for several discharge types covered in the permit. The inspector should refer to the full list of permit requirements for all 27 discharge types in Part 2.2 of the permit.

Deck Washdown and Runoff and Above Water Line Hull Cleaning

Vessel owners/operators must minimize deck washdowns while in port. Vessel owner/operators must also minimize the introduction of on-deck debris, garbage, residue, and spill into deck washdown and runoff discharges. Deck washdowns should have minimal presence of floating solids, visible foam, halogenated phenol compounds, and dispersants, or surfactants.

Vessel owners/operators must maintain their topside surface and other above water line portions of the vessel to minimize the discharge of rust (and other corrosion byproducts), cleaning compounds, paint chips, non-skid material fragments, and other materials associated with exterior topside surface preservation.

Measures that may be implemented by the operator/owner to minimize deck washdown or above water line hull cleaning include:

- Using perimeter spill rails and scuppers to collect the runoff for treatment.
- Using coamings and drip pans for machinery on deck to collect and properly dispose of any oily discharge that may leak from machinery and prevent spills.
- Using minimally toxic and phosphate-free cleaners and detergents.
- Avoiding spray applications in windy conditions or avoiding over application.

Bilgewater/Oil Water Separator Effluent

All bilgewater discharges must be in compliance with the regulations in 40 CFR Parts 110 (Discharge of Oil), 116 (Designation of Hazardous Substances), and 117 (Determination of Reportable Quantities for Hazardous Substances) and 33 CFR 151.10 (Control of Oil Discharges). In addition:

- Vessel operators may not use dispersants, detergents, emulsifiers, chemicals, or other substances that remove the appearance of a visible sheen in their bilgewater discharges.

- Vessel operators may not add substances that drain to the bilgewater that are not produced in the normal operation of a vessel (except for additives used to enhance oil/water separation during processing). 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.

Vessels must minimize the discharge of bilgewater into waters subject to the VGP by minimizing production, disposing near adequate treatment facilities, or discharging into waters not subject to the VGP (i.e., more than 3 nautical miles (nm) from shore) for vessels that regularly travel into such waters.

Vessels greater than 400 gross tons shall not:

- Discharge untreated bilgewater into waters subject to the VGP.
- Discharge treated bilgewater into federally protected waters unless the discharge is necessary to maintain the safety and stability of the ship (any discharge of bilgewater must be documented as part of the recordkeeping requirements in Part 4.2 of the VGP).
- Discharge treated bilgewater within 1 nm of shore if technically feasible or discharge into waters subject to the VGP unless the vessel is underway (any discharge that is made for safety reasons must be documented as part of the requirements in Part 4.2 of the VGP and reported in the vessel's annual report).

“New Build” vessels built after December 19, 2013 greater than 400 gross tons that may discharge bilgewater into waters subject to the VGP must monitor (i.e., sample and analyze) their bilgewater effluent at least once a year for oil and grease content. To demonstrate compliance with the permit, the bilgewater sample must be analyzed for oil. Subsequent sampling is not required if oil and grease concentrations are less than 5 ppm and the vessel meets the following conditions:

- Vessel uses an oily water separator capable of meeting a 5-ppm oil and grease limit, or has an alarm that prevents discharge of oil and grease at concentrations above 5 ppm.
- Oil content meter is calibrated at least annually.
- Oil content meter never reads above 5 ppm during discharges into waters subject to the VGP.

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

Ballast Water

All owner/operators of vessels equipped with ballast water tanks must maintain a ballast water management plan developed specifically for the vessel and train the master, operator, person-in-charge, and crew members who actively take part in the management of the discharge, or who may affect the discharge, on the application of ballast water and sediment management and treatment procedures as outlined in Parts 2.2.3.1 and 2.2.3.2 of the permit.

Ballast water management practices must comply with the requirements described in Part 2.2.3.3 of the permit to avoid or minimize uptake and discharge of ballast water and associated sediments during vessel operations. Avoid the discharge of ballast water into waters subject to the VGP that are within or that may directly affect marine sanctuaries, marine preserves, marine parks, shellfish beds, or coral reefs or other waters listed as federally protected waters. Clean ballast tanks to remove sediment in mid-ocean or under controlled arrangements in port or at drydock. As a condition of the VGP, all discharges of ballast water must also comply with applicable U.S. Coast Guard regulations found in 33 CFR Part 151.

Additionally, “Lakers” are subject to mandatory best management practices (BMPs) described in Part 2.2.3.4 of the VGP to reduce ballast water uptake and to implement sediment removal policies, including ballast water exchange and saltwater flushing.

All discharges of ballast water may not contain oil, noxious liquid substances (NLSs), or hazardous substances in a manner prohibited by U.S. laws, including section 311 of the CWA. Vessel operators/owners can meet the numeric limits listed in Part 2.2.3.5 by using any of the following water management measures:¹⁸

- Use a ballast water treatment system
- Send ballast water to onshore treatment facilities
- Use public water supply
- Do not discharge ballast water

If a vessel is subject to ballast water discharge limits and uses a ballast water treatment system (BWTS), then Part 2.2.3.5 of the VGP applies to the vessel and describes the monitoring requirements, in three components. The first component, in Part 2.2.3.5.1.1.2 generally requires monitoring equipment performance to assure the system is fully functional. Vessels conducting this monitoring also must adequately calibrate their equipment as required in Part 2.2.3.5.1.1.3. The second component, in Part 2.2.3.5.1.1.4, requires monitoring from all ballast water systems for selected biological indicators. The third component, in Part 2.2.3.5.1.1.5, requires monitoring of the ballast water discharge itself for biocides and residuals to assure compliance with the effluent limitations established in Part 2.2.3.5 of the permit, as applicable. Records of sampling and testing results required under Part 2.2.3.5.1.1 must be retained onboard for a period of three years in the vessel’s recordkeeping documentation.

Vessels must meet the requirements in Part 2.2.3.5.1 of the permit according to the following schedule, at which point the BWTS will become the Best Available Technology Economically Achievable (BAT):

¹⁸ EPA issued an Enforcement Response Policy on December 27, 2013 for EPA’s 2013 VGP: Ballast Water Dischargers and U.S. Coast Guard Extensions under 33 CFR Part 151. On a case-by-case basis, the U.S. Coast Guard may grant a schedule extension request pursuant to 33 CFR Part 151.2036 to a vessel to implement the required technology to meet the ballast water discharge standard requirements under the U.S. Coast Guard Regulations (33 CFR Part 151). EPA will consider this grant for extension when evaluating the enforcement priority for a vessel that has not complied with the numeric ballast water discharge limits in Part 2.2.3.5 of the 2013 VGP.

- New vessels (constructed after December 1, 2013) must comply on delivery.
- Existing vessels less than 1,500 m³ (constructed prior to December 1, 2013) must be drydocked after January 1, 2016.
- Existing vessels 1,500–5,000 m³ (constructed prior to December 1, 2013) must be drydocked after January 1, 2014.
- Existing vessels greater than 5,000 m³ (constructed prior to December 1, 2013) must be drydocked after January 1, 2016.

Vessel owners not subject to the requirements of Part 2.2.3.5 of the permit must meet the exchange and flushing requirements of Part 2.2.3.6. Ballast water exchange may not be used in lieu of meeting effluent limits in Part 2.2.3.5 of the permit once it becomes required to meet these limits. Part 2.2.3.6 outlines interim requirements for the following vessels:

- Vessels on oceangoing voyages (where ballast water was taken on in areas less than 200 nm from any shore that will subsequently operate beyond the Exclusive Economic Zone (EEZ) and in areas more than 200 nm from any shore).
- Vessels engaged in Pacific Nearshore Voyages (where ballast water was taken on in areas less than 50 nm from any shore) and travels through more than one Captain of the Port (COTP) zone or crosses international boundaries.
- Vessels traveling between more than one COTP zone without ballast water on board (or un-pumpable residual ballast water).
- Vessels engaged in Pacific nearshore voyages with un-pumpable ballast water and residual sediment.

These vessels are also prohibited from discharging unexchanged or untreated ballast water or sediment in federally protected waters.

Controllable Pitch Propeller and Thruster Hydraulic Fluid and Other Oil-to-Sea Interfaces Including Lubrication Discharges from Paddle Wheel Propulsion, Stern Tubes, Thruster Bearings, Stabilizers, Rudder Bearings, Azimuth Thrusters, Propulsion Pod Lubrication, and Wire Rope and Mechanical Equipment Subject to Immersion

The vessel owner/operator must not discharge oil in quantities that may be harmful as defined in 40 CFR Part 110 from any oil-to-sea interface. If possible, maintenance activities on controllable pitch propellers, thrusters, and other oil-to-sea interfaces should be conducted when a vessel is in drydock.

All vessels must use an environmentally acceptable lubricant (EAL) in all oil to sea interfaces, unless technically infeasible. For purposes of requirements related to EALs, technically infeasible means that no EAL products are approved for use in a given application that meet manufacturer specifications for that equipment, products which come pre-lubricated (e.g., wire ropes) have no available alternatives manufactured with EALs, products meeting a manufacturer's specifications are not available within any port in which the vessel calls, or changeover and use of an EAL must wait until the vessel's next drydocking. If a vessel is unable to use an EAL, the vessel owner/operator must document in their recordkeeping

documentation consistent with Part 4.2 why the vessel operator/owner are unable to do so, and must report the use of a non-environmentally acceptable lubricant to EPA in the Annual Report. Use of an EAL does not authorize the discharge of any lubricant in a quantity that may be harmful as defined in 40 CFR Part 110.

Graywater

All vessels that have the capacity to store graywater shall not discharge that graywater in port or in federally protected waters. For vessels that cannot store graywater, vessel operators must minimize the production of graywater while in port and in federally protected waters.

Vessel owners/operators must use phosphate-free and minimally toxic soaps and detergents, as defined in Appendix A of the permit, for any purpose if graywater will be discharged into waters subject to the VGP. Soaps and detergents must be free from toxic or bioaccumulative compounds and not lead to extreme shifts in receiving water pH.

Graywater for new build vessels and vessels operating in the Great Lakes must meet one of the following requirements for graywater management:

- Vessel must hold all graywater for onshore discharge to an appropriate shore-side facility.
- 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.

The following monitoring requirements are applicable to vessels that discharge graywater into waters subject to the VGP 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.
- The vessel is subject to Part 2.2.15.1 (Certain VGP Vessels Operating in the Great Lakes) of the VGP.

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.

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 of the permit.

Underwater Ship Husbandry and Hull Fouling Discharges

Vessel owners/operators must minimize the transport of attached living organisms when traveling into U.S. waters from outside the U.S. economic zone or between COTP zones. Management measures to minimize the transport of attached living organisms include selecting

an appropriate antifoulant management system and maintaining that system, in water inspection, cleaning, and maintenance of hulls, and thorough hull and other niche area cleaning when a vessel is in drydock.

Rigorous hull-cleaning activities should take place in dry dock where removal of organisms and paint can be contained and disposed of properly. The operator/owner should take measures to treat washwater (if generated) prior to discharging to waters subject to the VGP.

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 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.
- 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.

Vessel owners/operators must minimize the release of copper-based antifoulant paints during vessel cleaning operations. Vessels that use copper-based anti-fouling paint must not clean the hull in copper-impaired waters (listed at <https://www.epa.gov/vessels-marinas-and-ports/vessel-sewage-discharges-homepage>) within the first 365 days after paint application unless there is a significant visible indication of hull fouling. If the operator/owner cleans the vessel before 365 days after paint application in copper-impaired waters, the operator/owner must document why this early cleaning was necessary.

VESSEL CLASS-SPECIFIC REQUIREMENTS

EPA's vessel class-specific permit requirements applicable to all covered vessels in those vessel classes are provided in Part 5 of the permit by vessel class. Examples of vessel class-specific requirements for large and medium cruise ships are presented below. The inspector should refer to Part 5 of the VGP to get a comprehensive list of permit requirements for all vessel classes.

Large and Medium Cruise Ships

While operating within 3 nm from shore, discharges of graywater are prohibited unless they meet the effluent standards in Parts 5.1.1.1.2 and 5.2.1.1.2¹⁹ of the VGP for large and medium cruise ships, respectively. Parts 5.1.1.1.2 and 5.2.1.1.2 graywater treatment standards are:

- The discharge must satisfy the minimum level of effluent quality specified in 40 CFR 133.102 (secondary treatment requirements).

¹⁹ The effluent standards listed in Parts 5.1.1.1.2 and 5.2.1.1.2 of the VGP are secondary limits set for graywater discharges.

- The geometric mean of the samples from the discharge during any 30-day period may not exceed 20 fecal coliform/100 milliliters (ml) and not more than 10 percent of the samples exceed 40 fecal coliform/100 ml.
- Concentrations of total residual chlorine may not exceed 10.0 micrograms per liter ($\mu\text{g/l}$).

Medium cruise ships are held to the same standards for graywater management as large cruise ships, unless they are a vessel unable to voyage more than 1 nm from shore and were constructed before December 19, 2008. For medium vessels built before December 19, 2008, onshore facilities for graywater discharges must be used if available. If such facilities are not available and the vessel does not have the capacity to treat graywater to meet the standards in Part 5.2.1.1.2 of the VGP, the vessel must hold the graywater unless it is underway and sailing at a speed of at least 6 knots in a water that is not federally protected waters.

When operating in nutrient impaired waters subject to the VGP, large and medium cruise ship vessels must not discharge any graywater unless the length of voyage in that water exceeds the vessel's holding capacity for graywater, and must minimize the discharge of any graywater into nutrient-impaired waters subject to the VGP, which may require minimizing the production of graywater.

Vessel operators must demonstrate through initial and maintenance monitoring (as described in Parts 5.1.2.2 and 5.2.2.2 of the VGP) that an effective treatment system is in place to comply with the discharge standards for treated graywater identified in Parts 5.1.1.1.2 and 5.2.1.1.2 of the VGP. For large cruise ships, monitoring is required if the ship will discharge graywater within 3 nm of shore. For medium cruise ships, monitoring is required if the ship will discharge within 1 nm of shore. The owner/operator must submit data to EPA showing that the graywater standards are achieved by their treatment system.

Cruise ship owners/operators must use soaps and detergents that are phosphate-free, minimally toxic, and biodegradable. Degreasers must be minimally toxic if they will be discharged as part of any wastestream.

Waste from mercury-containing products, dry cleaners or dry cleaner condensate, photo processing labs, medical sinks or floor drains, chemical storage areas, and print shops using traditional or non-soy-based inks and chlorinated solvents must be prevented from entering the ship's graywater, blackwater, or bilgewater systems if water from these systems will be discharged into waters subject to the VGP.

Vessel owners/operators must not discharge any toxic materials, including products containing acetone, benzene, or formaldehyde into salon and day spa sinks or floor drains if those sinks or floor drains lead to any system that will be discharged into waters subject to the VGP.

Vessel owners/operators must monitor chlorine or bromine concentrations (as applicable) in pool or spa water before every discharge event if they will discharge these streams in to waters subject to the permit.

Operators must provide educational and training programs to inform crew members on the appropriate management of ship discharges.

Permit Requirements for Individual States or Indian Country Lands

Part 6 of the VGP identifies provisions provided to EPA by states and tribes in their CWA section 401 certifications that the states and tribes deemed necessary to assure compliance with applicable provisions of the CWA and any other appropriate requirements of state and tribal law. Pursuant to CWA section 401(d), EPA has attached those state and tribal provisions to the VGP.

Permit Requirements for Waters Federally Protected Wholly or in Part for Conservation Purposes

Several of the discharge-specific and vessel class-specific permit requirements prohibit or limit various discharges in “waters federally protected in whole or in part for conservation purposes.” (Refer to Appendix G of the VGP for a complete list of federally protected waters.) These waters include:

- Marine Sanctuaries designated under the National Marine Sanctuaries Act and implementing regulations found at 15 CFR Part 922 and 50 CFR Part 404 or Marine national monuments designated under the Antiquities Act of 1906.
- A unit of the National Park System, including National Preserves and National Monuments.
- A unit of the National Wildlife Refuge System, including Wetland Management Districts, Waterfowl Production Areas, National Game Preserves, Wildlife Management Area, and National Fish and Wildlife Refuges.
- National Wilderness Areas and any component designated under the National Wild and Scenic Rivers System.
- Any waterbody designated as an Outstanding National Resource Water (ONRW) by a state or tribe.

Because it is possible to limit discharges to certain times, but not to limit those discharges indefinitely, EPA developed additional permit requirements for these waters likely to be of high quality and consist of unique ecosystems that may include distinctive species of aquatic animals and plants. Furthermore, as protected areas, these waters are more likely to have a greater abundance of sensitive species of plants and animals that may have trouble surviving in areas with greater anthropogenic impact.

ADDITIONAL WATER QUALITY-BASED EFFLUENT LIMITS

Water Quality-Based Effluent Limitations

The vessel’s discharge must be controlled as necessary to meet applicable water quality standards in the receiving water body or another water body impacted by the vessel’s discharges. EPA may impose additional water quality-based limitations on a site-specific basis, or require the operator/owner 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, the vessel's discharges are not controlled as necessary to meet applicable water quality standards, either in the receiving water body or another water body impacted by the vessel's discharges.

Discharges to Water Quality Impaired Waters

Impaired waters or "water quality limited segment[s]" are those which have been identified by a state or EPA pursuant to section 303(d) of the CWA as not meeting applicable state water quality standards. Impaired waters may include either waters with EPA-approved or EPA-established Total Maximum Daily Loads (TMDLs), and those for which EPA has not yet approved or established a TMDL. If the vessel discharges to an impaired water without an EPA-approved or established TMDL, the vessel operator/owner is required to comply with the requirements in Part 2.3.1, including any additional requirements that EPA may impose pursuant to that part.

If the vessel discharges to an impaired water with an EPA-approved or established TMDL and EPA or state TMDL authorities have informed the operator/owner that a Waste Load Allocation (WLA) has been established that applies specifically to the vessel's discharges, to discharges from vessels in the operator/owner's vessel class or type, or to discharges from vessels in general, the vessel's discharge must be consistent with the assumptions and requirements of that WLA.

C. PERMIT INSPECTIONS AND MONITORING

The VGP requires vessel operators to conduct self-inspections and monitoring, comprehensive annual vessel inspections, and drydock inspections.

SELF INSPECTIONS AND MONITORING

Routine Visual Inspections

Conduct routine visual inspections of all areas addressed in the VGP, including, but not limited to cargo holds, boiler areas, machinery storage areas, welldrums, and other deck areas. Ensure these areas are clear of garbage, exposed raw materials, oil, any visible pollutant or constituent of concern that could be discharged in any wastestream, and that pollution prevention mechanisms are in proper working order. At a minimum, the routine inspection must verify that requirements of Part 2.1 of the VGP (Technology-Based Effluent Limits and related requirements Applicable to All Vessels) are being met and document any instances of noncompliance. Routine inspections should be conducted on a schedule that coincides with other routine vessel inspections if feasible. Conduct a visual inspection of safely accessible deck and cargo areas and all accessible areas where chemicals, oils, dry cargo, or other materials are stored, mixed, and used—regardless of whether the areas have been used since the last inspection—at least once per week or per voyage, whichever is more frequent. If operators engage in multiple voyages per day, they need not conduct inspections on every voyage, but must conduct inspections at least once per day. Furthermore, the inspection should verify whether all monitoring, training, and inspections are logged according to permit requirements. A ship's watch must include visual monitoring of the water around and behind the vessel for visible sheens, dust, chemicals, abnormal discoloration or foaming, and other indicators of

pollutants or constituents of concern originating from the vessel. Particular attention should be paid to deck runoff, ballast water, and bilgewater. If vessel owners/operators identify or are made aware that pollutants or constituents of concern are originating from their vessel, they must initiate corrective actions in Part 3 of the VGP. Vessel owner/operators may conduct these inspections as part of meeting their existing (or updated) international safety management code (ISM) safety management system (SMS) plan obligations, if those inspections meet the minimum requirements discussed above.

In situations where multiple voyages occur within a one-week period, the operator/owner may choose to conduct a limited visual inspection addressing only those areas that may have been affected by activities related to the docking and cargo operations conducted during each voyage instead of conducting a full routine visual inspection per voyage (or per day, if there are multiple voyages in one day). If the operator/owner employs such an approach, they must conduct a full visual inspection of the vessel at least once per week.

The findings of each routine vessel inspection must be documented in the official ship logbook or as a component of other recordkeeping documentation referenced in Part 4.2 of the VGP (described below). The date and time of inspection, ship locations inspected, personnel conducting the inspection, location of any visual sampling and observations, and potential problems and sources of contamination must be documented and signed by the person conducting the inspection, if not the Master. The person conducting the inspection must be a signatory under 40 CFR 122.22. A signatory includes the person in charge (e.g., the Master), or his duly authorized representative. The records of routine visual inspections must be made available to EPA or its authorized representative upon request. Vessel operators must initiate corrective actions, as required under Part 3 of the VGP, for problems noted in their inspections.

Extended Unmanned Period (EUP) Inspections

A vessel is considered to be in an extended unmanned period (EUP) if the vessel is temporarily (e.g., for storage or repair) unmanned, fleeted, jacked-up, or otherwise has its navigation systems and main propulsion shut down (e.g., a vessel in drydock or extended lay-up) for 13 days or greater. Immediately before a vessel is placed in an EUP, the vessel operator must conduct a pre-lay-up inspection. During an EUP, a vessel owner/operator may elect to either continue conducting routine inspections of the vessel consistent with Part 4.1.1 of the VGP, or he or she may conduct an EUP Inspection. The EUP inspection is an alternative inspection for fleeted, jacked-up, or similarly situated vessels, which routinely go into temporary or extended periods of lay-up. Vessel owners/operators may conduct EUP inspections in lieu of routine visual inspections if they are up-to-date with all other inspection and reporting requirements found in Part 4 of the permit.

While a vessel is in EUP, the owner/operator or an 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 any other spills that might result in an unauthorized discharge. If any deficiencies are observed while the vessel is in EUP, the vessel owner/operator must document those deficiencies and the corrective actions taken to resolve those deficiencies. If a visible sheen is noted on the surface of the surrounding water, the source of the oil must be identified

and corrective action must be taken immediately. Furthermore, EPA must be notified of the visible sheen in accordance with Part 4.4 of the VGP.

Analytical Monitoring

Analytical monitoring requirements for specific discharge types are identified in Parts 2.2.2, 2.2.3, 2.2.15, and 2.2.26 of the VGP, and for specific vessel types in Part 5 of the VGP.

Comprehensive Annual Vessel Inspections

Comprehensive vessel inspections must be conducted by qualified personnel at least once every 12 months. Qualified personnel include the master or owner/operator of the vessel, if appropriately trained, or appropriately trained marine or environmental engineers or technicians or an appropriately trained representative of a vessel's class society acting on behalf of the owner/operator.

Comprehensive annual inspections must cover all areas of the vessel affected by the requirements in the VGP that can be inspected without forcing a vessel into drydock. Special attention should be paid to those areas most likely to result in a discharge likely to cause or contribute to exceedances of water quality standards or violate effluent limits established in the VGP. Areas that inspectors must examine include, but are not limited to:

- Vessel hull for attached living organisms, flaking antifoulant paint, exposed TBT or other organotin surfaces.
- Ballast water tanks, as applicable.
- Bilges, pumps, and oily water separator sensors, as applicable.
- Protective seals for lubrication and hydraulic oil leaks.
- Oil and chemical storage areas, cargo areas, and waste storage areas.
- All visible pollution control measures to ensure that they are functioning properly.

If any of these portions of the vessel are not inspectable without the vessel entering drydock, the vessel owner/operator must inspect these areas during their drydock inspection and their results must be documented in their drydock inspection reports. Furthermore, vessel owner/operators must document which portions of the vessel are not inspectable for the annual inspection in their recordkeeping documentation.

The annual inspections must also include a review of monitoring data collected in accordance with Part 5 of the VGP if applicable, and routine maintenance records to ensure that required maintenance is being performed (e.g., annual tune-ups for small boats that have wet exhaust). Inspectors must also consider the results of the past year's visual and analytical monitoring when planning and conducting inspections.

When comprehensive vessel inspection schedules overlap with routine vessel inspections required under Part 4.1.1 of the VGP, the annual comprehensive vessel inspection may also be used as one of the routine inspections, as long as components of both types of inspections are included.

If inspections revealed flaws that would result in a violation of the effluent limits in Parts 2 and 5 of the VGP, or that indicated that control measures are not functioning as anticipated or are in need of repair or upgrade, corrective action must be taken to resolve such flaws in accordance with Part 3 of the VGP. All results from the annual inspection must be recorded in the vessel's recordkeeping documentation or logbook.

Drydock Inspection Reports

Vessel owner/operators must make any drydock reports prepared by the class society or their flag administrations available to EPA or an authorized representative of EPA upon request. If drydock reports are not available from either of these entities, vessels must prepare their own drydock report and it must be made available to EPA or an authorized representative of EPA upon request. The drydock report must note that:

- The chain locker has been cleaned for both sediment and living organisms.
- The vessel hull, propeller, rudder, thruster gratings, sea chest, and other surface areas of the vessel have been inspected for attached living organisms and those organisms have been removed or neutralized.
- Any antifouling 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.
- All cathodic protection, anodes or dialectic coatings have been cleaned and/or replaced to reduce flaking.
- All pollution control equipment is properly functioning.

PERMIT RECORDKEEPING

All vessels covered by the VGP permit must keep written records on the vessel or accompanying tug that include the following information:

- Owner/vessel information:
 - Name.
 - International Maritime Organization (IMO) number (official number if IMO number not issued).
 - Vessel type.
 - Owner or operator company name.
 - Owner or operator certifying official's name.
 - Address of owner/operator.
 - Gross tonnage.
 - Call sign.
 - Port of registry (flag).

- Voyage Log. Include the dates and ports of arrival, vessel agent(s), last port and country of call, and next port and country of call (when known).
- Documentation and records of any and all violations of the effluent limit including:
 - A description of the violation.
 - Date of the violation.
 - Name, title and signature of the person who identified the violation.
 - Name, title and signature of the person who is recording the violation (if different from the person who identified the violation).
 - If a Corrective Action Assessment pursuant to Part 3.2 of the VGP is needed, attach a copy or indicate where the corrective action assessment is stored.
 - If a Corrective Action Assessment was previously conducted pursuant to Part 3.2 of the VGP (and revisions are not needed for this violation of the effluent limit), a reference to that previous corrective action assessment.
- Log of deficiencies and problems found during routine inspections, including a discussion of any corrective actions required by Part 3 of the VGP if applicable. Include date, inspector's name, findings, and corrective actions planned or taken. If no deficiencies or problems are found during a routine inspection, record that the inspection was completed with the inspector's name and date. Routine visual inspections must be recorded as completed according to Part 4.1.1 of the VGP.
- Log of findings from drydock inspections conducted under Part 4.1.4 including a discussion of any corrective actions planned or taken as required by Part 3 of the VGP. Include date, inspector's name, findings, and a description of the corrective actions taken.
- Analytical results of all monitoring conducted under Part 4.1.2 of the VGP, including sample documentation, results, and laboratory QA documentation.
- Log of findings from annual inspections conducted under Part 4.1.3 of the VGP, including a discussion of any corrective actions planned or taken required by Part 3 of the VGP. Include date, inspector's name, findings, and corrective actions taken.
- Record of any specific requirements in Part 2.3 of the VGP given to the vessel by EPA, or clearly posted by state agencies and how the vessel has met those requirements.
- Additional maintenance and discharge information to be recorded and kept in a log on the vessel:
 - Deck maintenance. Record dates, materials used, application process, etc. for any significant maintenance of the deck surface(s) (e.g., more than routine, daily cleaning activities, such as sweeping).
 - Bilgewater. Record dates, location, oil concentration (for MARPOL vessels) or visible sheen observation (non-MARPOL vessels), and estimated volume of bilgewater

discharges. Record the same information for bilgewater disposed at onshore locations.

- Paint application. Record dates, materials used, application process, etc. for any antifouling paint applied to the vessel.
- AFFF. Record dates, estimated volumes, and constituents of any discharges of AFFF.
- Chain locker inspections. Dates of inspections and any rinsing conducted within waters subject to the VGP.
- Controllable pitch propeller, stern tube, and other oil-to-sea interface maintenance. Record dates and locations of any maintenance of controllable pitch propellers that occurs while the vessel is in waters subject to the VGP.
- Any emergencies requiring discharges otherwise prohibited to federally protected waters.
- Gas Turbine Water Wash. Record date and estimated volume of any discharge of gas turbine wash water within waters subject to the VGP. If hauled or disposed onshore, record log hauler and volume.
- Estimated volume and location of graywater discharged while in waters subject to the VGP.
- All other documentation requirements stated in the VGP.
- Record of training completed as required by the VGP.

For purposes of the VGP, records may be kept electronically if the records are:

- In a format that can be read in a similar manner as a paper record.
- Legally dependable with no less evidentiary value than their paper equivalent.
- Accessible to the inspector during an inspection to the same extent as a paper copy stored on the vessel would be, if the records were stored in paper form.

ADDITIONAL RECORDKEEPING FOR VESSELS EQUIPPED WITH BALLAST TANKS

Except for vessels operating exclusively within one Captain of the Port Zone (COTP zone), vessels equipped with ballast tanks that are bound for a port or place in the United States must meet the recordkeeping requirements of 33 CFR Part 151.

The master, owner, operator, or person in charge of a vessel bound for a port or place in the United States must keep written records that include the following information:

- Total ballast water information. Include the total ballast water capacity, total volume of ballast water on board, total number of ballast water tanks, and total number of ballast water tanks in ballast. Use units of measurement such as metric tons (MT), cubic meters (m³), long tons (LT), and short tons (ST).
- Ballast water management. Include the total number of ballast tanks/holds that are to be discharged into the waters of the United States or to a reception facility. If an alternative ballast water management method is used, note the number of tanks that

were managed using an alternative method, as well as the type of method used. Indicate whether the vessel has a ballast water management plan and IMO guidelines on board, and whether the ballast water management plan is used.

- Information on ballast water tanks that are to be discharged into waters subject to the VGP or to a reception facility. Include the following:
 - The origin of ballast water. This includes date(s); location(s), including latitude and longitude and port (if relevant); volume(s); and temperature(s). If a tank has been exchanged, list the loading port of the ballast water that was discharged during the exchange.
 - The date(s), location(s) (including latitude and longitude), volume(s), method, thoroughness (percentage exchanged if exchange conducted), sea height at time of exchange if exchange conducted, of any ballast water exchanged or otherwise managed.
 - The expected date, location, volume, and salinity of any ballast water to be discharged into waters of the United States or a reception facility.
- Discharge of sediment. If sediment is to be discharged into a facility within the jurisdiction of the United States include the location of the facility where the disposal will take place.

The ballast water reporting forms must be kept on board the vessel and must be submitted to the National Ballast Information Clearinghouse before arriving to US ports if required by the US Coast Guard. In addition, all vessels which conduct saltwater flushing as required by Part 2.2.3.7 and Part 2.2.3.8 of the VGP, but do not report saltwater flushing to the NBIC, must instead keep a record of saltwater flushing to meet the requirements of the permit.

PERMIT REPORTING

Annual Reports

For each vessel, owners/operators are required to submit an Annual Report for each year that they have active permit coverage. For vessels that must file NOIs, this means for as long as they have an active NOI. For vessels that need not file an NOI, they maintain active coverage as long as they are operating in waters subject to the VGP, provided they have signed and maintain a copy of the PARI form. Annual Reports must be completed each calendar year and submitted by February 28 of the following year (e.g., the 2014 annual report is due by February 28, 2015).

All analytical monitoring results must be submitted to EPA as part of the Annual Report.

The vessel owner/operator shall complete the Annual Report form provided in Appendix H of the permit and submit it to EPA electronically. It can be completed online by accessing EPA's main NPDES vessel webpage (available at <https://www.epa.gov/npdes/vessels-vgp> or through EPA's eNOI system <https://ofmpub.epa.gov/apex/vgpenoi/f?p=102:101>).

The vessel owner/operator shall respond to all questions accurately and completely, and provide the necessary information and/or data to support each response. Unless one of the

exceptions in Part 1.14 of the VGP is met, the vessel owner/operator must submit each Annual Report electronically in accordance with the procedures described in Part 1.14 of the VGP.

If the operator/owner is required to submit a hard copy of the Annual Report, they must send the completed annual report to EPA HQ (Attn: Vessel Annual Report, Mail Code 4203M, 1200 Pennsylvania Ave. NW, Washington, DC 20460). Hard copy reports must be postmarked by February 21 of the following calendar year (i.e., the 2014 annual report must be postmarked by February 21, 2015).

The Annual Report replaces the annual noncompliance report and one-time report requirements found in the 2008 VGP. All instances of noncompliance must be reported as part of the Annual Report.

Combined Annual Reports for Unmanned, Unpowered Barges or Vessels less than 300 Gross Tons

Operators of unmanned, unpowered barges or other vessels less than 300 gross tons (e.g., small tug boats) may submit a single annual report (referred to as the Combined Annual Report) for multiple vessels and/or barges if all of the following conditions are met:

- The answers for each barge or vessel for which the report is to be submitted are the same.
- Each barge or vessel was not required to conduct any analytical monitoring.
- The Combined Annual Report is submitted electronically.
- There were no instances of noncompliance for any barge or vessel and no instances of identified deficiencies by EPA or its authorized representatives during any inspections during the previous 12 months.
- Each barge or vessel has an NOI permit number or, if not required to submit an NOI, a commonly used unique identifier (e.g., registration number) so EPA can identify the vessel. For vessels less than 300 gross tons that have not submitted an NOI, the unique identifier numbers must be entered on the combined annual report.

Vessel owners/operators of unmanned, unpowered barges or vessels less than 300 gross tons may submit a Combined Annual Report for some or most of their fleet, or submit individual Annual Reports if they prefer. Individual Annual Reports are required for any barges or other vessels that are not eligible for the Combined Annual Report, as specified above.

Reporting Quantities of Hazardous Substances or Oil

Although not a requirement of the VGP, if a discharge contains a hazardous substance or oil in an amount equal to or more than a reportable quantity established under 40 CFR Part 110, 40 CFR Part 117, or 40 CFR Part 302, during a 24-hour period, the National Response Center (NRC) must be notified (dial 800-424-8802 or 202-426-2675 in the Washington, DC area). Also, within 14 calendar days of knowledge of the release, the date and description of the release, the circumstances leading to the release, responses to be employed for such releases, and measures to prevent reoccurrence of such releases must be recorded in recordkeeping documentation consistent with Part 4.2 of the VGP.

Where a discharge of hazardous substances or oil exceeding reportable quantities occurs, such discharge is not authorized by the VGP and may also be a violation of section 311 of the CWA. Note that these spills must be reported as described above. Also applicable are section 311 of the CWA and certain provisions of sections 301 and 402 of the CWA.

Additional Reporting

Vessels are also subject to the standard permit reporting provisions referenced in Part 1.13 of the VGP (standard permit reporting provisions published at 40 CFR 122.41).

Where applicable, vessels must submit the following reports to the appropriate EPA Regional Office listed in Part 8 of the VGP as applicable:

- 24-hour reporting. Report any noncompliance that may endanger health or the environment. Any information must be provided orally within 24 hours from the time the vessel owners/operators becomes aware of the circumstances.
- 5-day follow-up reporting to the 24-hour reporting. A written submission must also be provided within five days of the time the vessel owner/operator becomes aware of the circumstances.

If the operator/owner reports to the NRC as referenced in Part 4.4.3 of the permit, they do not need to complete reporting under this part.

VESSEL INSPECTION OVERVIEW

Purpose of VGP Inspections

On February 11, 2011, EPA and the US Coast Guard (USCG) signed a Memorandum of Understanding (MOU) to establish cooperation and coordination in implementing and enforcing the national VGP. Under the MOU, USCG has agreed to incorporate components of EPA's VGP program into its existing inspection protocols and procedures to help the United States address vessel pollution in U.S. waters. The MOU creates a framework for improving EPA and USCG cooperation on data tracking, training, monitoring, enforcement and industry outreach. The agencies have also agreed to improve existing data requirements so that information on potential violations observed during inspections can be sent to EPA for evaluation and follow-up.

Although the USCG will conduct most inspections, there are some universes of vessels for which they do not have jurisdiction. EPA and/or states that are authorized to enforce the VGP will need to conduct inspections to take enforcement actions against such vessels.

EPA Authority for VGP Inspections

EPA has the authority to regulate and inspect vessels through statutory requirements established in the CWA:

- EPA's long-standing exclusion of discharges incidental to the normal operation of vessels from the NPDES program at 40 CFR 122.3(a) was vacated as of September 30, 2008,

making these discharges subject to CWA section 301 regulation's prohibition against discharges unless covered under an NPDES permit.

- The regulations at 40 CFR 122.28 establish procedures for issuing a general permit to cover categories of point sources having common elements, such as facilities that involve the same or substantially similar types of operations, that discharge the same types of wastes, or that are more appropriately regulated by general permit. 40 CFR 123.25 provides State Programs the legal authority to implement and administer general permits issued under 40 CFR 122.28.
- CWA section 402 states that permittees issued permits for point source discharges of pollutants must meet specific discharge limits and operating conditions.
- CWA section 308 authorizes inspections and monitoring to determine whether NPDES permit conditions are being met.
- Under the CWA, EPA may conduct an inspection wherever there is an existing NPDES permit, where a discharge exists or might exist, and where no permit has been issued. The CWA established enforcement authorities. EPA retains independent authority to take enforcement actions in both authorized and unauthorized states.
- CWA section 309(a) allows EPA to administer administrative compliance orders for persons violating the CWA and to set a reasonable schedule for compliance (violation notice).
- CWA section 309(b), section 309(d), and section 404 provide for injunctive relief and civil penalties of up to \$25,000 per day for each violation of the act.
- CWA section 309(c)(4) provides that falsifying, tampering with, or knowingly rendering inaccurate any monitoring device or method required to be maintained is punishable by a fine of not more than \$10,000, or by imprisonment for not more than 2 years, or both.
- CWA section 309(c) provides for criminal penalties of a fine of \$2,500 to \$25,000 per day, or up to 1 year of imprisonment, or both, for negligent violations of the act (for subsequent convictions, fines of up to \$50,000 per day or 2 years of imprisonment, or both, may be called for).
- CWA section 309(g) allows EPA to assess administrative penalties of two classes.
- Administrative actions may preclude other civil action penalties or citizen suits.
 - Class I, with an informal hearing process, can carry penalties of up to \$25,000.
 - Class II involves formal administrative procedure hearings with penalties of up to \$125,000.

VGP INSPECTION PROCEDURES

Pre-Inspection Activities

The primary role of the inspector is to gather information that can be used to evaluate compliance with permit conditions, applicable regulations, and other requirements. Inspectors should be familiar with the conditions of the specific permit and with all applicable statutes and

regulations. Prior to conducting a VGP inspection, the inspector should complete the following pre-inspection preparation activities listed below. Careful and thorough preparation is critical for conducting a professional and efficient inspection.

- Become familiar with the vessel and the types of discharges associated with the vessel type. Review the “Vessel Discharge Description” subsection below for summary information.
- Review the conditions of the permit.
- Collect as much paperwork as possible regarding the vessel before conducting the inspection (e.g., ballast management plan, discharge paperwork, prior inspection reports). EPA has posted on its website all vessel NOIs submitted by vessel owners. You can use this public EPA webpage to search, sort, and view these NOIs: <https://ofmpub.epa.gov/apex/vgpenoi/f?p=vgp:Search>. Search results reflect real time data. (Note, however, that only vessels greater than or equal to 300 gross tons, or vessels with the capacity to hold or discharge more than 8 cubic meters (2,113 gallons) of ballast water, are required to submit a NOI.) Annual Reports, including any applicable monitoring results submitted as part of a vessel’s reporting requirements, will be publicly available on EPA’s webpage at <https://ofmpub.epa.gov/apex/vgpenoi/f?p=vgp:Search>. The first reports for the 2013 VGP were due to EPA by February 28, 2015. In addition, the One-time reports, submitted as part of the 2008 VGP, are searchable via EPA’s VGP webpage at https://ofmpub.epa.gov/apex/aps/f?p=VOTR_2008:HOME:.....
- To facilitate the VGP inspection process, prepare your inspection procedure in written form and make a form or a checklist for use in documenting the inspection. See the Coast Guard CG-543 Policy Letter 11-01 or numerous trade association checklists for examples of these tools.
- If possible, conduct one or more joint inspections with the USCG to obtain on-the-job training, especially for inspecting deep draft vessels. Inspectors should be familiar with CG-840 inspection books used by the USCG for vessel inspections.

On-site Activities

To conduct the inspection, the inspector should use a notebook for field notes, personal protection equipment (PPE), and a camera to take photographs. Before boarding the vessel, conduct the following visual inspection activities:

- Observe the water line and waters surrounding the vessel for:
 - Traces of oil or an oily sheen, especially the areas of the vessel stern (where the screw and stern tube would be located), locations of thrusters, and other areas of expected oil to sea interfaces.
 - Look for fish kills and any other signs of pollution.
 - Excessive hull fouling.

- Check for evidence of use of prohibited antifoulant coatings containing TBT, and check the condition of any TBT overcoating.

After completing the preliminary visual inspection, board the vessel via the gangway and meet the vessel's Watch Officer. Introduce yourself and ask to meet with the Chief Engineer.²⁰ Inspectors should use a respectful tone when speaking with vessel personnel, as they are, at a minimum, representing the EPA when boarding a U.S. flagged vessel, and, at a maximum, representing the United States when boarding a foreign-flagged vessel.

Vessel security is an important consideration; therefore, inspectors lacking military or other authorized identification should anticipate resistance, and possibly lengthy delays, prior to boarding. Inspectors lacking a Transportation Work Identification Credential (TWIC) may require an escort at all times. Additional authorization may be required to take photos. Foreign-flagged vessels may request that a representative from their class society or other agent be present for the inspection.

After boarding the vessel, you will likely be escorted to a conference room or Captain's quarters. The typical inspection sequence includes:

- Entry interview
- Record and document review
- Visual inspection
- Exit interview
- Inspection report

Entry Interview

The inspector should request the presence of the Chief Engineer as well as the Master to conduct the entry interview. During the entry interview the inspector should:

- Present credentials authorizing the inspection.
- Seek consent for an on-site inspection.
- Inform the vessel owner or operator of the scope and purpose of the inspection.
- Reference the VGP and VGP Fact Sheet concerning the regulation of vessel discharges, and have access to these resources during the inspection, if possible.
- Confirm basic information about the vessel collected during pre-inspection activities:
 - If applicable, verify permit number, vessel owner/operator name, operator IMO number, and vessel information such as vessel name, IMO number, call sign, flag state, vessel type, vessel dimensions, ballast water capacity, etc.
 - Identify the authorized representative of the vessel.

²⁰ Vessels such as large cruise ships may also have an Environmental Officer, while barges may be manned by only a Tanker Man; therefore, avoid boarding during cargo transfer.

- Identify applicable vessel discharges and ask questions regarding discharge-specific permit requirements. For example, ask the Master and Chief Engineer about the following discharges:
 - AFFF.
 - Bilgewater (e.g., How is bilgewater managed? Are bilgewater discharges documented in the oil record logbook?).
 - Ballast water (e.g., How is ballast water managed, where is it discharged?).
 - Graywater (e.g., How is graywater managed while the vessel is pier-side? Is it discharged pier-side? How is graywater minimized while operating in waters subject to the permit?).
- Request copies of specific records that might be required by the permit.
- Ask questions concerning the history of the vessel, including any discharge violations that have occurred.
- Determine vessel conditions as they exist at the time of the inspection.
- If desired, inform the operator what information, if any, will be available after the inspection.

Record and Document Review

The inspector should also ask to see the records required to be kept by the vessel's permit, management plans, and records documenting vessel compliance with the terms and conditions of its permit. Records must be kept onboard or electronically (see EPA's FAQ at <https://www.epa.gov/npdes/vessels-frequent-questions>). Records from the last 3 years are required to be onboard the vessel. The inspector may ask for certification of the accuracy of the data contained in these records. Typical records that the inspector may ask the facility to produce include:

- VGP compliance binder (if available)
- NOI (if applicable)
- One-time report (if applicable)
- Comprehensive annual vessel inspection report (if applicable)
- Drydock inspection report (if applicable)
- Analytical monitoring results (if applicable)
- Voyage log
- Oil record logbook
- Ballast water management plan
- Maintenance and discharge information paperwork
- Emergency discharge logs and associated corrective action forms
- Routine and quarterly inspection logs (or self-inspection forms)
- Annual inspection report

As needed, the inspector should request photocopies of documents that will assist in preparing the inspection report.

Visual Inspection

After reviewing the records and documents, the inspector should ask for an escort to accompany him or her on a tour of the vessel. The purpose of the vessel tour is to assess existing conditions and confirm that the vessel conforms to the description of the permit. During this phase of the inspection, the inspector will want to observe the following portions of the vessel:

- **Deck**. While on deck, ask questions such as what is done with chain locker sediment, and when chain locker cleaning is performed. Visually inspect the deck for cleanliness and for the presence of cargos or materials that might wash overboard, dissolve with precipitation or surface water spray, or blow overboard. Observe the condition of the topside surface and above water line hull (presence of rust, paint chips, etc.). Visually inspect the presence and cleanliness of deck machinery coamings or drip pans to collect any oily water and to prevent spills. Ask questions regarding good housekeeping practices for the deck and above water line hull.
- **Engine room**. Inspect the cleanliness of the bilge and observe the presence of visibly oily bilgewater. Ask questions regarding the bilge good housekeeping practices and about the management and discharge of bilgewater. Observe any evidence of use of dispersants, detergents, or other materials to remove the appearance of visible sheen in bilgewater.
- **Galley and scullery**. While in the galley, ask the chief cook questions such as what is done with used/excess cooking oil, and operation of the garbage grinder or food pulping system. Ask about use of soaps and detergents and consider requesting their Material Safety Data Sheets (MSDS).
- **Toxic and hazardous material storage areas**. Inspect areas such as paint storage area(s), laundry room(s), cleaning supply storage area(s), photography room(s), etc. to ensure materials are appropriately stored, labeled and secured. Consider requesting MSDSs for any soaps and detergents.

To document observations or areas of potential concern during the inspection, the inspector should take photographs. If the vessel is discharging during the inspection, the inspector might also consider collecting samples of the discharge.²¹ During the visual inspection, the inspector might determine that additional records or documents are needed for review. The inspector should ask the Master or Chief Engineer for these additional records as soon as they are identified to facilitate retrieval of the needed information.

²¹ Samples should only be collected if appropriate sampling equipment (e.g., sample bottles, gloves, labels, custody records, etc.) brought aboard by the inspector are appropriate for the specific discharge.

Note that there are areas of vessels that environmental inspectors should not enter for reasons of safety (e.g., cargo pump control room). See Section D, “

Safety,” below.

Exit Interview

Following the visual inspection, the inspector conducts a debriefing or exit interview with the Master or Chief Engineer. This phase of the inspection allows both parties to clarify issues that arose during the inspection. If any records or documents were obtained during the inspection, the inspector prepares a Receipt for Documents and Samples. The inspector also gives the vessel operator/owner the opportunity to claim that some or all the information provided during the inspection is confidential business information (CBI).

The inspector may relay basic observations or areas of concern of the inspection. The inspector does not make the determinations of compliance or noncompliance of the vessel during the inspection; that determination is made when the inspection report is prepared using information obtained during the inspection.

Inspection Report

The inspection report includes the inspection checklist (if used), documentation copied during the inspection, an explanation of findings, and supporting photographs. In some cases, the inspector might need to contact the vessel if additional information is needed or issues require clarification.

Compliance personnel for the regulatory authority review the inspection report and evaluate whether the vessel is in noncompliance. They will determine what type of follow-up action, if any, is appropriate. Copies of the report are sent to the inspected vessel. EPA responds to noncompliance in several different ways, depending on the nature and circumstances of the violation:

- No follow-up needed
- Letter notifying the facility of violations or compliance assistance
- Administrative compliance order
- Administrative compliance order plus administrative penalty
- Civil judicial enforcement action (penalties and/or injunctive relief)
- Criminal enforcement

Vessel Discharge Description

The inspector should understand the types of discharges expected on different vessel types before conducting an inspection. See Table 16-1 for descriptions of the various discharges and the vessel types likely to discharge them. Refer to Section 3.5.1 of the VGP Fact Sheet for more detailed descriptions of the vessel discharges.

Table 16-1. Vessel Discharge Descriptions

Vessel Discharge	Description
Anti-Fouling Hull Coatings	Anti-fouling coatings are applied to the vessel hull and sea water piping systems to limit attachment of aquatic species. Virtually all vessels that are permanently kept in saltwater use antifouling coatings. Biocides such as copper contained in anti-fouling coatings continuously leach into surrounding waters.
Aqueous Film Forming Foam (AFFF)	Firefighting agent added to fire suppression systems on some vessels to create foam. Used infrequently (annually or semi-annually) to test equipment for maintenance, certification, or training. Constituents include fluorosurfactants and/or fluoroproteins.
Ballast Water	Ballast water is water taken onboard in large volumes on large numbers of commercial vessels to assist with vessel draft, buoyancy, and stability. Ballast capacities vary by vessel type, for example more than 20 million gallons for container ships. Ballast water is a known transport vector for aquatic nuisance species and can also contain metals and suspended solids.
Bilgewater	Bilgewater is generated by all vessels and consists of water and other residue that accumulates in a compartment of the vessel's hull. The source of bilgewater is typically drainage from interior machinery, engine rooms, and from deck drainage. Bilgewater typically contains seawater, oil, grease, nutrients, volatile and semi-volatile organic compounds, inorganic salts, and metals.
Boat Engine Wet Exhaust	Engine wet exhaust effluent is generated when engine cooling water (both propulsion engines and generators) is injected into the engine exhaust. The engine cooling water decreases the exhaust temperature, reduces engine noise and reduces exhaust emissions. Engine wet exhaust discharge rates can range from 5 to 10 gallons per minute to more than 100 gallons per minute on larger diesel engines operating at high inputs. Large commercial vessels occasionally operate small auxiliary craft that discharge engine wet exhaust (e.g., life boats on cruise ships); however, discharge volumes for these vessels are negligible as they are typically seldom used. Pollutants in the engine wet exhaust can include oil and grease, metals, volatile organic compounds and semivolatile organic compounds.
Boiler/Economizer Blowdown	Boiler blowdown occurs on vessels with steam propulsion or a steam generator and is used to control the concentration of scaling constituents in boiler systems. Boiler blowdown are infrequent, of short duration (seconds), in small volumes, and at high pressure. The blowdown can contain water and steam or sludge-bearing water at elevated temperatures (above 325°F). The discharge can contain metals or boiler water treatment chemicals.
Cathodic Protection	Nearly all vessels having steel hulls or metal hull appendages use cathodic protection systems to prevent corrosion. Based on underwater hull inspections and maintenance records, one-half of an anode is consumed after three years. The primary pollutant released from cathodic protection is zinc. Average pier-side and underway zinc generation rates are 1.3×10^{-6} and 5.1×10^{-6} (lb. zinc/square foot of underwater surface area)/hr., respectively.

Table 16-1. Vessel Discharge Descriptions

Vessel Discharge	Description
Chain Locker Effluent	Chain locker effluent is water that drips from the anchor chain and anchor during anchor retrieval. Discharge volumes are small and chain locker effluent is expected to contain sediment, some marine organisms, zinc, rust, paint, grease, and any constituents from the fire main water. The small volume of chain locker effluent results in small mass loadings and provides little opportunity for the transfer of non-indigenous species.
Deck Washdown and Runoff and Above the Water Line Hull Cleaning ^a	Deck washdown and runoff occurs from all vessels as a result of deck cleaning and precipitation. Constituents in the discharge can include detergent, soap, deck surface components (e.g., rust, paint chips) and anything dropped, spilled, dripped, or scattered onto the deck surface.
Distillation and Reverse Osmosis Brine	Discharges of brine can occur on vessels that do not bunker potable water but instead use onboard plants to distill seawater or desalinate seawater using reverse osmosis (RO) to generate fresh water. Distillation units generate brine at a rate of 17 gallons of brine for every gallon of fresh water produced. RO units generate approximately 4 gallons of brine for every gallon of fresh water produced. The three sources of the constituents of water purification plant discharge are: 1) influent seawater; 2) anti-scaling treatment chemicals; and 3) the purification plant components, including heat exchangers, casings, pumps, piping and fittings. The primary constituents of the brine discharge are identical to those in seawater; however, they are more concentrated due to volume reduction.
Elevator Pit Effluent	Large vessels with multiple decks are equipped with elevators to facilitate the transportation of maintenance equipment, people, and cargo between decks. A pit at the bottom of the elevator shaft collects small amounts of liquids and debris from elevator operations and deck washdown and runoff depending on the elevator configuration. Water entering the elevator pit can contain materials that were on the deck, including fuel, hydraulic fluid, lubricating oil, residual water, and AFFF. The runoff may also include lubricant applied to the elevator doors, door tracks, and other moving elevator parts. Residue in the elevator car from the transport of materials may also be washed into the elevator pit. The cleaning solvent used during maintenance cleaning operations as well as liquid wastes generated by the cleaning process drain into the elevator pit sump.
Exhaust Gas Scrubber Washwater Discharge	Exhaust gas scrubber washwater discharge occurs as a result of cleaning the exhaust gas system on marine diesel engines. The washwater discharge can be highly acidic, and can also contain traces of oil, polycyclic aromatic hydrocarbons (PAHs), heavy metals and nitrogen. Washwater volumes of 2.8 million gallons per day are estimated from a 10 MWh engine.
Fire main Systems	Fire main systems are found on many vessels and draw in water through the sea chest to supply water for fire hose stations and sprinkler systems. Systems are activated during testing or during an actual fire. Small amounts of metals may be added to the fire water from the vessel piping system.

Table 16-1. Vessel Discharge Descriptions

Vessel Discharge	Description
Freshwater Layup	Freshwater layup is generated when a vessel is pier side or in port for more than a few days, the main steam plant is shut down, and the condensers do not circulate. A freshwater layup includes replacing the seawater in the system with potable or surrounding freshwater (e.g., lake water). Freshwater layup discharges can be as large as 6,000 gallons per evolution and can contain residual saltwater, freshwater, tap water, and possibly metals leached from the pipes or machinery.
Gas Turbine Wash Water	Gas turbines are used for propulsion and electricity generation on some vessels. Occasionally, they must be cleaned to remove byproducts that can accumulate and affect their operation. Large naval vessels can generate up to 244 gallons of washwater per day. Wash water can include salts, lubricants, and combustion residuals.
Graywater and Graywater Mixed with Sewage	Nearly all commercial vessels generate some form of graywater. Graywater is water from showers, baths, sinks, galleys, and laundry facilities. Graywater volumes vary depending on the number of passengers on board and can range from a few gallons per day on tug boats to tens of thousands of gallons per day on large cruise ships. Graywater can contain high levels of pathogens, nutrients, soaps and detergents, and organics.
Graywater Mixed with Sewage	
Motor Gasoline and Compensating Discharge	Motor gasoline is transported on vessels to operate vehicles and other machinery. As the fuel is used, ambient water is added to the fuel tanks to replace the weight. This ambient water is discharged when the vessel refills the tanks with gasoline or when performing maintenance. Most vessels are designed not to have motor gasoline and compensating discharge. The volume of the compensating discharge is expected to range from less than 50 gallons to up a few hundred gallons. The discharge can contain small amounts of fuel and other fuel-related pollutants.
Non-oily Machinery Wastewater	Some larger vessels are expected to have some non-oily machinery discharges, such as distilling plants start-up discharge, chilled water condensate drains, fresh- and saltwater pump drains, and potable water tank overflows. These flows are generally low in volume and are not expected to contain significant amounts of pollutants.
Refrigeration and Air Condensate Discharge	Condensation from cold refrigeration or evaporator coils of air conditioning systems drips from the coils and collects in drip troughs which typically empty to a drainage system. Large numbers of vessels are equipped with refrigeration systems to keep food and other perishable items from spoiling. Air conditioning systems are also found on many vessels for passenger and crew comfort. Condensates may contain very small amounts of pollutants such as metals derived from vessel piping systems.
Seawater Cooling Overboard Discharge ^b	Seawater cooling systems use ambient water to absorb the heat from heat exchangers, propulsion systems, and mechanical auxiliary systems. The water is typically circulated through an enclosed system that does not come in direct contact with machinery, but still may contain sediment from water intake, traces of hydraulic or lubricating oils, and trace metals leached or eroded from the pipes within the system. Additionally, because it is used for cooling, the effluent will have an increased temperature.

Table 16-1. Vessel Discharge Descriptions

Vessel Discharge	Description
Seawater Piping Biofouling Prevention ^c	Some vessels that use seawater cooling systems introduce anti-fouling compounds (e.g., sodium hypochlorite) in their interior piping and component surfaces to inhibit the growth of fouling organisms. These anti-fouling compounds are then typically discharged overboard. Most vessels that have seawater piping systems are expected to use piping materials such as copper to prevent biofouling rather than injecting high concentrations of anti-fouling compounds into their piping systems.
Sonar Dome Discharge	Water is used to maintain the shape and pressure of domes that house sonar detection, navigation, and ranging equipment on large vessels. Discharges occasionally occur when the water must be drained for maintenance or repair or from the exterior of the sonar dome. Sonar dome discharge volumes on Naval vessels can range from 300 gallons per event up to 74,000 gallons per event. Pollutant levels are expected to be low due to the ban on the use of tributyltin.
Stern Tube Packing Gland Effluent and Other Oil to Sea Interfaces	Nearly all commercial vessels with in-board engines have stern tube packing gland surrounding the propeller shaft. The stern tube packing gland is designed to leak a few drops per minute of ambient water (4 to 8 gallons per day) to cool the gland when the vessel is underway. Pollutants in the stern tube packing gland effluent include metals, oil and grease, suspended solids, organics, and phthalates. Oil to sea interfaces include any mechanical or other equipment where seals or surfaces may release small quantities of oil and grease into the sea. Examples include controllable pitch propellers, rudder bearings and wire ropes and cables that have lubricated (greased) surfaces that are submerged in seawater during use.
Underwater Ship Husbandry Discharges	Underwater ship husbandry is grooming, maintenance, and repair activities of hulls or hull appendages performed while the vessel is in the water. Underwater ship husbandry discharges can contain aquatic organisms and residue such as rust and biocide from anti-fouling coating. Underwater ship husbandry is typically performed only when excessive biological growth is causing vessel drag and excessive fuel consumption outside of regular dry dock inspections.
Welldeck Discharges	The welldeck is a floodable platform used for launching or loading small satellite vessels, vehicles, and cargo from select vessels. Welldeck discharges may include water from precipitation, welldeck and storage area washdowns, equipment and engine washdowns, and leaks and spills from stored machinery. Potential constituents of welldeck discharges include fresh water, distilled water, fire main water, graywater, air-conditioning condensate, sea-salt residues, paint chips, wood splinters, dirt, sand, organic debris and marine organisms, oil, grease, fuel, detergents, combustion byproducts, and lumber treatment chemicals.

^a Wet-type fire main systems are commonly used to provide a water source for deck washing.

^b Discharge is for non-contact cooling only and does not include engine wet exhaust.

^c Discharge does not include anti-fouling coatings used to inhibit biogrowth; such discharges are considered anti-fouling leachate.

D. SAFETY HAZARDS

EXPECTED HAZARDS

The following sections list hazards inspectors can expect to encounter during vessel inspections. The hazards fall into the following categories: physical, thermal, chemical and biological.

PHYSICAL HAZARDS

Inspectors should be aware of and alert for all physical hazards. The use of narrow walkways or steep stairs may be necessary to access certain areas. Inspectors should keep one hand free to hold the railing when using narrow stairways.

Inspectors should also be aware of working surface hazards, which may include slippery piers and decks, low doorways, and trip hazards associated with steep narrow stairwells used to enter and exit certain vessel areas. Inspectors should avoid boarding barges or tankers during loading operations, as these operations may be dangerous. Inspectors must be familiar with the location of floatable life rings and other flotation devices.

Noise will be a hazard on certain areas of the ship (e.g., the engine room). Hearing protection should be used by inspectors where required by the ship, when crew members are having trouble hearing or being heard when standing 3 feet or less away from another person.

Extreme caution is required to access certain vessels, particularly barges and tugboats. These vessels may have narrow and dangerous gangways, or may require crossing multiple vessels tied abreast at the pier by climbing over tires used as dock and vessel fenders.

THERMAL HAZARDS

The potential to encounter thermal hazards during inspections are significant as wastewater from dishwashers and laundry is typically between 160°F to 180°F. Also, graywater pipes may become heated when they run next to steam pipes. Inspectors must be aware of potential thermal hazards from indirect contact caused by exposure due to proximity to a ship's equipment (e.g., steam pipes, steam traps). Inspectors should note thermal hazard warning signs from the ship's crew.

Inspectors may be exposed to hot environments for extended periods of time. Appropriate clothing (i.e., clothing allowing free movement of cool dry air over skin) should be worn so as to minimize the heat stress. Inspectors should be aware of abatement procedures for dealing with a heat related illness.

CHEMICAL HAZARDS

MSDSs for each hazardous chemical used or stored onboard should be available for review during an inspection.

Certain areas of the ship may have noxious fumes, such as paint storage and chemical storage areas, or unsafe environments, such as the rope storage and chain lockers. Allow these areas to

air out before entering during an inspection. A gas meter may be required to assure a safe environment for entry.

The inspector should not go into the cargo pump control room during an inspection for safety reasons.

BIOLOGICAL HAZARDS

Graywater mixed with sewage may potentially contain blood or other potentially infectious material defined under OSHA's blood born pathogen regulations (29 CFR 1910.1030). Typically, blood will not be present in domestic sewage unless it comes directly from the infirmary area of the ship. OSHA recognizes that contact with raw sewage poses many health risks, but does not consider contact with diluted raw sewage as an exposure route for blood-borne pathogens. Nonetheless, inspectors who contact the domestic sewage portion of the wastewater treatment system are to be aware of the potential danger and will be outfitted with proper personal protective equipment (PPE) (i.e., nitrile gloves, Tyvek suites, splash goggles) to minimize the chance for exposure. Inspectors are also recommended to have current Tetanus and Hepatitis A and B immunizations to protect themselves against potential biological hazards.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

While conducting vessel inspections, inspectors should wear appropriate protective attire including:

- Non-skid shoes.
- Long sleeve coveralls, or long sleeve cotton shirt and long pants.
- Hearing protection in hearing conservation zones (e.g., the vessel's engine room).
- If visiting the vessel at drydock, additional PPE such as steel-toed shoes and hard hat may be required.

E. VIOLATIONS AND EXAMPLES

COMMON VGP VIOLATIONS AND EXAMPLES OF GOOD AND BAD PRACTICES

Common VGP Violations

The most common violations inspectors can expect to encounter are paperwork-related, including:

- Failure to submit an NOI (approximately half of all violations) or an annual report.
- Failure to perform routine, quarterly, and annual inspections and/or failure to document these inspections (approximately 40 percent of violations).
- Failure to document oily water and ballast discharges (or ballast discharge report submitted to EPA does not match ballast discharge records onboard the vessel).
- Failure to complete and/or maintain a copy of the PARI form onboard (for vessels subject to VGP that are less than 300 gross tons and do not have the capacity to discharge more than 8 cubic meters)

The VGP has many requirements for documentation that must be maintained in the ship's logbook or other recordkeeping tool. However, there is no standardized recordkeeping format. Some owners/operators prepare corporate VGP compliance manuals with inspection forms that are used on all their vessels. Other owner/operators may use existing USCG forms or forms required by their classification society for VGP recordkeeping. Inspectors need to be familiar with permit requirements so they can assess whether the recordkeeping format and content used by individual vessels meet requirements.

Certain types of vessels may be more likely to have permit violations than others. For example, older vessels are more likely to have poor maintenance and poor housekeeping practices compared to newer vessels. Bulk carriers tend to be older. Their engine rooms may have poor housekeeping and are more likely to have oily water compliance issues. Their decks could be disordered as a result of transporting unpackaged bulk cargos.

Most Important Discharges for Most Vessel Types

Certain discharges authorized by the permit are of greater concern than others for several reasons. First, certain discharges generated in small quantities by relatively few vessels (e.g., exhaust gas scrubber washwater effluent, gas turbine water wash, and freshwater layup) are of lesser concern. Second, some discharges contain few pollutants of concern at low concentrations and have correspondingly few permit requirements, even if they are possibly generated in large quantities, (e.g., distillation and reverse osmosis brine, non-oily machinery, refrigeration and air condensate, seawater cooling overboard discharge, and sonar dome discharge). As a result, inspectors are likely to focus most of their time on the following subset of discharges:

- Deck washdown
- Bilgewater
- Ballast water
- Graywater

GOOD AND BAD PRACTICES

Note that many permit requirements include terms such as “minimize” pollutant discharges. The term “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. Unfortunately for inspectors, measures and practices that “minimize” pollutant discharges vary widely by vessel type and individual vessels and are highly dependent on a vessel's purpose, service, and operations. Therefore, what may represent good measures and practices onboard one vessel may not represent good measures and practices onboard another. As mentioned previously, vessels may have VGP compliance guides that specify the measures and practices to be used to comply with the permit. However, it is not a requirement of the permit.

Below are examples of general good and bad practices for the most important discharges on most vessels. Use of the good practices does not ensure compliance with the permit. Similarly, used of bad practice does not necessarily constitute a permit violation.

Deck Washdown

Good practices include use of drip pans under deck machinery such as winches and generators where feasible. Such drip pans should be emptied and cleaned to reduce the risk for pan contents to wash overboard via precipitation, seaspray, or vessel movement. Deck surfaces and above water line hull surfaces should be free from rust, paint chips, spilled cargos and other materials, and debris. Deck washdowns should be performed according to standard industry practices (e.g., broom clean followed by cleaning using hoses and non-toxic, phosphate-free, and biodegradable soaps and detergents, followed by rinsing using hoses). Examples of bad practices include lack of drip pans if it is clearly feasible that drip pans could be placed under machinery to collect oily water; spills on the deck and other evidence of poor housekeeping; peeling deck surfaces and paint; rust; abrasive power cleaning, resulting in stripping of paint chips and then discharging them into receiving waters; and use of prohibited soaps and detergents. Large vessels that regularly sail outside the territorial sea should not need to wash their decks with fire hoses while pier-side.

Bilgewater

Good practices include a clean bilge, which indicates prompt clean-up of any oily drips and spills (drums containing oily rags for proper shore-side disposal are further evidence of these good practices). Other good practices include thorough documentation of bilgewater discharges in the oil record logbook, routine calibration of the oil content meter, physically securing the bilgewater discharge valve or disabling automatic bilge pumps while pier-side. Examples of bad practices include a dirty bilge, use of “magic pipes” to bypass the oily water separator and oil content meter, oil sheen in receiving waters following bilgewater discharge, and evidence of use of dispersants/detergents to remove bilgewater sheen.

Ballast Water





Good practices include a ballast water management plan (if required) and maintenance of a thorough ballast water discharge log. An example of a bad practice is if the ballast discharge report submitted to EPA does not match ballast discharge records onboard the vessel. Additionally, vessels with ballast water treatment systems that discharge into waters subject to the VGP must monitor for biological indicator organisms and biocides or biocide derivatives. Records of the sampling and testing results from the last 3 years must be onboard.

Graywater

Graywater is of most concern on cruise ships. Good practices include limiting graywater generation from activities such as showering, dishwashing and laundry while pier-side, or using a graywater storage tank to hold these wastewaters for later discharge if feasible. Other examples include use of non-toxic, phosphate-free, and biodegradable soaps and detergents for general cleaning, laundry, and dishwashing. Examples of bad practices include obvious disregard of permit requirements to minimize the discharge of graywater while in port. Other examples of bad practices are operating the food grinder while pier-side, and using soaps

and/or detergents that are NOT considered non-toxic, phosphate-free, and biodegradable. These types of soaps should only originate from shower and lavatory use, or it could indicate a permit violation. Medium and large cruise ships are required to maintain records estimating all discharges of treated graywater into waters subject to the VGP and initial and maintenance monitoring as required by the permit.

Photo examples of good and bad management practices:

Good practices	
<p data-bbox="203 535 803 567">Photo 19-1. Use of oil-absorbing pads for bilge water.</p> 	<p data-bbox="836 535 1412 567">Photo 19-2. Properly maintaining equipment.</p> 
Bad practices	
<p data-bbox="203 1102 803 1134">Photo 19-3. Poor storage of hazardous waste.</p> 	<p data-bbox="836 1102 1412 1134">Photo 19-4. Continuing to operate without corrective action when there is a visible oily sheen.</p> 

F. REFERENCES

The following is a list of resources providing additional information on vessels.

Abt Associates. (2008). *Economic and Benefits Analysis of the Final Vessel General Permit (VGP)*. Available at: http://www.epa.gov/npdes/pubs/vessel_vgp_economicanalysis.pdf

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