

Best Management Practices and Recordkeeping  
Guidelines  
National Pollutant Discharge Elimination System  
Vessel General Permit  
Discharges Incidental to the Normal Operation

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## **I. Introduction**

The Clean Water Act was established in 1973. Since that time, the Environmental Protection Agency (EPA) had excluded vessel discharges incidental to the operation of a vessel from the permits required for many other industries. On February 6, 2009, all vessels will automatically be covered by the Vessel General Permit (VGP) and must comply with the requirements of the permit. The VGP covers twenty-six identified vessel discharges. Even though the compliance date is February 6, 2009, vessels have until February 19, 2009 to implement discharge inspections, training, and recordkeeping requirements. In this regard, vessel Master's should immediately identify which of the twenty-six discharges apply to their vessel and begin monitoring and recording such discharges in the vessel's logbook and/or attached forms.

Vessels are also required to submit a Notice of Intent (NOI) to discharge any of the twenty-six identified effluents. All NOIs must be completed and filed using the eNOI system (expected to be operational by June 19, 2009). The NOI must be submitted between June 19 and September 19, 2009. Prior to these NOI submission dates, vessels will be deemed automatically authorized to discharge under the VGP. If the NOI is not submitted within the required timeframe, vessels will be prohibited from discharging any of the affected twenty-six discharges in inland waters and the territorial waters of the US (within 3 NM of shore). This applies even if the discharge is within permit limits. There is a list of areas that are "Federally Protected for Conservation Purposes". These areas have a higher level of protection by the VGP. The list includes mostly inland waters and conservation areas.

As mentioned, there are twenty-six discharges covered by the VGP. Many of them are already regulated and many of the general shipboard practices already reduce and/or prevent these discharges from entering the regulated waters. It is important that we stress to shipboard personnel that a heightened awareness of anything that goes over the side is needed in order to comply with this permit.

Following is a list of requirements applicable to ALL vessels regardless of type and a very brief description and interpretation of how this permit will affect current shipboard practices:

1. Material Storage – For items or other onboard materials that may wash overboard, a storage area must be provided. Should there be a mixture of water with oily materials proper clean-up, storage and disposal of the oily water must take place. *(This is already common practice and should not result in a major change.)*
2. Toxic or Hazardous Materials – Hazmat must be located in protected areas of the vessel and be contained in proper containers ensuring that no incompatible wastes

are mixed. Containers holding toxic materials are not authorized to be jettisoned. *(This is already the standard practice on most vessels)*

3. Fuel Spills /Overflows – Practices must be designed to include containment and quick cleanup should a fuel spill occur and proper training should be provided to crew involved in fueling ops. *(This is a standard practice included in the current IAS ISM system and is covered by the SOPEP, and VRP or NTVRP.)*
4. Discharge of Oily Mixtures - Must comply with MARPOL Annex I. *(Vessels trading to the U.S. already comply with MARPOL Annex I)*

The VGP also requires a routine inspection schedule program, for weekly quarterly and annual inspections, which must be logged in the ship's log or other recordkeeping mechanisms. Attached to this guide are recommended logs and forms for such recordkeeping. Reports of non-compliance are required at least once a year and a one time permit report is required between 30 and 36 months after obtaining permit coverage (July 2011 – February 2012). If a discharge could endanger health or the environment, an oral report is required within 24 hours, followed by a written report within five days.

If “violations” to the effluent limits are found, or there is any other action not in compliance with the VGP. A corrective action assessment must be conducted (see Section VI of this Guide).

## **II. Definitions**

The following definitions apply to the EPA Vessel General Permit.

1. Appropriate Regional Office means the regional office listed in Part 13 of the permit responsible for the waters where the vessel spends the most time or is based in a home port.
2. Aqueous Film-Forming Foam means the firefighting foam and seawater mixture discharged during training, testing, or maintenance operations.
3. Ballast Tank means any tank or hold on a vessel used for carrying “ballast water”, whether or not the tank or hold was designed for that purpose.
4. Ballast Water Exchange see “Exchange”.
5. Ballast Water means the seawater and associated suspended sediments taken into or discharged from “ballast tanks” to maintain the stability of the vessel.
6. Biocide means a substance or organism, including a virus or a fungus, that is introduced into, or produced by, ballast water treatment systems to kill or eliminate organisms as part of the ballast water treatment process.
7. Captain of the Port (COTP) means the Coast Guard officer designated as the COTP, or a person designated by that officer, for the COTP zone covering the U.S. port of destination.
8. Chain Locker Effluent means the accumulated precipitation and seawater that is emptied from the compartment used to store the vessel's anchor chain.
9. Coastal Exchange Zone means an area greater than 50 nm from shore and greater than 200 meters in depth.
10. Commercial fishing vessel means any vessel which is documented under the laws of the United States or, if under five net tons, registered under the laws of any State, and used for commercial fishing or activities directly related to commercial fishing.
11. Commercial vessel means any “vessel” other than a “recreational vessel” or a vessel of the U.S. armed forces.
12. Controllable Pitch Propeller Hydraulic Fluid” means the hydraulic fluid that discharges into the surrounding seawater from propeller seals as part of normal operation, and the hydraulic fluid released during routine maintenance of the propellers.
13. Cruise ship - a passenger ship used commercially for pleasure cruises.
14. Darkness” means sunset to sunrise.
15. Deck Runoff” means the precipitation, washdowns, and seawater falling on the weather deck of a vessel and discharged overboard through deck openings.
16. Delivered” means the date of the owner/operator’s formal acceptance of the ship from the builder or another seller or the point in time when custody or ownership of the vessel officially transfers from the shipbuilder or other seller to the owner/operator.

17. Discharge incidental to the normal operation of a vessel” means those discharges that were excluded from the NPDES permitting program by operation of 40 C.F.R. 122.3(a) as in effect on September 29, 2008.
18. Distillation and Reverse Osmosis Brine” means the concentrated seawater (brine) produced as a byproduct of the processes used to generate freshwater from seawater.
19. Elevator Pit Effluent means the liquid that accumulates in, and is discharged from, the sumps of elevator wells on vessels.
20. Exchange means to replace the water in a ballast tank using one of the following methods:
  - a. Flow through exchange means to flush out “ballast water” by pumping in water from the “mid-ocean” or “coastal exchange zone” (as applicable) into the bottom of the tank and continuously overflowing the tank from the top until three full volumes of water has been changed to minimize the number of original organisms remaining in the tank.
  - b. Empty/refill exchange means to pump out the “ballast water” taken on in ports, estuarine, or territorial waters until the tank is empty, then refilling it with water from the “mid-ocean” or “coastal exchange zone” (as applicable); masters/operators should pump out as close to 100 percent of the “ballast water” as is safe to do so.
21. Exclusive Economic Zone (EEZ) means the area established by Presidential Proclamation Number 5030, dated March 10, 1983 (48 FR 10605, 3 CFR, 1983 Comp., p. 22) which extends from the base line of the territorial sea of the United States seaward 200 miles, and the equivalent zone of Canada.
22. Fire main Systems means the seawater pumped through the fire main system for fire main testing, maintenance, and training, and to supply water for the operation of certain vessel systems.
23. Fouling organisms means any aquatic flora and/or fauna which attach to and grow on or in the vessel.
24. Freshwater Layup means the potable water that is discharged from the seawater cooling system while the vessel is in port, and the cooling system is in lay-up mode (a standby mode where seawater in the system is replaced with potable water for corrosion protection).
25. Gas Turbine Water Wash means the water released from washing gas turbine components.
26. Gray Water means galley, bath, and shower water, as well as wastewater from lavatory sinks, laundry, and water fountains.
27. Hull Coating Leachate the constituents that leach, dissolve, ablate, or erode from the paint on the hull into the surrounding seawater.
28. IMO Guidelines mean the Guidelines for the Control and Management of Ships’ Ballast Water to Minimize the Transfer of Harmful Aquatic Organisms and Pathogens (IMO Resolution A.868 (20), adopted November 1997).
29. Large recreational vessel means a “recreational vessel” that is greater than or equal to 79 feet in length as determined in accordance with 33 C.F.R. 188.3.

30. MARPOL 73/78” means the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto.
31. Mid-Ocean means waters greater than 200 nm from any shore and greater than 200 meters in depth.
32. Mile means nautical mile as used in this permit, or 6076.1 feet or 1.852 kilometers.
33. Motor Gasoline and Compensating Discharge means the seawater taken into, and discharged from, motor gasoline tanks to eliminate free space where vapors could accumulate.
34. NANPCA means the Non-indigenous Aquatic Nuisance Prevention and Control Act of 1990.
35. NBIC means the National Ballast Water Information Clearinghouse operated by the Coast Guard and the Smithsonian Environmental Research Center as mandated under NISA.
36. NISA means the National Invasive Species Act of 1996, which reauthorized and amended NANPCA.
37. Non-Oily machinery wastewater means the combined wastewater from the operation of distilling plants, water chillers, valve packings, water piping, low- and high-pressure air compressors, and propulsion engine jacket coolers.
38. Noxious Liquid Substance (“NLS”) has the same meaning given that term by 46 C.F.R. 153.2.
39. Oil means oil of any kind or in any form, including but not limited to, petroleum, fuel oil, sludge, oil refuse, and oil mixed with wastes other than dredged spoil.
40. Oil in quantities that may be harmful means any discharge of oil having the effects identified in 40 CFR 110.3, provided that this term does not include those discharges specified in 40 CFR 110.5(a) – (c).
41. Oily mixture” means a mixture, in any form, with any oil content, including, but not limited to: (1) slops from bilges; (2) slops from oil cargoes (such as cargo tank washings, oily waste, and oily refuse; (3) oil residue; and (4) oily Ballast Water from cargo or fuel oil tanks.
42. Owner or operator and "Owner/Operator" mean the owner or operator of any facility or activity subject to regulation under the NPDES program. For purposes of this permit, "Owner" means any person holding title to, or in the absence of title, any other indicia of ownership of a vessel. [Source: selectively edited from 33 USC 1901(a)(6) (APPS)] "Operator" means a charterer by demise or any other person, except the “owner”, who is responsible for the operation of the vessel.
43. Photographic Laboratory Drains means the laboratory wastewater resulting from processing of photographic film.
44. Pacific Coastwise Trade means vessels engaged in coastwise trade along the Pacific Coast of the United States, operating in and between ports in Alaska, California, Oregon, and Washington.
45. Pacific Near Shore Voyages means voyages by any vessels engaged in the Pacific Coastwise trade that travel between more than one Captain of the Port Zone, and all other vessels that sail from foreign, Atlantic, or Gulf of Mexico ports, which

- do not sail further than 200 nm from any shore, and that discharge or will discharge ballast water into the territorial sea or inland waters of Alaska or of the west coast of the continental United States.
46. Person means an individual, association, partnership, corporation, municipality, State or Federal agency, or an agent or employee thereof.
  47. Port or place of departure means any port or place in which a vessel is anchored or moored.
  48. Port or place of destination means any port or place to which a vessel is bound to anchor or moor.
  49. Recreational vessel means a “vessel” being manufactured or operated primarily for pleasure or leased, rented, or chartered to another for the latter’s pleasure.
  50. Saltwater flushing means the addition of mid-ocean water to empty Ballast Water tanks; the mixing of the flush water with residual water and sediment through the motion of the vessel; and the discharge of mixed water, such that the resultant residual water remaining in the tank has as high a salinity as possible, and preferably greater than 30 parts per thousand (ppt).
  51. Seawater Cooling Overboard Discharge means the discharge of seawater from a dedicated system that provides noncontact cooling water for other vessel systems.
  52. Seawater Piping Bio-fouling Prevention means the discharge of seawater containing additives used to prevent the growth and attachment of bio-fouling organisms in dedicated seawater cooling systems on selected vessels.
  53. Sewage means human body wastes and the wastes from toilets and other receptacles intended to receive or retain body wastes that are discharged from vessels, except that with respect to commercial vessels on the Great Lakes, this term includes galley, bath, and shower water.
  54. Small Boat Engine Wet Exhaust means the seawater that is mixed and discharged with small boat propulsion engine exhaust to cool the exhaust and quiet the engine.
  55. Sonar Dome Discharge means the leaching of anti-foulant materials into the surrounding seawater and the release of seawater or freshwater retained within the sonar dome.
  56. Surface Vessel Bilge Water/Oily Water Separator Effluent means the wastewater from a variety of sources that accumulates in the lowest part of the vessel (the bilge), and the effluent produced when the wastewater is processed by an oil water separator.
  57. Territorial sea has the meaning assigned by section 502(8) of the Federal Water Pollution Control Act (33 U.S.C. 1362(8)).
  58. Treated Bilge Water means bilge water treated with an oily water separator and having oil concentrations less than 15 ppm.
  59. United States means the States, the District of Columbia, the Commonwealth of Puerto Rico, Guam, American Samoa, the Virgin Islands, and the Trust Territory of the Pacific Islands.

60. Underwater Ship Husbandry Discharges means the materials discharged during the inspection, maintenance, cleaning, and repair of hulls performed while the vessel is waterborne.
61. Vessel means every description of watercraft or other artificial contrivance being used as a means of transportation on “waters subject to this permit
62. Visible Sheen” means a “silvery” or “metallic” sheen, gloss, or increased reflectivity; visual color; iridescence, or oil slick on the surface.
63. Waters subject to this permit means “waters of the US” as defined in as 40 CFR 122.2 and extends to the outer reach of the 3 mile territorial sea as defined in section 502(8) of the CWA.
64. Well-deck Discharges means the water that accumulates from seawater flooding of the docking well (weldeck) of a vessel used to transport, load, and unload amphibious vessels, and from maintenance and freshwater washings of the well-deck and equipment and vessels stored in the well-deck.
65. You means the “owner” or “operator” of a “commercial vessel” or a “select recreational vessel.”

### **III. Effluent Limits, Related Requirements, & Onboard Procedures**

#### **1. Deck Wash-Down and Runoff**

Deck runoff occurs from all vessels as a result of precipitation or deck cleaning. The constituents can include detergent, soap, and residues from any on-deck activity. Constituents and volumes of deck runoff vary widely and are highly dependent on a vessel's purpose, service, and practices. Deck runoff discharges eligible for coverage under the proposed permit include those from all deck and bulkhead areas and associated equipment.

##### *Recommended Best Management Practice*

*Vessel must clear the vessels' decks of debris, garbage, residue and spills prior to conducting deck wash-downs and prior to departing from port to prevent these constituents from entering any waste stream. When required by their class societies or Flag Administrations, vessels must be fitted with and use perimeter spill rails (fish plates) and mechanical scuppers to collect the runoff for treatment. Machinery on deck must have coamings or drip pans to collect any oily water from machinery and prevent spills. The drip pans must be drained to a waste container for proper disposal and/or periodically wiped and cleaned. The discharges from deck wash-downs must be free from floating solids, visible foam, halogenated phenol compounds, and dispersants, or surfactants. The vessel must minimize deck wash-downs while in port.*

*Vessel must maintain their topside surface to minimize the discharge of rust (and other corrosion by-products), cleaning compounds, paint chips, non-skid material fragments, and other materials associated with exterior topside surface preservation.*

*If deck wash-downs will result in a discharge overboard, they must be conducted with non-toxic and phosphate free cleaners and detergents. Furthermore, cleaners and detergents should not be caustic or only minimally caustic and should be biodegradable.*

#### **2. Bilge Water**

Bilge water consists of water and other residue that accumulates in a compartment of the vessel's hull (bilge). The source of bilge water is typically drainage from interior machinery, engine rooms, and from deck drainage. Constituents of bilge

water include seawater, oil, grease, volatile and semi-volatile organic compounds, inorganic salts, and metals.

*Recommended Best Management Practice*

*All bilge water discharges must be in compliance with the regulations in 40 CFR Part 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 to remove the appearance of a visible sheen in their bilge water discharges.*
- *Vessel operators may not add substances that drain to the bilgewater that are not produced in the normal operation of a vessel.*
- *All vessels must minimize the discharge of bilge water into waters subject to this permit. This can be done by minimizing the production of bilge water, disposing of bilge water on shore where adequate facilities exist, or discharging into waters not subject to this permit (i.e., more than 3 nm from shore) for vessels that regularly travel into such waters. Discharges of bilge water outside waters subject to this permit (i.e. more than 3 nm from shore) are regulated under Annex I of the International Convention for the Prevention of Pollution from Ships as implemented by the Act to Prevent Pollution from Ships and U.S. Coast Guard regulations found in 33 CFR 151.09.*
- *Vessels greater than 400 gross registered tons shall not discharge untreated bilge water into waters subject to this permit.*
- *Vessels greater than 400 gross registered tons that regularly sail outside the territorial sea (at least once per month) shall not discharge treated bilge water within 1 nautical mile (nm) of shore unless the discharge is necessary to maintain the safety and stability of the ship. Any discharge which is made for safety reasons must be documented in accordance with the EPA guidelines.*
- *Vessels greater than 400 gross registered tons shall not discharge treated bilge water into waters federally protected wholly or in part for conservation purposes, unless the discharge is necessary to maintain the safety and stability of the ship. Any discharge of bilge water into these waters must be documented as part of the recordkeeping requirements and vessel operators must document whether this bilge water discharge was made for safety reasons.*
- *For vessels greater than 400 gross registered tons that regularly sail outside the territorial sea (at least once per month), if treated bilge water is discharged into waters subject to this permit, it must be discharged*

*when vessels are underway (sailing at speeds greater than 6 knots), unless doing so would threaten the safety and stability of the ship. EPA notes that vessel operators may also choose to dispose of bilge water on shore where adequate facilities exist. Any discharge which is made for safety reasons must be documented as part of the requirements.*

### **3. Ballast Water**

Ballast water is water taken onboard into specially designed ballast water tanks, and assists with vessel draft, buoyancy, and stability. Ballast water tanks are typically found only on commercial vessels. Discharge volumes and rates vary by vessel type, ballast tank capacity, and type of de-ballasting equipment. Cargo ships carry anywhere from 2,900 cubic meters (approximately 766,000 gallons) to 93,000 cubic meters (approximately 24,568,000 gallons) of water. Ballast water may contain rust inhibitors, flocculent compounds, epoxy coating materials, zinc or aluminum (from anodes), iron, nickel, copper, bronze, silver, and other material or sediment from inside the tank, pipes, or other machinery. Ballast water may also contain marine organisms that originate where the water is collected. When transported to non-native waters, these organisms may upset the environment or food web as “invasive species.”

#### *Recommended Best Management Practice*

*All Ballast Water discharges must comply with the Coast Guard regulations found in 33 CFR Part 151. Much of the information that must be recorded is the same as the information that is required of vessels equipped with ballast tanks bound for a port or place in the United States by the Coast Guard Regulations at 33 CFR 151.2045. The following should be complied with:*

- *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 Clean Water Act.*
- *The master, operator, person-in-charge, and crew must be trained on the application of ballast water and sediment management and treatment procedures as specified in the vessel’s Ballast Water Management Plan (BWMP).*
- *The vessel must maintain a Ballast Water Management Plan (BWMP) that has been developed specifically for the vessel that will allow those responsible for the plan’s implementation to understand and follow the vessel’s ballast water management strategy. The Master must make the BWMP available upon request to any EPA representative.*
- *All vessels equipped with ballast water tanks that operate in waters of the U.S. must:*
  - *Avoid the discharge of ballast water into waters subject to this permit that are within or that may directly affect marine*

- sanctuaries, marine preserves, marine parks, shellfish beds, or coral reefs or other such waters.*
- *Minimize or avoid uptake of ballast water in the following areas and situations:*
    - *Areas known to have infestations or populations of harmful organisms and pathogens (e.g., algal blooms).*
    - *Areas near sewage outfalls.*
    - *Areas near dredging operations.*
    - *Areas where tidal flushing is poor or when a tidal stream is known to be more turbid.*
    - *In darkness when bottom dwelling organisms may rise up in the water column.*
    - *In shallow water or where propellers may stir up the sediment.*
    - *Areas with pods of whales, convergence zones and boundaries of major currents.*
  - *Clean ballast tanks regularly to remove sediments in mid-ocean or under controlled arrangements in port, or at dry dock. No discharge of sediments from cleaning of ballast tanks is authorized in waters subject to this permit.*
  - *Discharge only the minimal amount of ballast water essential for vessel operations while in the waters subject to this permit.*
  - *If onshore treatment for ballast water is available and economically practicable and achievable, all vessel owner/operators must use this treatment for any ballast water discharges, unless they use an onboard ballast water treatment system approved by the Commandant of the Coast Guard. If a shore treatment system is available the vessel should refer to the EPA NPDES VGP Guidelines.*
  - *Any vessels that carry ballast water that was taken on in areas less than 200 nautical miles from any shore that will subsequently operate beyond the EEZ and more than 200 nm from any shore must carry out an exchange of ballast water for any tanks that will discharge ballast water into waters subject to this permit unless the vessel meets one of the exemptions listed in the EPA VGP Guidelines.*
  - *This exchange must be conducted in compliance with the following standards prior to discharging ballast water into waters subject to this permit:*
    - *The exchange must occur in waters beyond the U.S. EEZ;*
    - *The exchange must occur in an area more than 200 nautical miles from any shore,*
    - *The exchange must occur in waters at least 200 meters deep, and*
    - *The exchange must be commenced as early in the vessel voyage as possible, as long as the vessel is more than 200 nm from any shore.*

- *Unless the vessel meets one of the exemptions in Part 2.2.3.11, any vessel engaged in Pacific near shore voyages that travels through more than one Captain of the Port (COTP) Zone as listed in 33 CFR Part 3 must carry out an exchange of ballast water before discharging from any tanks that carry ballast water into waters subject to this permit.*
- *Vessels engaged in Pacific near shore voyages include: Vessels engaged in the Pacific coastwise trade that travel between more than one Captain of the Port Zone, and*
- *All other vessels that sail from foreign, Atlantic, or Gulf of Mexico ports, which do not sail further than 200 nm from any shore, and that discharge or will discharge ballast water into the territorial sea or inland waters of Alaska or of the west coast of the continental United States.*
- *This exchange must occur in waters more than 50 nautical miles from any Pacific (US or otherwise) shore, and in waters more than 200 meters deep, prior to discharging ballast water into waters subject to this permit. Exchange should occur as far from the shore, major estuary and oceanic river plumes, subsurface physical features (e.g. seamounts), and known fishery habitats as practicable.*
- *For vessels that travel between more than one COTP Zone while undertaking voyages described in Part 2.2.3.5 and which either certified No Ballast on Board in accordance with Coast Guard regulations or which have any ballast water tank that is empty or contains un-pumpable residual water, you must follow the applicable requirements in Part 2.2.3.5 of the EPA NPDES VGP for those tanks with ballast water. For those tanks which are empty or contain un-pumpable residual water, you must either seal the tank so that there is no discharge or uptake and subsequent discharge of ballast water within waters subject to this permit or conduct saltwater flushing of such tanks in an area 200 nautical miles from any shore and in waters at least 200 meters deep prior to the discharge or uptake and subsequent discharge of any ballast water to any U.S. waters subject to this permit, unless you meet one of the exemptions in Part 2.2.3.11 of the EPA NPDES VGP. Saltwater flushing means the addition of mid-ocean water to empty ballast water tanks; the mixing of the flush water with residual water and sediment through the motion of the vessel; and the discharge of the mixed water, such that the resultant residual water remaining in the tank must obtain either a minimum salinity of 30 parts per thousand (ppt) or a value equal to the ambient salinity at the location of the flushing, whichever is lower. In order to conduct saltwater flushing, the vessel should take on as much mid-ocean water into each tank as is safe (for the vessel and crew). Vessels subject to this section that contain some empty ballast water tanks and some full ballast water tanks, if the empty tanks are sealed, water that will be*

*discharged into waters subject to this permit must not be allowed to commingle with waters from the empty tanks unless the vessel has conducted saltwater flushing as specified above.*

- *For owner/operators of vessels engaged in Pacific Near shore Voyages which either certified No Ballast on Board in accordance with Coast Guard regulations or which have any ballast water Tank that is empty or contains un-pumpable residual water, you must follow the applicable requirements in Part 2.2.3.6 of the EPA NPDES VGP for those tanks with ballast water. For those tanks which are empty or contain un-pumpable residual water, you must either seal the tank so that there is no discharge or uptake and subsequent discharge of ballast water within waters subject to this permit or conduct saltwater flushing of such tanks in an area 50 nautical miles from any shore and in waters at least 200 meters deep prior to the discharge or uptake and subsequent discharge or uptake of any ballast water to or from any waters subject to this permit, unless you meet one of the exemptions in Part 2.2.3.11 of the EPA NPDES VGP. For these voyages, saltwater flushing means the addition of water from the “coastal exchange zone” to empty ballast water tanks; the mixing of the flush water with residual water and sediment through the motion of the vessel; and the discharge of the mixed water, such that the resultant residual water remaining in the tank must obtain either a minimum salinity of 30 parts per thousand (ppt) or a value equal to the ambient salinity at the location of the flushing. In order to conduct saltwater flushing, the vessel should take on as much coastal exchange zone water into each tank as is safe (for the vessel and crew). These requirements apply to all vessels carrying ballast water that will enter any US Port in the states of Alaska, California, Oregon, or Washington and that travels through more than one COTP zone.*
- *For all vessel owner/operators subject to this section that contain some empty ballast water tanks and some full ballast water tanks, if you elect to seal those empty tanks, you must not allow water from the full tanks to commingle with waters from the empty tanks if it will subsequently be discharged into waters subject to this permit.*
- *In addition to complying with the requirements of this permit, all vessels that are equipped to carry ballast water and enter the Great Lakes must comply with 33 CFR Part 151, Subpart C titled: “Ballast Water Management for Control of Non-indigenous Species in the Great Lakes and Hudson River.” Vessels that operate outside the EEZ and more than 200 nm from any shore and then enter the Great Lakes via the Saint Lawrence Seaway System must also comply with 33 CFR Part 401.30, which requires oceangoing vessels to conduct saltwater flushing of ballast water tanks 200 nautical miles from any shore before entering either the U.S. or Canadian waters of the Seaway System.*

- *Vessels may not discharge un-exchanged or untreated ballast water or sediment in waters subject to the VGP.*
- *The operator or master of a vessel may elect not to exchange ballast water (or not conduct saltwater flushing if applicable) if the vessel meets one of the following conditions:*
  - *The master of the vessel determines, and justifies in writing, and documents in the log or record book, that it is unsafe to do so, in accordance with the Coast Guard Regulations at 33 CFR 151.2030. If this exemption is claimed, the vessel operator must record the date, location, and reason for the claim in its recordkeeping documentation.*
  - *The master uses an alternative, environmentally sound method of ballast water management that has been submitted to, and approved by, the Commandant of the Coast Guard prior to the vessel's voyage in accordance with 33 C.F.R. Part 151.*
  - *The vessel is accepted by the U.S. Coast Guard into the shipboard Technology Evaluation Program (STEP), the technology is operated in accordance with requirements of that program, and the acceptance has not been withdrawn.*
  - *The vessel retains all ballast water on board for the duration of the vessel's voyage in waters subject to this permit.*
- *Additionally, a vessel is not required to deviate from its voyage, or delay the voyage to conduct Ballast Water Exchange or Saltwater Flushing.*

#### **4. Anti-Fouling Leachate from Anti-Fouling Hull Coatings**

Vessel hulls are often coated with antifouling compounds to prohibit the attachment and growth of aquatic life. Coatings are formulated for different conditions and purposes and many contain biocides. Those that contain biocides prevent the attachment of aquatic organisms to the hull by continuously leaching substances that are toxic to aquatic life into the surrounding water. While a variety of different ingredients may be used in these compounds, the most commonly used is copper. Copper can inhibit photosynthesis in plants and interfere with enzyme function in both plants and animals in concentrations as low as 4 µg/l. Additional releases of these substances are caused by hull cleaning activities, particularly if hulls are cleaned within the first 90 days following application.

A second metal-based biocide, tributyltin (TBT), was historically applied to vessel hulls, but due to its acute toxicity, EPA is proposing that there will be a zero discharge standard for TBT under this proposed permit. TBT causes deformities in aquatic life, including deformities that disrupt or prevent reproduction. Numerous studies and several peer reviewed publications examine the environmental impacts of anti-foulant paint leachate containing tributyltin

(TBT). TBT is also stable and persistent, resisting natural degradation in water bodies.

*Recommended Best Management Practice*

*Anti-fouling hull coatings not subject to FIFRA registration (i.e. not produced for sale and distribution in the United States), hull coatings must not contain any biocides or toxic materials banned for use in the United States. This requirement applies to all vessels, including those registered and painted outside the United States.*

*At the time of initial application or scheduled reapplication of anti-fouling coatings, you must give consideration, as appropriate for vessel class and vessel operations, to the use of hull coatings with the lowest effective biocide release rates, rapidly biodegradable components, or non-biocidal alternatives, such as silicone coatings.*

*The discharge of Tributyltin (TBT) is prohibited by the Vessel General Permit. You may not use an anti-foulant coating containing TBT. If the vessel has previously been covered with a hull coating containing TBT, vessels must be effectively over coated so that no TBT leaches from the vessel hull or the TBT coating must have been removed from the vessel's hull.*

## **5. Aqueous Film Forming Foam (AFFF)**

AFFF (foam) is a synthetic firefighting agent consisting of fluoro-surfactants and/or fluoro-proteins. It serves as an effective firefighting agent by forming an oxygen-excluding barrier over an area. In order to produce AFFF, a concentrated solution of the foam forming agent is injected into the water stream of a fire hose. Vessels equipped with AFFF equipment must periodically (annually or semi-annually) test the equipment for maintenance, certification, or training purposes resulting in discharge overboard or onto the deck.

*Recommended Best Management Practice*

*Discharges of AFFF (foam) are authorized for emergency purposes when needed to ensure the safety and security of the vessel and crew.*

*For all vessels that sail outside of the territorial sea more than once per month, maintenance and training discharges of AFFF are not authorized within waters subject to the EPA NPDES VGP. (Any such discharges should be collected and stored for onshore disposal or scheduled when the vessel is outside such waters.) Discharge volumes associated with regulatory certification and inspection must be minimized and a substitute foaming agent (i.e. non-fluorinated) must be used if possible within waters subject to the EPA NPDES VGP.*

*For vessels that do not leave the territorial sea more than once per month, if maintenance and training discharges are required, AFFF must be collected and stored for onshore disposal unless the vessel uses non-fluorinated or alternative foaming agent. Training should be conducted as far from shore as is practicable. Maintenance and training discharges are not allowed in port.*

*For all vessels, AFFF discharges may not occur in or within 1 nm of waters federally protected wholly or in part for conservation purposes unless they are discharged:*

- *For emergency purposes*
- *By rescue vessels such as fireboats for firefighting purposes,*
- *By vessels owned or under contract to do business exclusively in or within 1 nm of those protected areas by the United States government or state or local governments.*

*If AFFF discharge occurs in waters in waters federally protected wholly or in part for conservation for emergency purposes, a written explanation must be kept in the ship's log or other vessel recordkeeping documentation.*

## **6. Boiler-Economizer Blow Down**

Boiler blow down occurs on vessels with steam propulsion or a steam generator to control anti-corrosion and anti-scaling treatment concentrations and to remove sludge from boiler systems. The blow down involves releasing a volume of 1% – 10% of water from the boiler system, usually below the waterline.

### *Recommended Best Management Practice*

*Minimize the discharge of boiler/economizer blow down in port if chemicals or other additives are used to reduce impurities or prevent scale formation.*

*For vessels greater than 400 gross registered tons which leave the territorial sea at least once per week, boiler/economizer blow down may not be discharged in waters subject to this permit except for safety purposes, and should be discharged as far from shore as possible.*

*For all vessels, Boiler/Economizer blow down may not be discharged in or within 1 nm of waters federally protected wholly or in part for conservation purposes except for safety purposes.*

## **7. Cathodic Protection**

Vessels use cathodic protection systems to prevent steel hull or metal structure corrosion. The two types of cathodic protection are sacrificial anodes and

impressed current cathodic protection (ICCP). Using the first method, anodes of zinc or aluminum are “sacrificed” to the corrosive forces of the seawater, which creates a flow of electrons to the cathode, thereby preventing the cathode from corroding. These sacrificial metals are then released to the aquatic environment. Using ICCP, a DC electrical current is passed through the hull such that the electrochemical potential of the hull is sufficiently high enough to prevent corrosion.

*Recommended Best Management Practice*

*Cathodic protection must be maintained to prevent the corrosion of the ship’s hull. The discharge of zinc, magnesium, and aluminum are expected from properly functioning cathodic protection sacrificial electrodes. However, vessel operators must minimize the flaking of large, corroded portions of these anodes. Sacrificial anodes must not be used more than necessary. Vessel operators must appropriately clean and/or replace these anodes in periods of maintenance (such as dry-docking), so that release of these metals to waters is minimized.*

*EPA recommends the use of Impressed Current Cathodic Protection (ICCP) in place of sacrificial electrodes. If a vessel has ICCP, dielectric shields must be maintained to prevent flaking. Newly constructed vessels which use Cathodic Protection must use ICCP if technologically feasible.*

## **8. Chain Locker Effluent**

Chain locker effluent is water that collects in the below-deck storage area during anchor retrieval. A sump collects the liquids and materials that enter the chain locker and discharges it overboard or into the bilge tank. Chain locker effluent can contain marine organisms and residue such as rust, paint chips, grease, and zinc.

*Recommended Best Management Practice*

*The anchor chain must be carefully and thoroughly washed down (i.e., more than a cursory rinse) as it is being hauled out of the water to remove sediment and marine organisms. In addition, chain lockers must be cleaned thoroughly during dry docking to eliminate accumulated sediments and any potential accompanying pollutants. For vessels that regularly sail outside waters subject to this permit, if technically feasible, periodically clean, rinse, and/or pump out the space beneath the chain locker prior to entering waters subject to this permit (preferably mid ocean) if the anchor has been lowered into any near shore waters. For vessels that leave waters subject to this permit at least once per month, chain lockers may not be rinsed or pumped out in waters subject to this permit, unless not emptying them would compromise safety. Such a safety claim must be documented in the vessel’s recordkeeping documentation.*

## **9. Controllable Pitch Propeller Hydraulic Fluid, Stern Tube Oily Discharge, & Rudder Bearing Lubrication Discharge**

Controllable pitch propellers (CPPs) are variably-pitched propeller blades used to change the speed or direction of a vessel. CPPs are used in addition to the main propulsion system. Hydraulic oil can leak from the CPP if the protective seals are worn or defective and large amounts may be discharged during maintenance and repair.

The stern tube is the casing or hole through the hull of the vessel through which the propeller shaft connects the engine of the vessel to the propeller. The propeller shaft and its supporting bearings require lubrication oil. Discharges can occur if the protective seals or bearings are not maintained and develop leaks or if they are damaged.

Rudder bearings allow a vessel's rudder to turn freely and can be either grease, oil, or water-lubricated.

### *Recommended Best Management Practice*

*The protective seals on controllable pitch propellers must be maintained in good operating order to prevent the leaking of hydraulic oil. If possible, maintenance activities on controllable pitch propellers should be conducted when a vessel is in dry-dock. If maintenance must occur when the vessel is in water, an oil boom must be used to contain any hydraulic oil leakage. Vessel must have appropriate equipment such as oil absorbent pads on hand to clean any potential oil spills.*

*Except in emergency situations, major stern tube maintenance should occur only in dry dock where oils cannot be released to the environment. If emergency maintenance must occur in the water, the permittee must use an oil boom to contain any potential oil discharge and must have appropriate spill cleanup materials on hand. Stern tube oil levels should be monitored in the engine room and the water around the stern tube checked for leaks during port calls.*

*Depending on the type of rudder bearings in use, this discharge can cause oil or grease to be released into the water column. Vessel should employ all necessary control measures such as regular maintenance (i.e. dry-dock) and inspections to ensure that leaks do not occur. Any oil that produces a sheen on the water should be reported to the Coast Guard and State Authorities.*

## **10. Distillation and Reverse Osmosis Brine**

Discharges of brine can occur from onboard plants that distill seawater or utilize reverse osmosis (RO) to generate fresh water. Distillation effluent may be at elevated temperatures and may contain anti-scaling treatment, acidic cleaning compounds, or metals. RO effluent is concentrated brine.

*Recommended Best Management Practice*

*Brine from the distillation system and reverse osmosis reject water shall not contain or come in contact with machinery or industrial equipment, toxic or hazardous materials, or wastes .*

## **11. 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 liquids and debris from elevator operations, and may include oil and hydraulic fluid. Pits can be emptied by gravity draining, discharge using the fire main, transfer to bilge water systems, or containerized for onshore disposal.

*Recommended Best Management Practice*

*Discharge of elevator pit effluent is not authorized within waters subject to the EPA Vessel General Permit except in cases of emergency. If an emergency discharge is required in waters subject to this permit, Elevator Pit Effluent must be treated with an oily-water separator and may be discharged with oil content below 15 ppm as measured by EPA Method 1664. Emergency discharges must be documented in the ship's log or other vessel recordkeeping documentation*

## **12. Fire Main Systems**

Fire main systems draw in water through the sea chest to supply water for fire hose stations, sprinkler systems, or AFFF distribution stations. Fire main stations can be pressurized or non-pressurized and are often used for secondary purposes onboard vessels (e.g., deck and equipment wash-downs, machinery cooling water, ballast tank filling). However, when used for secondary purposes that result in other incidental discharges listed in the proposed permit, that discharge is regulated by the relevant effluent limitation associated with that activity (e.g., rinsing off the anchor chain).

*Recommended Best Management Practice*

*Minimize the discharge from the fire main system while in port. Do not discharge fire main systems in waters federally protected wholly or in part for conservation purposes except in emergency situations or when washing down the anchor chain to comply with anchor wash down requirements in Section III-8 when pulling the anchor and anchor chain from waters.*

### **13. Freshwater Layup**

Seawater cooling systems condense low pressure steam from propulsion plant or generator turbines on some vessels. When a vessel is alongside or in port for more than a few days, the main steam plant is shut down and the condensers do not circulate. This can cause an accumulation of biological growth within the system; consequently, a freshwater layup is carried-out by replacing the seawater in the system with potable water. The freshwater remains stagnant for two hours before being blown overboard using pressurized air. After this, the condensers are considered flushed and are then refilled for the actual layup. After 21 days this fill-water is discharged and replaced and this is done on a 30-day cycle thereafter. Freshwater layup discharges residual saltwater, tap water, and metals leached from the pipes or machinery into the environment.

*Recommended Best Management Practice*

*Minimize the amount of disinfection agents used in freshwater layup to the minimum required to prevent aquatic growth.*

### **14. Gas Turbine Water Wash**

Gas turbines are used for propulsion and electricity generation. Occasionally, they must be cleaned to remove byproducts that can accumulate and affect their operation. These byproducts include salts, lubricants, and combustion residuals. The wastewater from the cleaning process may include cleaning compounds as well.

*Recommended Best Management Practice*

*Gas turbine wash water must not be discharged within waters subject to the EPA Vessel General Permit. Where feasible, such wash-water must be prevented from co-mingling with bilge water that will be discharged in waters subject to the EPA Vessel general Permit, for example by collecting it separately and properly disposing of it on-shore...Under no circumstances may oils, including oily mixtures, from Gas Turbine Wash Water be discharged in quantities that may be harmful as determined in accordance with 40 CFR Part 110.*

### **15. Gray Water**

Gray water is water from showers, baths, sinks, and laundry facilities. Gray water can contain high levels of pathogens, nutrients, soaps and detergents, and organics. Untreated gray water is much more likely to cause environmental impact when it is generated in large volumes (i.e., from cruise ships). Some vessels have the capacity to collect and store gray water for later treatment and

disposal. Those that do not have gray water holding capacity continuously discharge it. For commercial vessels operating on the Great Lakes, gray water is included in the definition of sewage under CWA §312. Section 502(6)(A) of the CWA excludes sewage within the meaning of CWA section 312 from the definition of “pollutant.” Hence, gray water discharges from commercial vessels on the Great Lakes are not regulated by the EPA Vessel General permit.

*Recommended Best Management Practice*

*All vessels must minimize the discharge of gray water while in Port. If the vessel cannot store gray water, the crew should minimize the production of graywater in Port.*

*All vessels that have the capacity to store gray water shall not discharge that gray water in waters federally protected wholly or in part for conservation purposes. For vessels that cannot store gray water, vessel operators must minimize the production of gray water while in waters listed in EPA Vessel Permit section 12.1.*

*For vessels greater than 400 gross registered tons that regularly travel more than 1 nm from shore that have the capacity to store gray water for a sufficient period, gray water must be discharged greater than 1 nm from shore while the vessel is underway. Additional specific requirements for gray water apply to Cruise Vessels and Large Ferries.*

*Vessels that do not travel more than 1 nm from shore shall minimize the production of gray water and must dispose of gray water on shore if appropriate facilities are available and such disposal is economically practicable and achievable. Minimize the discharge of gray water when the vessel is not underway.*

*If gray water will be discharged in waters subject to this permit, the introduction of kitchen oils must be minimized to the gray water system. When cleaning dishes, you must remove as much food and oil residue as practicable before rinsing dishes. Oils used in cooking shall not be added to the gray water system. Oil from the galley and scullery shall not be discharged in quantities that may be harmful*

*Vessel owner/operators must use phosphate free and non-toxic soaps and detergents for any purpose if they will be discharged into waters subject to this permit. These detergents must be free from toxic or bio-accumulative compounds and not lead to extreme shifts in receiving water pH.*

*When underway in nutrient impaired water, or in water that is impaired as a result of nutrient enrichment (such as waters listed as impaired for phosphorus,*

nitrogen, or for hypoxia or anoxia (low dissolved oxygen concentrations)) you must follow the following additional steps:

- When the vessel HAS adequate gray water storage capacity, the vessel shall not discharge gray water into nutrient impaired waters subject to this permit (e.g., the Chesapeake Bay or Puget Sound). A complete list of such waters can be found at ([www.epa.gov/npdes/vessels](http://www.epa.gov/npdes/vessels)).
- If the vessel DOES NOT have adequate storage capacity to eliminate such discharges, gray water production and discharge must be minimized in such waters. Any such discharge must be conducted while the vessel is underway in areas with significant circulation and depth to the extent feasible. Gray water stored while in such waters can later be disposed of on shore or discharged in accordance with the other requirements of the EPA Vessel General Permit.

## **16. 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 and can contain residual oils. Most vessels are designed not to have motor gasoline and compensating discharge.

### Recommended Best Management Practice

*The discharge of motor gasoline and compensating effluent must have oil concentrations of less than 15 ppm as measured by EPA Method 1664. Minimize discharge of motor gasoline and compensating discharge in port. Vessels shall not discharge motor gasoline and compensating discharge in waters subject to the EPA Vessel General Permit.*

## **17. Non-Oily Machinery Wastewater**

Non-oily machinery wastewater systems are intended to keep wastewater from machinery that contains no oil separate from wastewater that has oil content. Vessels can have numerous sources of non-oily machinery wastewater, including distilling plants start-up discharge, chilled water condensate drains, fresh and saltwater pump drains, potable water tank overflows, and leaks from propulsion shaft seals.

### Recommended Best Management Practice

*The discharge must be free from oils and any additives that are toxic or bio-accumulative in nature.*

## 18. 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 channel to a drainage system. Condensate discharge may contain detergents, seawater, food residue, and trace metals.

### Recommended Best Management Practice

*The discharge must be free from oils and any additives that are toxic or bio-accumulative in nature.*

## 19. Seawater Cooling Overboard Discharge (Including Non-Contact Engine Cooling Water, Hydraulic System Cooling Water, Refrigeration Cooling Water)

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.

### Recommended Best Management Practice

*Mud, biota, and other debris can stick to the strainer plates and require periodic clearing. The proposed permit requires that vessel operators incorporate the regular removal of fouling organisms from seawater piping and cooling systems to prevent possible transport of species to other water bodies. The risk of introducing invasive species is reduced considerably when vessel owner/operators remove fouling organisms while at sea (greater than 50 nm from any shore). Hence, vessel owner/operators should clean piping while at sea in lieu of cleaning these systems in waters subject to this proposed permit if they frequently sail far from the coast.*

## 20. Seawater Piping Bio-fouling Prevention

Vessels that utilize 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.

### Recommended Best Management Practice

*Bio-fouling chemicals for seawater piping must be used according to their Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) label and are prohibited from discharge if they are banned for use in the U.S.*

*Vessel owner/operators must use the minimum amount of biocide needed to keep fouling under control. Using visual observations, vessel operators can determine if they are achieving the desired level of bio-fouling prevention with lower concentrations of biocide. If an organic biocide is used, it should have a short half-life. If an oxidizing biocide is being used, the total residual oxidant concentration of the effluent should be monitored periodically to ensure that excessive amounts of biocide are not being released into the environment.*

## **21. Small Boat Engine Wet Exhaust**

Large vessels covered by the proposed permit often have several small boats onboard. Small boat engines use ambient water that is injected into the exhaust for cooling and noise reduction purposes. This wet engine exhaust can contain numerous pollutants when discharged.

### *Recommended Best Management Practice*

*Lifeboat, Rescue Board and other small vessels onboard should be maintained in proper working. If available the vessel should utilize low sulfur or alternative fuels for their vessels to reduce the concentration of pollutants in their discharge.*

*Engines that generate wet exhaust must be maintained in good operating condition and functioning according to manufacturer specifications. Vessel operators are encouraged to consider four-stroke engines in lieu of two-stroke engines to minimize the discharge of pollutants to waters subject to this permit.*

## **22. Sonar Dome Discharge**

Water is used to maintain the shape and pressure of domes that house sonar detection, navigation, and ranging equipment. Discharges occur when the water must be drained for maintenance or repair or from the exterior of the sonar dome.

### *Recommended Best Management Practice*

*Sonar domes are typically found on research vessels and may sporadically be found on other vessels. Sonar domes are not commonly found on cargo vessels.*

*Presently there are no BMP or feasible treatment technology other than zero discharge. It is proposed that water from inside the sonar dome may not be discharged. Vessels should not use bio-accumulative biocides on the exterior of sonar domes when other viable alternatives are available.*

### **23. Underwater Ship Husbandry Discharges**

Underwater ship husbandry is grooming, maintenance, and repair activities of hulls or hull appendages completed while the vessel is located in the water, including hull cleaning, hull repair, fiberglass repair, welding, sonar dome repair, non-destructive testing, masker belt repairs, and painting operations. Underwater ship husbandry discharges are considered incidental to the normal operation of a vessel when ships are maintained in proper operating order and the cleaning is done on a reasonable schedule. For drydock and other large cleaning activities, once every few years may be considered a reasonable schedule.

#### *Recommended Best Management Practice*

*Hull repairs that require the use of significant raw materials or other potentially toxic chemicals should be conducted while the vessel is in dry-dock when feasible. It is recommended that extensive hull cleaning be conducted when the vessel is in dry-dock or when the byproducts of the cleaning can be contained and disposed of properly, especially when cleaning hulls using water pressure based systems*

*Use of non-toxic anti-foulant paints such as silicon based paints will reduce the discharge of toxic materials into the water column during any cleaning.*

### **24. Well-Deck Discharges**

The well-deck is a floodable platform used for launching or loading small satellite vessels, vehicles, and cargo (i.e. semi-submersible vessel). Well-deck discharges may include water from precipitation, well-deck and storage area wash-downs, equipment and engine wash-downs, and leaks and spills from stored machinery.

#### *Recommended Best Management Practice*

*Vessel operators practice good housekeeping to ensure that no garbage or wastes that can cause a visible sheen are discharged. Should these wastes be present, the vessel operator must retain the discharge for onshore disposal.*

### **25. Gray Water Mixed with Sewage from Vessels**

Depending on how the vessel is designed, gray water and sewage may be combined into one effluent stream. Discharges of gray water that contain sewage are eligible for coverage under this proposed permit (except for commercial vessels in the Great Lakes) and must meet the discharge limitation requirements under Part 2, as well as any requirements applicable to sewage, although these are not contained in this permit.

Recommended Best Management Practice

*Not all vessels mix gray water with sewage discharges. If the vessel mixes the gray water with the sewage discharge minimization requirements, prohibitions, standards, and other requirements as applicable to gray water (Section III-15 Above) as appropriate are also required for gray-water containing sewage. Sewage waste is a MARPOL requirement and is not a part of this EPA Vessel General Permit. The vessel should ensure the sewage system is in operating in accordance with the manufactures manual and the US Clean Water Act (CWA) Section 312..*

**26. Exhaust Gas Scrubber Wash-Water Discharge**

Exhaust gas scrubber wash water discharge (EGS wash-water discharge) occurs as a result of operating or cleaning the exhaust gas cleaning systems (e.g. scrubbers) for marine diesel engines. After the washing solution is returned from the scrubber, the wash-water can be either treated and discharged overboard, or alternatively, it can be piped to a clean bilge water tank or other suitable holding tanks. While many of the captured contaminants (sludge) are transferred to the vessel's sludge tank, the constituents of EGS wash-water discharge can include residues of nitrogen oxides (NO<sub>x</sub>), sulfur oxides (SO<sub>x</sub>) and particulate matter (PM) emissions captured by the scrubbers. EGS wash water discharge can also contain traces of oil, polycyclic aromatic hydrocarbons (PAHs), heavy metals and nitrogen. Depending on the geographic location of the EGS wash water discharge, the pH level and turbidity of the receiving water may be altered.

Recommended Best Management Practice

*Since there are few such systems in use, there is no best management practice available. Discharges from these systems are prohibited in waters subject to this permit.*

*For vessels which have an inert gas system, the effluent produced from inert gas scrubbers may be discharged into waters subject to this permit. The discharges of water from deck seals are authorized when such seals are installed as an integral part of an IGS system.*

## **IV. Items NOT covered by the EPA Vessel General Permit, but Covered by Other U.S. Regulations**

### **1. Sewage from Vessels**

The definition of “pollutant” in the Clean Water Act 502(6)(A) specifically excludes “sewage from vessels’ within the meaning of [Section 312 of the Clean Water Act].” These discharges are instead regulated under section 312 of the CWA.

### **2. Used or Spent Oil**

The discharge of used or spent oil no longer being used for its intended purpose is not eligible for coverage under the proposed permit. This also prohibits the discharge of used or spent oil by adding it to a discharge stream that is eligible for coverage under the proposed permit.

Discharges of small amounts of oil incidental to the normal operation of a vessel are permissible provided appropriate effluent limits are met, including that oil is not discharged in quantities that are harm , pursuant to 40 CFR Part 110.3.

### **3. Rubbish, Trash, Garbage or Other Materials Discharged Overboard**

Rubbish, trash, garbage or other materials discharged overboard are not eligible for coverage under the proposed permit because such materials are not subject to the 40 CFR 122.3(a) exclusion. Furthermore, EPA notes that the Act to Prevent Pollution from Ships (APPS), which implements MARPOL Annex V, contains prohibitions against the discharge of garbage within the 3-mile territorial sea and in inland waters. Those requirements, including additional requirements for special areas and wastes mixed with garbage, are implemented in the U.S. Coast Guard regulations at 33 CFR 151.66.

### **4. Photo Processing Waste**

Photo processing waste includes a wide variety of compounds, such as ammonia, sulfuric acid, and silver. It is not eligible for coverage under the proposed permit; it is generated in small quantities and can be held for proper disposal onshore.

### **5. Effluent from Dry Cleaning Operations**

Tetrachloroethylene, also known as TCE, perchloroethylene, or PERC, is a highly toxic substance primarily used by the dry cleaning industry. When humans are exposed to TCE it can cause dizziness, headache, nausea, nervous system

problems, unconsciousness, and death. It is a probable human carcinogen. TCE is toxic at low levels and can contaminate soil and water. TCE discharges associated with dry-cleaning activities on vessels are not proposed to be eligible for coverage under the proposed permit because they are not incidental to the normal operation of a vessel.

#### **6. Discharges of Medical Waste and Related Materials**

The discharge of medical waste as defined in 33 U.S.C. 1362(20), spent or unused pharmaceuticals, formaldehyde or other biohazards no longer being used for their intended purposes are not eligible for coverage under this permit. EPA considers these discharges as not being subject to the NPDES permit exclusion.

#### **8. Discharges of Noxious Liquid Substance (NLS) Residues**

The proposed permit will not authorize the discharges of noxious liquid substance (NLS) residues subject to 46 CFR 153.1102. Under 46 CFR 153.1102, discharges of NLS residues are either prohibited or, if allowable, may only take place at sea at least 12 nautical miles from the nearest shore.

#### **9. Discharges Currently or Previously Covered by Another Permit**

Any vessel discharge that is currently or has previously been covered by either an individual NPDES permit or another general NPDES permit is not eligible for coverage under the proposed permit. The proposed general permit is not intended to supplant or replace any current or previous NPDES permit.

## **V. Additional Items For Tankers**

After every instance of loading or unloading operations or immediately following washing down the decks, the vessel's crew must conduct a visual sheen test.

Deck scuppers should be blocked during cargo operations to prevent oil from contaminating discharges authorized. Any oil that is spilled must be cleaned up with oil absorbent cloths or other device to minimize contamination of any authorized discharge.

The visual sheen test is used to detect free oil by observing the surface of the receiving water for the presence of an oily sheen. The crew should focus the inspection on the area surrounding the vessel where effluent from loading operations or deck washings discharge into the receiving water.. If an oil sheen is observed the crew must report it in accordance with the reporting procedures and take corrective action. Note: US Regulation 40 CFR 110 or 40 CFR 302, if a visible sheen is detected, it must be reported to the **Coast Guard National Response Center (NRC): 1 800-424-8802 or 202-426-2675.**

The discharges of water from deck seals are authorized when such deck seals are installed as an integral part of an inert gas scrubber system. These requirements represent existing good marine practice for these vessels.

The crews of oil tankers play a key role in minimizing the discharge of pollutants from vessel operations. Therefore oil tanker operators are subject to the following requirements:

- The ship's crew must receive training regarding shipboard environmental procedures and must be able to demonstrate proficiency in implementing these procedures.
- Advanced training in shipboard environmental management procedures must be provided for those directly involved in managing specific discharge types or areas of the ship and these crew must be able to demonstrate proficiency in implementing these procedures.
- Appropriate reprimand procedures must be developed for crew actions that lead to violations of any effluent limit set forth in this permit or procedures established by the vessel operator to minimize the discharge of pollutants.

## **VI. Corrective Actions**

If a problem or deficiency is identified during an inspection, or occurred by accident, the crew is expected to conduct a “root cause analysis” as to why problem occurred, and document what steps were taken to eliminate the problem and prevent future occurrences.

The Safety Management System (SMS) or other onboard corrective action assessment or deficiency report shall be completed as soon as any of the listed problems are identified. Any problems that constitute violations of permit requirements (instances of noncompliance) must be either noted as part of the vessel’s records or reported to EPA. The report must give a detailed account of the problem identified, and corrective actions to rectify the problem.

The SMS forms and or corrective action assessment report must be kept with the other recordkeeping documentation for review.

The US EPA emphasizes that time frames are not grace periods within which an operator is relieved of any liability for a permit violation. When any of the problems are identified, such as discovery effluent limits are being violated, the owner/operator must take steps to ensure the problems causing the violations are eliminated. If the original inadequacy constitutes a permit violation, then that violation is not excused by the time frame EPA has allotted for corrective action.

Time limits are included specifically so that problems are not allowed to persist indefinitely.

### **Failure to take the necessary corrective action within the stipulated time limit constitutes an additional and independent EPA permit violation.**

The EPA has designated three deadlines for corrective actions on how extensive the corrections are. For example:

- A minor adjustment may include altering practices for material or equipment storage that cause contamination during a precipitation or high wave event. Corrective actions to prevent these effluent violations in the future must be implemented as soon as possible but no more than 2 weeks after the discovery of the problem. For example, if materials caused contamination of the deck wash-down water, or bilge water containing emulsifiers, detergents, or other additives was discharged, then violations have occurred.
- A major adjustment may include drips or spills from leaky infrastructure, or operations that cause violations, but can be repaired or corrected without the vessel being put into dry dock. These adjustments or repairs could include fixing

leaking pipe connections or seals that allow oil or other contaminants to reach discharges; installation of drip pans to prevent equipment spills or machinery area runoff from reaching deck wash-down effluent; or requiring additional training of crew on correct compliance procedures if vessel activities are not in compliance with the permit.

Major adjustments must be made within 3 months. During the period immediately following the initial violation and before the corrective action has been completed, the vessel operator must make every effort to reduce potential environmental harm. If longer than 3 months is required, the appropriate EPA regional office must be notified of why the additional time is needed and a date when the correction is anticipated to be completed. This information must be recorded in the vessel's recordkeeping documentation.

- A major renovation is one that can only be performed in dry dock. This may include such modifications as re-plumbing waste lines, rerouting drains, or installation of additional holding capacity for select discharge types; or over-coating or removal of TBT on vessels previously coated with this anti-fouling hull coating.

Major renovations must be accomplished during the next available or scheduled opportunity for dry dock renovations. An owner/operator that has a vessel that is in dry dock after incurring a violation that does not take corrective action to alleviate the identified problem will be in violation of the corrective actions section of the permit for every occurrence or discharge after re-launching the vessel (in addition to any original violations prior to going into dry-dock).

## **VII. Reporting**

The US EPA requires reports of spills and other unauthorized discharges. Spills or discharges that affect drinking water supplies, recreational waters, elicit fish kills, or endanger human health or the environment must be reported orally to the appropriate EPA regional office within 24 hours from the time of discovery, followed by an electronic or written report within 5 days. The release of a reportable quantity of any hazardous substance or oil must be reported to the **Coast Guard National Response Center (NRC): 1 800-424-8802 or 202-426-2675.**

Follow-up monitoring results should be reported via the electronic system (when available) or in writing to the appropriate EPA Regional Office within 30 days of receiving the results.

The report should include the permit identification number; vessel name, address and location; receiving water; monitoring data from this and the preceding monitoring event(s); an explanation of the situation; what has been done and shall be done to further reduce pollutants in the discharge; and an appropriate contact name and phone number. Vessel owner/operators must report any instances of noncompliance with the proposed permit at least once per year to the regional offices. This is a requirement under the standard permit conditions at 40 CFR 122.41. Vessel operators must report the noncompliance to the regional office responsible for the waters in which the noncompliance occurred. If vessels have multiple occurrences of noncompliance, they must report the noncompliance to the regional office where either 1) the greatest number of noncompliance events occurred, or 2) if the same number of noncompliance events occurred, to the regional office responsible for waters where the vessel spent the most time.

Cruise ships and ferries have additional reporting requirement pertaining to gray water treatment systems or monitoring data on biocides or derivatives of those biocides from experimental ballast water treatment systems.

The EPA Vessel General Permit will require vessel owner/operators to submit a one-time report that contains basic information about the vessel after the 30th month of permit coverage. The report must include the owner and operator name(s) and addresses, the name of the vessel, the flag of the vessel, the size of the vessel, whether or not the monitoring conditions of the permit have been met, and the date of submission of the report.

## **VIII. Onboard Inspections & Recommended Forms**

The VGP guidelines require routine self-inspection and monitoring of all areas of the vessel that the permit addresses. The routine self-inspection must be documented in the ship's logbook. Analytical monitoring is required for certain types of vessels. The VGP also requires comprehensive annual vessel inspections, to ensure even the hard-to-reach areas of the vessel are inspected for permit compliance. If the vessel is placed in dry dock while covered under this permit, a dry dock inspection and report must be completed.

Additional monitoring requirements are imposed on certain classes of vessels, based on unique characteristics not shared by other vessels covered under the VGP.

The following forms are recommended for use in recording on board inspections:

**RECORD OF INSPECTIONS**

| <b>Applicable to Vessel</b> | <b>Ref.</b> | <b>NPDES Description</b>   | <b>Date of Last Inspection</b> | <b>Comments</b> |
|-----------------------------|-------------|--|--------------------------------|-----------------|
| <input type="checkbox"/>    | III-1       | Deck Runoff  |                                |                 |
| <input type="checkbox"/>    | III-2       | Bilge Water / Oily Water Separator Effluent  |                                |                 |
| <input type="checkbox"/>    | III-3       | Ballast Water  |                                |                 |
| <input type="checkbox"/>    | III-4       | Anti-Fouling Leachete from Anti-Fouling Hull Coatings / Hull Coating Leachete                                      |                                |                 |
| <input type="checkbox"/>    | III-5       | Aqueous Film Forming Foam (AFFF)   |                                |                 |
| <input type="checkbox"/>    | III-6       | Boiler / Exhaust Gas Economizer Blow Down  |                                |                 |
| <input type="checkbox"/>    | III-7       | Cathodic Protection  |                                |                 |
| <input type="checkbox"/>    | III-8       | Chain Locker Effluent  |                                |                 |
| <input type="checkbox"/>    | III-9       | Controllable Pitch Propeller (CPP) Hydraulic Fluid; Rudder Bearing Lubrication Discharge; Stern Tube Oil Discharge |                                |                 |
| <input type="checkbox"/>    | III-10      | Freshwater Generator Distillation and Reverse Osmosis Brine  |                                |                 |
| <input type="checkbox"/>    | III-11      | Elevator Pit Effluent  |                                |                 |

**RECORD OF INSPECTIONS (CONT.)**

| <b>Applicable to Vessel</b> | <b>Ref.</b> | <b>NPDES Description</b>   | <b>Date of Last Inspection</b> | <b>Comments</b> |
|-----------------------------|-------------|--|--------------------------------|-----------------|
| <input type="checkbox"/>    | III-12      | Fire Main Systems  |                                |                 |
| <input type="checkbox"/>    | III-13      | Freshwater Layup   |                                |                 |
| <input type="checkbox"/>    | III-14      | Gas Turbine Wash Water   |                                |                 |
| <input type="checkbox"/>    | III-15      | Gray Water   |                                |                 |
| <input type="checkbox"/>    | III-16      | Motor Gasoline and Compensating Discharge  |                                |                 |
| <input type="checkbox"/>    | III-17      | Non-Oily Machinery Wastewater  |                                |                 |
| <input type="checkbox"/>    | III-18      | Refrigeration and Air Condensate Discharge   |                                |                 |
| <input type="checkbox"/>    | III-19      | Seawater Cooling Overboard Discharge (Including Non-Contact Engine Cooling Water, Hydraulic System Cooling Water, Refrigeration Cooling Water) |                                |                 |
| <input type="checkbox"/>    | III-20      | Seawater Piping Biofouling Prevention  |                                |                 |
| <input type="checkbox"/>    | III-21      | Small Boat Engine Wet Exhaust  |                                |                 |
| <input type="checkbox"/>    | III-22      | Sonar Dome Discharge   |                                |                 |

**RECORD OF INSPECTIONS (CONT.)**

| <b>Applicable to Vessel</b> | <b>Ref.</b> | <b>NPDES Description</b>                  | <b>Date of Last Inspection</b> | <b>Comments</b> |
|-----------------------------|-------------|---|--------------------------------|-----------------|
| <input type="checkbox"/>    | III-23      | Underwater Ship Husbandry                 |                                |                 |
| <input type="checkbox"/>    | III-24      | Well Deck Discharge                       |                                |                 |
| <input type="checkbox"/>    | III-25      | Gray Water Mixed with Sewage from Vessels |                                |                 |
| <input type="checkbox"/>    | III-26      | Exhaust Gas Scrubber Wash Water Discharge |                                |                 |

**ROUTINE/QUARTERLY ONBOARD INSPECTION REPORT**

M/V \_\_\_\_\_

Vessel self-inspections are required as a means of identifying sources of spills, broken pollution prevention equipment, or other situations that are or might lead to permit violations and allow the owner/operator to correct the situation as soon as possible.

Onboard -inspections can and must be conducted while the vessel is underway as well as while in port, and are designed to fit easily into other, already established vessel routines. Areas inspected should include the items listed in Section 3

If the vessel hull is not readily visible, it should be inspected when feasible, particularly the portions of the hull above the water line at any given time. Effluent streams that are not readily visible, such as those discharged below the waterline, require, at a minimum, quarterly visual sampling or viewing, and visual inspection of the sample. Examination of these discharges ensures that all effluent streams are examined on a regular basis for indicator substances prohibited from entering any effluent stream without imposing complicated sampling and testing requirements on vessel owner/operators. **For sample streams that can be easily collected, the vessel should use a clear bottle or other appropriate device to remove a portion of the discharge. Samples can be collected from sampling ports or the inspector can also remove sample streams from small draincocks. This sample should be visually examined. The examiner must look for signs of any obvious constituents of concern such as sheens or unexpected discoloration. If these visual indicators of constituents of concern are noted, the owner/operator must initiate the corrective action process. If the sample stream is not easily obtainable, then the inspector must examine the discharge at the last point before the effluent stream is discharged overboard if feasible. If this is not feasible, the vessel must document in their recordkeeping documentation that such visual sampling is not feasible.**

Vessels with an oily water separator (OWS) should also conduct a visual inspection of the bilge water effluent to verify the effectiveness and operational status of the OWS. Any appearance of oil in the bilge water discharge signals to the vessel that oily water separator repairs or maintenance may be necessary.

**To establishes a record of inspections conducted for both the vessel, operator, and US EPA to track compliance with the proposed permit the Master or designee shall document each routine visual inspection by making a notation in the official logbook or other recordkeeping documentation, signed by the person conducting the inspection, and include basic information relating to the inspection.**

Were there any deficiencies or problems noted that require corrective action: \_\_\_\_\_.

If so the vessel should refer to the Corrective Action Section and complete the necessary onboard Safety Management System (SMS) Deficiency/Corrective Action form.

Name and Signature of crewman conducting inspection: \_\_\_\_\_

Master: \_\_\_\_\_ Date: \_\_\_\_\_

(sign and ship's stamp)

## ANNUAL INSPECTION REPORT

**The comprehensive annual inspection requirements is a** detailed, thorough inspection of areas of the vessel that are difficult to inspect on a regular basis. Annual inspection of these areas ensures they are inspected frequently enough to identify and correct problems. In addition, the annual review of all inspection and monitoring data highlights problem areas of the vessel that may need additional attention. This allows the Master, owner, or operator to establish and implement additional procedures applicable to problem areas to reduce future problems.

**Vessels may use applicable portions of the results from the annual inspections conducted by the Coast Guard or the classification society to meet some requirements of the annual inspection.**

For example, if the Coast Guard examines the oily water separator, then the owner may note in their inspection report that the Coast Guard had completed the inspection and they would not be required to inspect it again. However, for portions of the vessel that are not inspected by the Coast Guard or classification society for environmental performance, the owner/operator must conduct an inspection to be sure that the vessel is meeting requirements of this permit. Regardless of who conducts the inspections, the owner/operator is responsible for a thorough inspection being conducted and taking corrective actions based on that inspection.

If the owner/operator is unsure of the quality of inspections that they will use as part of their annual inspection, EPA strongly recommends they use their own personnel to conduct the full inspection. The vessel, owner/operator is ultimately responsible for completion of this requirement.

Areas that inspectors must examine include, but are not limited to:

- Vessel hull for attached living organisms, flaking antifouling paint, exposed TBT surfaces,
- Ballast water tanks, as applicable
- Bilges, pumps, and OWS sensors, as applicable,
- Protective seals for lubrication and hydraulic oil leaks, and
- All visible pollution control measures to ensure that they are functioning properly.

**To establish a record of inspections conducted for both the vessel, operator, and US EPA to track compliance with the proposed permit the Master or designee shall document each annual inspection by making a notation in the official logbook or other recordkeeping documentation, signed by the person conducting the inspection, and include basic information relating to the inspection.**

Were there any deficiencies or problems noted that require corrective action: \_\_\_\_\_.

If so, the vessel should refer to the Corrective Action Section and complete the necessary onboard Safety Management System (SMS) Deficiency/Corrective Action form.

Name and Signature of crewman conducting inspection: \_\_\_\_\_

Master: \_\_\_\_\_ Date: \_\_\_\_\_  
(sign & ship stamp)

## DRYDOCK INSPECTION REPORT

**When a vessel is in drydock, it is much easier to access a wide range of areas on the vessel that are not easily accessible while the vessel is in water. The thorough examination of the vessel that occurs while it is in drydock provides owner/operators with an additional opportunity to implement the permit's requirements.**

**The vessel can utilize this inspection report or provide other documentation to verify the Drydock Inspection Report was completed. The inspection report must be made available to the US EPA or an authorized representative of EPA upon request.**

M/V \_\_\_\_\_

- The chain locker has been inspected and if necessary cleaned for both sediment and living organisms.
- The vessel hull has been inspected for attached living organisms and those organisms have been removed or neutralized.
- Antifouling hull coatings have been applied, maintained, and removed consistent with the US Federal Insecticide, Fungicide, and Rodenticide Act (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.
- The vessel hull has been inspected for attached living organisms and those organisms have been removed or neutralized.
- For all cathodic protection, anodes or dialectic coatings have been cleaned and/or replaced to reduce flaking.
- All Pollution Control Equipment is maintained and functioning properly.

**To establish a record of inspections conducted for both the vessel, operator, and US EPA to track compliance with the proposed permit the Master or designee shall document each drydock inspection by making a notation in the official logbook or other recordkeeping documentation, signed by the person conducting the inspection, and include basic information relating to the inspection.**

Master: \_\_\_\_\_ Date: \_\_\_\_\_  
(sign & ship stamp)

Superintendent: \_\_\_\_\_