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Regulation of
Discharges incidental to the
Normal operations of a vessel

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Introduction

Vessels have been discharging liquids and other material into the surrounding waters as a routine practice since before they carried propulsion machinery and tanks for ballast water. In fact, demonstrating how things have changed while staying the same, there is an old statute still on the books in Alaska prohibiting the discharge of ballast (rocks, etc.) from a vessel into the navigable portion of a waterway in such a manner as to obstruct the navigation thereof.¹ The statute derives from the Gold Rush era when ships would carry stone ballast on voyages to Alaska and then, hopefully, load gold and ore for the voyage back to civilization. Sensibilities and specific concerns have changed with time, but regulation of vessel discharges continues apace.

Background

Congress adopted the original Water Pollution Control Act in 1948.² The statute was so general and toothless that it was widely recognized as ineffectual. In 1972, Congress adopted significant amendments to the Federal Water Pollution Control Act (FWPCA), also known as the Clean Water Act (CWA).³ Among its various provisions, the FWPCA amendments established the National Pollutant Discharge Elimination System (NPDES) to regulate the discharge of pollutants for which discharge was not otherwise prohibited.⁴ Shortly before the bill was enacted into law, Representative Robert E. Jones, Jr. (D-AL), Chairman of the Conference Committee that crafted the bill, stated on the record that the Conference Committee “would not expect the Administrator to require permits to be obtained for any discharges from properly functioning marine engines.”⁵

In its Notice of Proposed Rulemaking (NPRM) relating to the NPDES, the EPA proposed to exclude from coverage of the NPDES: (1) sewage from vessels; (2) any addition of any pollutant to the waters of the contiguous zone or the ocean from any vessel or other floating

¹ Alaska Statutes § 30.50.020. Violations are punishable by imprisonment in a jail for not less than three months nor more than one year, or by a fine of not less than \$100 nor more than \$500.

² Act of June 30, 1948, ch. 758, 62 Stat. 1155. Over time, this statute came to be called the Federal Water Pollution Control Act.

³ Federal Water Pollution Control Act Amendments of 1972, Pub.L. 92-500, 86 Stat. 816 (October 18, 1972). The FWPCA is codified at 33 U.S.C. §§ 1251-1387.

⁴ 33 U.S.C. § 1342, as added by Pub.L. 92-500, sec. 2, 86 Stat. 880 (October 18, 1972). The primary, but by no means the only regulations implementing the NPDES program are found at 40 CFR Part 122 – EPA Administered Permit Programs: The National Pollutant Discharge Elimination System; 40 CFR Part 123 – State Permit Programs; 40 CFR Part 124 – Procedures for Decisionmaking; and 40 CFR Part 125 – Criteria and Standards for the National Pollutant Discharge Elimination System.

⁵ Congressional Record for October 10, 1972, page E8454, Extension of Remarks, as cited in Notice of Proposed Rulemaking, National Pollutant Discharge Elimination System, 38 Fed. Reg. at 1364, footnote 3 (January 11, 1973).

craft; and (3) discharges from properly functioning marine engines.⁶ When, some months later, the EPA promulgated the final rule implementing the NPDES, the agency amended the proposed language to exclude from the NPDES requirements “any discharge of sewage from vessels, effluent from properly functioning marine engines, laundry, shower, and galley sink wastes, or any other discharge incidental to the normal operation of a vessel.”⁷ Although ballast water discharges were not specifically mentioned in the regulation, from the beginning they were included within its ambit. In the preamble to the final rule, the EPA explained the new wording as follows: “Most discharges from vessels to inland waters are now clearly excluded from the permit requirements. This type of discharge generally causes little pollution and exclusion of vessel wastes from the permit requirements will reduce administrative costs drastically.”⁸

Significant amendments to the FWPCA were adopted by the Clean Water Act of 1977.⁹ Among the programs that were reviewed and changed by this legislation was the NPDES.¹⁰ In reaction to these changes, the EPA extensively revised the NPDES regulations.¹¹ Research has not revealed any questions arising at that time regarding EPA’s interpretation of the NPDES as regards the exemption of discharges incidental to the normal operation of a vessel and that provision of the regulation was not changed.¹²

As part of the National Defense Authorization Act for Fiscal Year 1996,¹³ Congress included a provision establishing a uniform regulatory regime for discharges from vessels of the

⁶ NPRM, National Pollutant Discharge Elimination System, 38 Fed. Reg. at 1361, 1363-4 (January 11, 1973). The exclusion of sewage was based on the FWPCA, section 502(6)(A), stating that “pollutant” does not include ‘sewage from vessels’ within the meaning of section 312 of the Act. The exclusion of any addition of any pollutant to the waters of the contiguous zone or the ocean from any vessel or other floating craft is derived from the FWPCA, section 502(12)(B). The exclusion of discharges from properly functioning marine engines is derived from the remarks of Representative Jones cited in footnote 5 above and accompanying text.

⁷ Final Rule, National Pollutant Discharge Elimination System, 38 Fed. Reg. 13527 (May 22, 1973). The incidental discharge provision originally was located at 40 CFR § 125.4(a), as promulgated at 98 Fed. Reg. 13530. This provision is now located at 40 CFR § 122.3(a), but the wording is unchanged.

⁸ 38 Fed. Reg. at 13528.

⁹ The Clean Water Act of 1977, Pub.L. 95-217, 91 Stat. 1566 (December 27, 1977).

¹⁰ Provisions of the Clean Water Act of 1977 affecting or amending the NPDES are found at 91 Stat. 1577, 1588, 1591, 1599, and 1600.

¹¹ Final Rule, National Pollutant Discharge Elimination System; Revision of Regulations, 44 Fed. Reg. 32853 (June 7, 1979).

¹² In the preamble of the 1979 rulemaking, there is a discussion of other aspects of the exclusion regulation, but not one word regarding the incidental discharge exclusion. See, 44 Fed. Reg. 32859-60.

¹³ Pub.L. 104-106, 110 Stat. 186 (February 10, 1996).

armed forces.¹⁴ A major purpose of the provision was to enhance the operational flexibility of vessels of the US Armed Forces by preventing states and local governments from imposing disparate environmental standards on those vessels.¹⁵ It did this by requiring the Administrator of the EPA, in consultation with the Secretary of Defense and other stakeholders, to develop an inventory of the various discharges incidental to the normal operation of a vessel of the Armed Forces¹⁶ and then to promulgate federal standards of performance for each marine pollution control device needed to mitigate to the maximum practicable extent the adverse impacts on the marine environment of those discharges.¹⁷ The term *discharge incidental to the normal operations of a vessel* was defined as:

- (A) meaning a discharge, including:
 - (i) graywater, bilge water, cooling water, weather deck runoff, ballast water, oil water separator effluent, and any other pollutant discharge from the operation of a marine propulsion system, shipboard maneuvering system, crew habitability system, or installed major equipment, such as an aircraft carrier elevator or a catapult, or from a protective, preservative, or absorptive application to the hull of the vessel; and
 - (ii) a discharge in connection with the testing, maintenance, and repair of a system described in clause (i) whenever the vessel is waterborne; and
- (B) does not include:
 - (i) a discharge of rubbish, trash, garbage, or other such material discharged overboard;
 - (ii) an air emission resulting from the operation of a vessel propulsion system, motor driven equipment, or incinerator; or
 - (iii) a discharge that is not covered by part 122.3 of title 40, Code of Federal Regulations (as in effect on the date of enactment of subsection (n)).¹⁸

The brief legislative history of what has come to be known as the Uniform National Discharge Standard (UNDS), as reported in the Conference Report of the legislation, states:

The Senate amendment contained a provision (sec. 322) that would address incidental discharges from vessels of the armed forces through the development of uniform national discharge standards. The Federal Water pollution (sic) Control Act,

¹⁴ Pub.L. 104-106, section 325, 110 Stat. 254-260 (February 10, 1996); largely codified at 33 U.S.C. § 1322(n).

¹⁵ Pub.L. 104-106, section 325(a)(1), 110 Stat. 254 (February 10, 1996).

¹⁶ Pub.L. 104-106, section 325(b), 110 Stat. 254 (February 10, 1996), codified at 33 U.S.C. § 1322(n)(2). The inventory of discharges requiring control is found at 40 CFR § 1700.4. The inventory of discharges not requiring control is found at 40 CFR § 1700.5.

¹⁷ Pub.L. 104-106, section 325(b), 110 Stat. 255 (February 10, 1996) codified at 33 U.S.C. § 1322(n)(3). The federal standards of performance for marine pollution control devices for the various discharges are still under development.

¹⁸ Pub.L. 104-106, section 325(c)(1)(C), 110 Stat. 258-259 (February 10, 1996), codified at 33 U.S.C. 1322(a)(12).

33 U.S.C. 1251 et seq., and implementing regulations currently exempt incidental vessel discharges from permitting requirements. Incidental discharges remain subject to varying state regulation. The lack of uniformity has presented operational problems for the Navy.

The Senate amendment is modeled after section 312 of the Federal Water Pollution Control Act, 33 U.S.C. 1322, which establishes uniform national discharge standards for sewage discharges from all vessels. The standards provision would extend this model to regulate non-sewage incidental discharges from vessels of the armed forces.¹⁹

Petition and litigation

In 1999, several environmental advocacy groups petitioned the EPA to regulate ballast water discharges under the NPDES program.²⁰ The petition was denied, with the EPA stating, among other things, that subsequent to the enactment of the 1972 FWPCA amendments, Congress had charged the US Coast Guard with regulation of ballast water discharges.²¹

The environmental advocacy groups brought suit against the EPA, contending that the EPA rule excluding discharges incidental to the normal operation of a vessel was contrary to the statute and that the denial of the 1999 petition was improper.²² On cross motions for summary

¹⁹ Conference Report to accompany S. 1124, National Defense Authorization Act for Fiscal Year 1996, Report 104-450, page 768 (January 22, 1996). [Emphasis added].

²⁰ Petition of Pacific Environmental Advocacy Center to Carol Browner, Administrator, EPA, dated January 13, 1999. The petitioners were: Northwest Environmental Advocates; Association of California Water Agencies; Center for Marine Conservation; Pacific Coast Federation of Fisherman's Association; San Francisco Bay Keepers; Great Lakes United; Chippewa-Ottawa Treaty Fishery Management Authority; Quoddy Spill Prevention Group; Great Lakes Sportfishing Council; People for the Puget Sound; Coastal Waters Project; Dogwood Alliance; Friends of the San Juan; Ted Lampert, California State Assembly Member; and DeltaKeeper.

²¹ Response of Marianne Lamont Horinko, Acting EPA Administrator, dated September 2, 2003. The response also refers to the long-standing acquiescence of Congress to the incidental discharge regulation and to the adoption by Congress of the UNDS program for vessels of the Armed Forces. Notice of the petition denial was published in the Federal Register, 68 Fed. Reg. 53165 (September 9, 2003). Attempts to directly address ballast water concerns in the United States began with the Nonindigenous Aquatic Nuisance Prevention and Control Act (NANPCA), Pub.L. 101-646, 104 Stat. 4761 (November 29, 1990). This measure was expanded and strengthened by the National Invasive Species Act (NISA), Pub.L. 104-332, 110 Stat. 4073 (October 26, 1996). Implementation and enforcement of the ballast water management program of NANPCA and NISA were largely delegated to the US Coast Guard. See, 33 CFR Part 151, Subpart C – Ballast Water Management for Control of Nonindigenous Species in the Great Lakes and Hudson River; and Subpart D - Ballast Water Management for Control of Nonindigenous Species in waters of the United States.

²² In their complaint, plaintiffs requested a declaration that the EPA's failure to rescind 40 CFR § 122.3(a) was in clear violation of the FWPCA and an injunction directing the EPA to repeal and rescind the regulation. Plaintiffs asserted that promulgation of the regulation was inconsistent with the statute and thus unlawful and that denial of the petition was arbitrary, capricious, and an abuse of discretion.

judgment, the Federal District Court for the Northern District of California ruled in favor of the environmental advocacy groups and held that the incidental discharge regulation was in excess of the agency's authority.²³ After a second hearing, the court ruled that the incidental discharge exclusion was to be vacated as of September 30, 2008²⁴ (this was subsequently extended to December 19, 2008, and then to February 6, 2009). On June 21, 2007, the EPA issued a notice stating that it had begun the process of compliance with the court order.²⁵ Contemporaneously, the decision was appealed to the US Court of Appeals for the Ninth Circuit, which affirmed the lower court ruling.²⁶

Discharge permit program

On June 17, 2008, the EPA published in the Federal Register a notice stating that each of its ten Regions proposed to issue Vessel General Permits (VGPs) under the NPDES program to commercial and recreational vessels greater than or equal to 79 feet in length to cover discharges incidental to the normal operation of those vessels.²⁷ While smaller vessels were originally to be included in the overall permit program, most were exempted by subsequently adopted legislation.²⁸ The EPA estimates that the best management practices (BMPs) in the VGP will cost the regulated industry between \$5.6 million and \$19.1 million annually. Including paperwork requirements, the permit program is estimated to cost between \$7.1 and \$25.0 million annually.²⁹

²³ Northwest Environmental Advocates v. U.S. Environmental Protection Agency, 2005 WL 756614 (N.D. Cal. 2005). The court found that there was not overwhelming evidence of acquiescence by Congress in the EPA exemption of incidental discharges. The court, though, failed to discuss the 1972 statement on the record by Representative Jones. The court relied heavily on Natural Resources Defense Council, Inc. v. Costle, 568 F.2d 1369 (D.C. Cir. 1977) which held, in pertinent part, that an NPDES permit is the only means by which a discharger may escape total prohibition of discharges from point sources and that the FWPCA does not authorize the EPA to exclude relevant point sources from the program. *Note*: While this holding of the Costle court may have been accurate when the decision was rendered in 1977, it was not accurate once Congress adopted the statutes directing the US Coast Guard to regulate ballast water discharges.

²⁴ Northwest Environmental Advocates v. U.S. Environmental Protection Agency, 2006 WL 2669042 (N.D. Cal. 2006).

²⁵ EPA Notice – Development of Clean Water Act National Pollutant Discharge Elimination System Permits for Discharges Incidental to the Normal Operation of Vessels, 72 Fed. Reg. 34241 (June 21, 2007).

²⁶ Northwest Environmental Advocates v. U.S. E.P.A., 537 F.3d 1006 (9th Cir. 2008).

²⁷ EPA Notice – Draft National Pollutant Discharge Elimination System (NPDES) General Permits for Discharges Incidental to the Normal Operation of a Vessel, 73 Fed. Reg. 34296 (June 17, 2008).

²⁸ The Clean Boating Act of 2008, Pub.L. 110-288, 122 Stat. 2650 (July 29, 2008), exempts from the NPDES program discharges incidental to the normal operation of recreational vessels. The Act of July 31, 2008, Pub.L. 110-299, 122 Stat. 2995, exempts from the program for a 2-year period discharges incidental to the normal operations of covered vessels. 'Covered vessel' means a vessel less than 79 feet in length or a fishing vessel, regardless of length.

²⁹ See, 73 Fed. Reg. at 34303.

On December 18, 2008, the EPA released an advance copy of a Federal Register notice announcing that each of its ten Regions were finalizing an NPDES VGP to cover discharges incidental to the normal operation of vessels.³⁰ The VGP was scheduled to come into effect on December 19, 2008. On December 19, though, the agency announced that the federal district court had granted a motion to delay implementation of the VGP program until February 6, 2009.³¹ The final version of the VGP was issued on February 5, 2009. The federal portion of the permit was unchanged from the earlier version, but there were various changes to some of the state provisions. A summary of the federal aspects follows.

The VGP program will apply to ships in waters of the United States out to the traditional three nautical mile limit of the territorial sea.³²

The VGP program applies to non-recreational vessels of 79 feet in length and greater, except for commercial fishing vessels. The ballast water management portion of the VGP permit program applies to commercial vessels of less than 79 feet in length and to commercial fishing vessels of any length.

The EPA policy underlying the NPDES program is that discharge of pollutants into navigable waters is not a right; that a discharge permit is required in order to use the waters for waste disposal; that the discharge permit limits the amount of pollutants that may be discharged; and that effluent limits must be based on the best treatment technology economically achievable. There are two types of discharge permits: individual permits (specifically tailored for a particular facility); and general permits (covering categories of point sources having common elements). Much of the permitting and enforcement under the NPDES program has been delegated by the EPA to environmental agencies in the various states.³³

³⁰ The EPA Notice was eventually published in the Federal Register. Final National Pollutant Discharge Elimination System (NPDES) General Permit for Discharges Incidental to the Normal Operation of a Vessel, 73 Fed. Reg. 79473 (December 29, 2008).

³¹ Order granting motion to further modify court's previous order, Northwest Environmental Advocates v. US Environmental Protection Agency, No. C 03-05760 SI (N.D. Calif., December 17, 2008).

³² The NPDES program applies to discharges into the navigable waters. 33 U.S.C. § 1342(a)(4). The term "navigable waters" means the waters of the United States, including the territorial seas. 33 U.S.C. § 1362(7). The term "territorial seas" means the belt of the seas measured from the line of ordinary low water along that portion of the coast which is in direct contact with the open sea and the line marking the seaward limit of inland waters, and extending seaward a distance of three [nautical] miles. 33 U.S.C. § 1362(8).

³³ See, 40 CFR Part 123 – State program requirements. In accordance with VGP, Section 1.13, the standard permit conditions apply to the VGP program. See, 40 CFR § 122.41.

Applications for NPDES permits and permits issued under the program are available for examination by the public.³⁴

Technology-based effluent limits

National Pollutant Discharge Elimination System (NPDES) permits, such as the VGP, are required to contain technology-based limitations.³⁵ The usual process involves establishment of effluent limitation guidelines (ELGs) for an industry category. The best practicable control technology currently available (BPT) for that industry category is then identified.³⁶ The purpose of the BPT is to bring all sources in the industry category up to the level of the average of the best source in that category.³⁷ In the second level of control, all identified point sources of pollutants generated by the industry category are required to meet effluent limitations based on best conventional pollutant control technology (BCT)³⁸ or the best available technology economically achievable (BAT),³⁹ depending on the types of pollutants discharged. The BCT applies to conventional pollutants, such as biological oxygen demand (BOD), pH, fecal coliform, and oil. The BAT applies to toxic and non-conventional pollutants. Technology-based limits are applied throughout the industry category without regard to the quality of the receiving water.⁴⁰

Where, as here, the EPA has not promulgated ELGs for an industry category (or if an operator is discharging a pollutant not covered by the ELG for that industry), permit guidelines may be based on the best professional judgment (BPJ) of the permit writer.⁴¹ All of the technology-based effluent limits under the VGP are based on BPJ decision-making because no ELGs have yet been developed for discharges incidental to the normal operations of ships.

Limits applicable to all vessels

There is a small group of technology-based effluent limits and related requirements that the VGP makes applicable to all covered vessels. These requirements relate to material storage,

³⁴ 33 U.S.C. § 1342(j).

³⁵ 33 U.S.C. §§ 1311(b)(1)(A), 1311(b)(2)(A), 1311(b)(2)(E). See also, 40 CFR § 122.44(a)(1).

³⁶ 33 U.S.C. §§ 1314(b)(1)(B).

³⁷ EPA v. National Crushed Stone Association, 449 U.S. 64, 75-76 (1980).

³⁸ 33 U.S.C. §§ 1314(b)(4)(B).

³⁹ 33 U.S.C. §§ 1311(b)(2)(A); 33 U.S.C. §§ 1314(b)(2)(A).

⁴⁰ Appalachian Power Co. v. EPA, 671 F.2d 801 (4th Cir. 1982).

⁴¹ 33 U.S.C. §§ 1342(a)(1); 40 CFR § 125.3. See, Student Public Interest Group v. Fritzsche, Dodge & Olcott, 759 F.2d 1131, 1134 (3rd Cir. 1985); American Petroleum Inst. v. EPA, 787 F.2d 967, 971 (5th Cir. 1986).

toxic and hazardous materials, fuel spills/overflows, discharges of oil, and compliance with other statutes and regulations.⁴²

For cargoes and other materials that might wash overboard, dissolve as a result of contact with participation or surface water spray, or be blown overboard, steps must be taken to minimize the amount of time that these items are exposed to such conditions. To the extent feasible, storage for these items should be in covered areas. If water draining from storage areas comes into contact with oil or oily materials, then one or all of the below steps must be undertaken, as applicable:

- a. Use dry clean-up methods or absorbents to clean up the wastewater;
- b. Store the water for onshore disposal; or
- c. Run the water through an oily water separator.

Toxic and hazardous materials are to be located in protected areas if feasible, unless the master determines that this would interfere with essential vessel operations or the safety of the vessel or doing so would violate an applicable safety regulation. Any discharge made for safety reasons must be fully documented. Toxic and hazardous materials must be stored in appropriate sealed containers constructed of a suitable material, labeled, and secured. Containers must not be overfilled and incompatible materials 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 and overflows must not result in a discharge into the navigable waters of the United States of oil in quantities that may be harmful (e.g., create a visible sheen). Fueling operations must be conducted utilizing control measures and practices designed to minimize spills and overflows and ensure prompt containment and cleanup if they occur. For vessels with interconnected fuel tanks, fueling must be conducted in a manner that prevents overfilling of the tanks and release of fuel into 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 considered as incidental to the normal operation of a vessel and are not permitted by the VGP. Therefore, in addition to reporting a fuel spill to the US Coast Guard, such spill must now also be reported to the EPA as a non-compliant event under the VGP. Special requirements and recommendations apply to fueling of auxiliary vessels (e.g., life-boats, tenders, rescue boats, etc.) deployed from host or mother ships.

All discharges of oil or oily mixtures from ships subject to MARPOL Annex I and Coast Guard regulations must have concentrations not exceeding 15 ppm.⁴³ MARPOL vessels must have onboard a current and valid International Oil Pollution Prevention (IOPP) Certificate. All

⁴² VGP, Section 2.1.

⁴³ See, 33 CFR § 151.09.

other discharges of oil or oily mixtures must not contain oil in quantities that may be harmful (e.g., causing a sheen on the water).⁴⁴

As a condition of the VGP, the vessel is also required to comply with applicable regulations of the US Coast Guard that establish specifications for safe transportation, handling, carriage, and storage of pollutants.⁴⁵ Any discharge from the vessel must comply with applicable provisions of the Federal Water Pollution Control Act (FWPCA),⁴⁶ the Act to Prevent Pollution from Ships (APPS),⁴⁷ the National Marine Sanctuaries Act,⁴⁸ the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA),⁴⁹ and the Oil Pollution Act of 1990 (OPA 90),⁵⁰ and their implementing regulations.

Limits based on best management practices (BMPs)

Most of the BPJ limits in the VGP are in the form of non-numeric control measures, commonly referred to as best management practices (BMPs).⁵¹ Non-numeric limits may be employed under limited circumstances when numerical effluent limitations are infeasible.⁵² The EPA has determined that (except for graywater and pool and spa discharges from large cruise ships, oily discharges, and residual biocide discharges from vessels utilizing experimental ballast water treatment systems), numeric effluent limitations are not feasible to calculate for vessel discharges in this iteration of the VGP. The EPA, though, may develop numeric effluent limits for certain discharge types in a future VGP iteration.

The VGP program, as proposed in the EPA notice of June 17, 2008, would have applied BMPs to 28 potential vessel discharge streams,⁵³ but this was nominally reduced to 26 discharge streams in the final notice by combining three waste streams (plus several new ones) into a single

⁴⁴ See, 40 CFR Part 110.

⁴⁵ See, 40 CFR § 122.44(p).

⁴⁶ 33 U.S.C. § 1321.

⁴⁷ 33 U.S.C. §§ 1901-1915.

⁴⁸ 16 U.S.C. §§ 1431-1445c-1.

⁴⁹ 7 U.S.C. §§ 136-136y.

⁵⁰ 33 U.S.C. §§ 2701-2720.

⁵¹ VGP, Section 2.2.

⁵² 40 CFR § 122.44(k). See, Citizens Coal Council v. EPA, 447 F.3d 879, 895-96 (6th Cir. 2006); Waterkeeper Alliance, Inc. v. EPA, 399 F.3d 486, 502 (5th Cir 2005); Natural Resources Defense Council v. Costle, 568 F.2d 1369 (DC Cir. 1977).

⁵³ See, 73 Fed. Reg. at 34301. The technology-based effluent standards are authorized by 33 U.S.C. § 1311.

category. These discharge streams include the obvious ones (such as ballast water and gray water), along with less obvious ones (such as leachate from anti-fouling hull coatings and leakage of hydraulic fluid from controllable pitch propellers). The potential vessel discharge streams are taken largely from those identified in the UNDS program. Differences between the UNDS list and the proposed VGP list are interesting. The following 20 waste streams appear on both lists:

- (1) Ballast water;
- (2) Deck washdown and runoff;
- (3) Bilge water;
- (4) Anti-fouling leachate from anti-fouling hull coatings;
- (5) Aqueous film forming foam (AFFF);
- (6) Chain locker effluent;
- (7) Controllable pitch propeller hydraulic fluid;*
- (8) Distillation and reverse osmosis brine;
- (9) Elevator pit effluent;
- (10) Firemain systems;
- (11) Gas turbine water wash;
- (12) Graywater;
- (13) Motor gasoline and compensating discharge;
- (14) Non-oily machinery wastewater;
- (15) Seawater cooling overboard discharge;
- (16) Seawater piping biofouling prevention;
- (17) Small boat engine wet exhaust;
- (18) Sonar dome discharge;
- (19) Underwater ship husbandry; and
- (20) Welldeck discharges.

The following six (6) waste streams appear on the VGP list, but are found on the UNDS list of discharges not requiring control measures:

- (a) Boiler/economizer blowdown;
- (b) Cathodic protection;
- (c) Freshwater layup;
- (d) Refrigeration and air condensate discharge;
- (e) Rudder bearing lubrication discharge;* and
- (f) Stern tube oily discharge.*

Finally, there are two (2) waste streams on the VGP list that are not addressed in the UNDS program: graywater mixed with sewage from vessels; and exhaust gas scrubber wash water discharge.⁵⁴

⁵⁴ There are also a few waste streams on the UNDS list (such as catapult water break tank & post-launch retraction exhaust) that naturally have no counterpart on civilian vessels.

The EPA does not explain in its VGP proposal the reasons for these differences between the VGP and the UNDS waste stream categorizations. It is difficult to understand why it is not reasonable or practicable to control the discharge of rudder bearing lubrication on vessels of the armed forces, but is appropriate to require permits and BMPs for this same discharge on commercial vessels.

Three of the above waste streams [those marked with an asterisk “*”] were repackaged in the final EPA notice into the new waste stream labeled “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 category, while a mouthful, is intended to cover any situation where oil being used as a lubricant would routinely be exposed to the sea.

For each discharge stream applicable to that particular vessel, the owner or operator must adopt a best management practice (BMP) to minimize discharges, establish procedures (written procedures are recommended) for implementing the BMP, provide training to the crewmembers who will conduct or supervise the BMP, conduct required inspections, keep records to evidence compliance, and submit reports as necessary. BMPs for each waste stream are found in the permit. The BMP for technology-based control of each of the 26 identified waste streams also are examined in the Appendix to this paper.

Water quality-based effluent limits

The VGP permit includes water quality-based effluent limits (WQBELs) to control discharges as stringently as necessary to meet applicable water quality standards.⁵⁵ Discharges from regulated vessels must be controlled as necessary to meet applicable water quality standards in the receiving waterbody or another waterbody (e.g., downstream) impacted by such discharges.⁵⁶ The EPA generally expects that compliance with other permit conditions (such as technology-based standards) in the VGP permit will control discharges as necessary to meet applicable water quality standards. But, if the vessel operator becomes aware, or the EPA determines, that the vessel’s discharge causes or contributes to an exceedance of applicable water quality standards, the vessel may be required to take appropriate corrective actions. The EPA or an authorized representative (i.e., state official) may inform vessel operators of specific requirements via dock side postings at ports or by specifically contacting the operator.

Vessel type-specific requirements

⁵⁵ 33 U.S.C. § 1313.

⁵⁶ VGP, Section 2.3.

The permit imposes additional requirements for eight (8) specific types of vessels that the EPA has determined have unique characteristics resulting in discharges not shared by other types of vessels.⁵⁷ The vessel types upon which additional requirements are imposed are:

- (1) Large cruise ships;
- (2) Medium cruise ships;
- (3) Large ferries;
- (4) Barges;
- (5) Oil or petroleum tankers;
- (6) Research vessels;
- (7) Rescue boats; and
- (8) Vessels employing experimental ballast water treatment systems.

Large cruise ships are defined as those ships that provide overnight accommodations and are licensed to carry 500 or more passengers for hire. Such ships will be required to adopt the graywater management requirements currently applicable to large cruise ships operating in waters of southeast Alaska. They will also be required to take other measures, such as using phosphate-free detergents in the scullery and galley. Water from pools and spas on the ships may only be discharged after such water has been de-chlorinated and/or de-brominated. Crewmembers who handle pollutants must be provided training regarding shipboard environmental procedures. Appropriate reprimand procedures must be developed for crew whose actions lead to violations of an effluent limit. Requirements for monitoring, education, and training will emulate those applicable to similar ships operating in waters of southeast Alaska.

Medium cruise ships are those ships authorized to carry between 100 and 499 passengers for hire and provide overnight accommodations to those passengers. The permit conditions for medium cruise ships are similar to those for large cruise ships, except that those medium cruise ships unable to retain graywater on board may discharge untreated graywater in nutrient impaired waters while moving at a speed of at least six (6) knots. Operators of medium cruise ships that discharge graywater within one (1) nautical mile of shore must submit sampling data to the EPA on an annual basis. Existing medium cruise ships that do not operate more than one (1) nautical mile of shore are not required to meet the graywater effluent limits unless the ship undergoes a major conversion subsequent to the VGP effective date. Crewmembers who handle pollutants must be provided training regarding shipboard environmental procedures. Appropriate reprimand procedures must be developed for crew whose actions lead to violations of an effluent limit.

Large ferries are defined as ferries authorized to carry more than 100 tons of cars, trucks, trains, or other land-based transportation and/or 250 or more people. These vessels must treat runoff from below deck parking and storage areas⁵⁸ with an oily water separator or other similar

⁵⁷ VGP, Section 5.

⁵⁸ "Below deck" refers to areas not exposed to the elements.

device and the treated runoff may not be discharged into federally protected waters. A graywater management program must be instituted, including use of shoreside disposal when available and underway discharge only when proceeding at a speed of at least six (6) knots if feasible. Crewmembers who handle pollutants must be provided training regarding shipboard environmental procedures. Appropriate reprimand procedures must be developed for crew whose actions lead to violations of an effluent limit. Ferry operators must educate passengers (by signage, informational materials, etc.) on their potential environmental impacts. The goals of the passenger education program include eliminating the discharge of trash overboard, eliminating the addition of unused soaps, etc. from graywater and blackwater systems, and minimizing the production of graywater.

Barge operators must adopt measures to minimize the contact of below deck condensation with oily or toxic materials and any materials containing hydrocarbon. When pumping water from below deck, the discharge may not contain oil in quantities that may be harmful (causing a sheen, etc.). Cargo residue must be minimized prior to washing a cargo compartment or tank and discharging wash water overboard. Additional measures must be taken by operators of tank barges to minimize discharges that may occur during loading or unloading operations. Whenever pumping water from areas below decks or immediately following washing down the decks, the barge operator must conduct a visual sheen test of the water adjacent to the barge. If a visible sheen is observed, the operator must initiate corrective action and meet permit recordkeeping requirements.

Owners and operators of oil or petroleum tankers must take steps to minimize the risk of discharges while loading or unloading cargo. After such cargo operations and/or immediately following washing down the deck, the crew must conduct a visual sheen test of the water adjacent to the tanker. If a visible sheen is observed, the operator must initiate corrective action and meet permit recordkeeping requirements. Crewmembers who handle pollutants must be provided training regarding shipboard environmental procedures. Appropriate reprimand procedures must be developed for crew whose actions lead to violations of an effluent limit. Tankers are, though, allowed to discharge effluent from inert gas scrubbers (IGS) and water from deck seals when such seals are installed as an integral part of the IGS system.

Research vessels are those that are engaged in investigation or experimentation aimed at discovery and interpretation of facts, revision of accepted theories or laws in the light of new facts, or practical application of such new or revised theories or laws. In addition to the general discharges allowed by the VGP program, research vessels are authorized to discharge, in the minimal amount necessary to conduct research, tracers, drifters, and expendable probes, provided such discharges are for the sole purpose of conducting research and are in accordance with generally recognized scientific methods, principles, or techniques.

Emergency vessels, such as fire, police, and rescue boats, are authorized to discharge waste streams in conjunction with training, testing, and maintenance operations, provided they

comply with other applicable law (such as the FWPCA) and the National Contingency Plan (NCP). Use of foaming agents for oil or chemical fire response must be implemented in accordance the NCP. Owners and operators are strongly encouraged to seek alternative formulations of AFF that are less harmful to the environment while maintaining their effectiveness in emergency operations. Training, testing, and maintenance operations should be conducted outside of port and as far from shore as possible.

Vessels that employ experimental ballast water treatment systems utilizing biocides must meet a variety of additional requirements. Space does not allow for an examination of these additional measures in this summary, but they should be reviewed carefully by owners and operators of ships on which such experimental systems are installed.

Federally protected waters

Specific effluent limits apply to certain vessels operating in waters that are federally protected wholly or in part for conservation purposes.⁵⁹ The federally protected waters consist of five (5) categories:

- (a) Marine sanctuaries and marine national monuments;
- (b) Units to the National Park System, including preserves and monuments;
- (c) Units of the National Wildlife Refuge System;
- (d) National wilderness areas; and
- (e) Units of the National Wild and Scenic Rivers System.

Various technology-based effluent standards include specific provisions on effluent limitations for certain vessels in these waters. For example, the ballast water discharge standards provide that oceangoing vessels may not discharge unexchanged or untreated ballast water or sediment in these federally protected waters. Other restrictions relate to discharges of bilge water, aqueous film forming foam (AFFF), boiler/economizer blowdown; elevator pit effluent, and graywater.

Training

The EPA places emphasis on training of persons with environmental compliance responsibilities. Some of the requirements are general, relating to proper operation and maintenance of equipment and measures to achieve compliance with NPDES permit conditions.⁶⁰ Other requirements are more specific. For example, the Vessel General Permit Fact Sheet provides that vessel operators are required to practice good environmental stewardship by minimizing any exposure of cargo or onboard materials that may result in releases of contaminants to the environment, such as by being washed overboard by precipitation

⁵⁹ VGP, Appendix G.

⁶⁰ See, 40 CFR § 122.41(e).

or water spray. For this reason, the EPA believes that emphasis on training and educating vessel crew on the use and environmental benefits of these practices should be standard practice.⁶¹ It should be noted that the VGP does not consolidate the various training requirements in one place. Each effluent limitation must be examined for its particular training provision. Even in the absence of a specific provision, owners and operators are expected to provide appropriate training to all persons having responsibility for completion of tasks required by the permit.

Inspections and monitoring

The VGP calls for inspections and monitoring that are separated into five categories: (1) routine visual inspections; (2) quarterly inspections; (3) analytical monitoring; (4) comprehensive annual vessel inspections; and (5) drydock inspections.⁶²

Routine visual inspections are to be done at least once per week or per voyage, whichever is more frequent (if the vessel engages in multiple voyages per day, such inspections need only be done once each day). The routine inspections are of all areas addressed in the permit, including, but not limited to cargo holds, boiler areas, machinery storage areas, welldecks, and other deck areas. One purpose of the inspection is to ensure these areas are clear of garbage, exposed raw materials, oil, and any visible pollutant or constituent of concern that could be discharged in any waste stream. At a minimum, the routine inspection must verify compliance with the technology-based effluent limits and related requirements applicable to all vessels⁶³ and document any instances of non-compliance. The routine inspection should include the safely accessible deck and cargo areas and all accessible areas where chemicals, oils, dry cargo, or other materials are stored, mixed, and/or used, whether or not those areas have been used since the last inspection. The inspection should verify whether all monitoring, training, and inspections are logged according to permit requirements. The ship's watch should include visual monitoring of the water around and behind the ship for visible sheens, dust, chemicals, abnormal discoloration, foaming, or other indicators of pollutants or constituents of concern originating from the ship. Particular attention should be paid to deck runoff, ballast water, and bilgewater. If any pollutants or constituents of concern are identified as originating from the ship, corrective action must be initiated.

Quarterly inspections must be done for each waste stream that is not readily susceptible to routine visual inspection. This requirement would include bilgewater and graywater discharges and discharges that occur below the water line. The waste stream is to be inspected for any signs of visible pollutants or constituents of concern, including discoloration, visible sheens, suspended solids, floating solids, foam, or changes to clarity. If non-compliances are

⁶¹ EPA, Vessel General Permit Fact Sheet, section 4.3.1.1 – Material Storage (December 18, 2008).

⁶² VGP, Section 4.

⁶³ VGP, Section 2.1 addressing material storage; toxic and hazardous materials; fuel spills/overflows; discharges of oil, including oily mixtures; and compliance with other statues and regulations.

observed, corrective action must be taken and record entries must be made. Sampling of the discharges is recommended, but not required.

Analytical monitoring is required of graywater discharges from large and medium cruise ships, discharges of water from treated pools and spas from large and medium cruise ships, and discharges from experimental ballast water treatment systems. Details of the analytical monitoring requirements for those specific vessel types, if applicable, are to be found in the VGP.

Comprehensive vessel inspections must be conducted by qualified personnel at least once every twelve months. These inspections must cover all areas of the ship affected by the VGP that can be inspected without drydocking. Areas that must be included in the comprehensive annual inspection include, but are not limited to:

- a. Hull (for attached living organisms, flaking antifoulant paint, exposed TBT, etc.);
- b. Ballast water tanks;
- c. Bilges, pumps, and oily water separator (OWS) sensors;
- d. Protective seals (for lubrication and hydraulic oil leaks);
- e. Oil and chemical storage areas, cargo areas, and waste storage areas; and
- f. All visible pollution control measures (to ensure they are functioning properly).

Areas that are not susceptible of inspection without drydocking the ship must be identified in the records of the comprehensive annual inspection and those areas must be included in the drydocking inspection. The annual inspection must include a review of monitoring data collected in accordance with any applicable vessel type-specific requirements⁶⁴ as well as routine maintenance records to ensure that required maintenance is performed (such as annual tune-ups for small boat engines that have wet exhaust). Inspectors should also consider the results of the previous year's visual and analytical monitoring when planning and conducting inspections. When the comprehensive annual inspection schedule overlaps with the schedule for the routine visual inspection and/or the quarterly inspection, the annual inspection may be utilized for those purposes so long as components for each type of inspection are included.

If inspections reveal flaws that would result in a violation of applicable effluent limits or indicate that control measures are not functioning as anticipated or are in need of repair or upgrade, appropriate corrective action must be taken. All results from the annual inspection must be included in the ship's records.

A drydock inspection is to be undertaken when the ship goes into drydock. The inspection and report of same may be done by a representative of the ship's classification society, the flag administration, or the ship owner/operator. The inspection report must be available to the EPA upon request and must note that, at a minimum:

1. The chain locker has been cleaned for both sediment and living organisms;

⁶⁴ VGP, Part 5.

2. The hull, propeller, rudder, thruster gratings, sea chest, and other surfaces normally below the water line have been inspected for attached living organisms and those organisms found have been removed or neutralized;
3. Any antifoulant hull coatings have been applied, maintained, and removed consistent with the FIFRA label if applicable and any exposed existing or any new coating does not contain biocides or toxics that have been banned for use in the United States;
4. All cathodic protection anodes or dialectic coatings have been cleaned and/or replaced to reduce flaking; and
5. All pollution control equipment is properly functioning.

Recordkeeping

In addition to the usual vessel records, a ship subject to the VGP program must maintain records of any violation of any effluent limits; records of all routine inspections completed; a log of deficiencies and problems found during routine inspections (including a discussion of any corrective actions required); analytical results of all required monitoring conducted; a log of findings from annual inspections, including a discussion of any corrective actions planned or taken; a record of any specific requirements given to the vessel by the EPA or an equivalent state agency and how those requirements were met; maintenance and discharge information;⁶⁵ any other documentation requirements stated in the permit; and records of required training.⁶⁶ The written records must include (in addition to the usual vessel name, IMO number, etc.) the name of the owner or operator's certifying official.⁶⁷ This is the individual who will be signing and submitting required documents (such as the Notice of Intent) and reports (see below). Existing recordkeeping systems may be utilized to fulfill these requirements. Records must be retained on board the vessel for a period of three (3) years.

Owners or operators of covered vessels that are equipped with ballast water tanks and that are bound for a port or place in the United States must also meet the recordkeeping requirements established by the US Coast Guard.⁶⁸

⁶⁵ Including deck maintenance; bilgewater discharges; antifouling paint application; discharges of AFFF, chain locker inspections and rinsings; maintenance of controllable pitch propellers, the stern tube, and any other oil-to-sea interfaces; any emergencies requiring otherwise prohibited discharges; gas turbine water wash; and graywater discharges.

⁶⁶ VGP, Section 4.2.

⁶⁷ *Ibid.*

⁶⁸ VGP, Section 4.3. See, 33 CFR Part 151, Subpart C – Ballast Water Management for Control of Non-Indigenous Species in the Great Lakes and Hudson River (33 CFR §§ 151.1500-1518) and 33 CFR Part 151, Subpart D – Ballast Water Management for Control of Non-Indigenous Species in Waters of the United States (33 CFR §§ 151.2000-2050).

Experience has shown that, while the operational aspects of environmental rules (such as use of oily water separators) may be difficult, it is the paperwork side (such as making entries in the oil record book) that leads to enforcement actions and convictions.

Regular reports and reports of non-compliant events

The VGP permit will be valid for up to five years from date of issuance. Reports of various types, though, are required.⁶⁹ For each vessel, the owner/operator must submit a one-time report between 30 and 36 months after the permit is issued. The one-time report is submitted to EPA headquarters and should be submitted electronically. This one-time report is only two pages in length and looks innocuous, but should be treated with great caution. It is basically a self-completed report card on VGP compliance, stating whether all monitoring and inspection requirements have been met, whether all required training has been completed, etc. Submittal of a one-time report with known material errors could subject the owner and operator to criminal prosecution, just like those undertaken with respect to fraudulent oil record book entries.

Discharge monitoring reports are required for certain discharges for which analytical monitoring is required, such as discharges of treated water from pools and spas on large and medium cruise ships. As noted elsewhere, care must be taken to avoid inclusion of fraudulent information in any and all such reports.

All instances of non-compliance must be reported at least once annually. The non-compliance report is submitted to the EPA regional office responsible for the waters in which the event occurred. Any non-compliance that may endanger health or the environment must be reported orally within 24 hours. The oral report must be followed up with a written report to be submitted within five days of the event. Submittal of these reports is in addition to, not in lieu of, any reports that may be required under other laws or regulations.

Certification

When the Notice of Intent (NOI), the Notice of Termination (NOT), or any report is submitted, it must be certified as accurate by the submitting individual.⁷⁰ The EPA has put teeth into the certification by adding a sentence reading: "I have no personal knowledge that the information submitted is other than true, accurate, and complete." This change has been made in an attempt to overcome a recent federal appellate court decision where the conviction of a defendant accused of submitting false NPDES reports was overturned on appeal. The court in that case held that the certification form in use at that time only required the submitting individual to certify that he had made inquiry of the persons who prepared and submitted the

⁶⁹ VGP, Section 4.4.

⁷⁰ VGP, Section 1.7. See also, VGP, Section 1.4.

information and based on that inquiry, the information was accurate to the best of his knowledge. The court determined that there was no requirement in that particular certification form that the person attest to his personal knowledge regarding the information submitted.⁷¹ The change in the certification form extends to all document submittals to the EPA that are required to be certified.

Corrective actions

For purposes of the NPDES program, corrective actions are follow-up actions a permittee must take to correct problems identified in an inspection.⁷² They include a requirement to review and revise control measures and vessel operations to ensure that any problems are eliminated and will not be repeated in the future. The permittee is required to assess why a specific problem or non-compliance has occurred and document what steps were taken to eliminate the problem. Noncompliance with many of the VGP permit conditions, such as those related to good housekeeping, can be accomplished immediately and is not considered the type of problem that triggers corrective actions. Other problems, though, are more serious and will trigger the need for corrective action. Examples of problems requiring corrective action include, but are not limited to, violation of an effluent limit, violation of an applicable water quality standard, or failure to operate or maintain a best management practice. Following identification of such a problem, the owner or operator must conduct a corrective action assessment into the nature, cause, and potential options for eliminating the problem. The assessment must be documented.

Corrective actions that can be accomplished with relatively simple adjustments to current control measures, utilizing existing personnel and resources, and not requiring the vessel to be in dry dock, are to be completed as soon as possible but not later than two (2) weeks after discovery of the problem. For corrective actions that require new parts or the installation of new equipment, not requiring the vessel to be in dry dock, the underlying cause of the non-compliance must be addressed and the vessel must return to compliance and/or complete necessary repairs not later than three (3) months after discovery of the problem or, if leaving waters subject to the VGP permit, before the expiration of the three-month period or before re-entering permit waters, whichever is later. However, if completing repairs within three months is impracticable, the owner or operator must complete the repairs as soon as possible and document the reasons why more time was needed. For corrective actions that require large or comprehensive renovations, alterations, or repairs to the vessel that can only be achieved while

⁷¹ United States v. Robison, 505 F.3d 1208 (11th Cir. 2007). As the court stated: “[T]he certifications in this case contained no representation that Robison had personally reviewed the documents in question or that he was vouching for the documents’ accuracy based on his personal knowledge of the documents themselves. Rather, Robison only certified – and only had to certify – that others had prepared the documents, and that based on his inquiry of those who prepared the documents, the documents were accurate to the best of his knowledge.” 505 F.3d at 1228.

⁷² VGP, Section 3.

the vessel is in dry dock, the underlying causes must be addressed and the vessel returned to compliance prior to re-launching vessel from dry dock.

Compliance dates and implementation

The VGP program, with its BMP requirements, etc., came into effect on February 6, 2009. The EPA has indicated that it will not demand strict compliance for the first few months while the regulated community adopts the necessary measures. The EPA will, though, take enforcement action during this period if it determines that a regulated entity is not acting in good faith.

As noted above, each regulated vessel that is greater than or equal to 300 gross registered tons or has the capacity to hold or discharge more than eight (8) cubic meters (2,113 gallons) of ballast water must submit an NOI so as to remain in compliance. For regulated vessels already in operation, the NOI must be submitted during the time period beginning June 19, but not later than September 19, 2009.⁷³ For vessels that were delivered to the owner or operator on or before September 19, 2009, the vessel will receive final permit coverage on the date that the EPA receives the complete NOI. New vessels that are delivered after September 19, 2009 will receive permit coverage 30 days after EPA receives the complete NOI. When ownership of a vessel previously authorized to discharge under this permit is transferred to a new owner, the discharge authorization date is the later of the date EPA receives an NOI from the new owner or the date of transfer. In the case of an existing vessel that was not previously authorized to discharge under this permit, delivered to the owner after September 19, 2009, the discharge authorization date is 30 days after EPA receives the complete NOI.

The EPA notice makes no specific mention of how the NOI issue relates to foreign vessels. The following is suggested. Existing foreign vessels that are greater than or equal to 300 gross registered tons or have the capacity to hold or discharge more than eight (8) cubic meters (2,113 gallons) of ballast water and have any reasonable expectation of calling at a port in the United States within the next five years should submit an NOI during the period June 19 through September 19, 2009. After September 19, 2009, a foreign vessel that is greater than or equal to 300 gross registered tons or has the capacity to hold or discharge more than eight (8) cubic meters (2,113 gallons) of ballast water that does not have a valid NOI and that expects to call at a port in the United States within the next five years must submit an NOI at least 30 days prior to the first US port call. Due to the numerous details involved in compliance with the BMP requirements and the need for many commercial vessels to be eligible for worldwide trade on virtually a moment's notice, many foreign vessels that have no current plans to trade to the United States will, for economic reasons, have to implement the BMP requirements on virtually the same schedule as vessels that consistently operate in US waters.

⁷³ The June 19 and September 19, 2009 dates included in the December 29 EPA notice may change based on the December 17, 2008 court order extending the effective date for implementation of the VGP program.

Notice of Intent - NOI

The EPA will require that a Notice of Intent (NOI) for discharges incidental to the normal operation of a vessel be submitted for each regulated vessel that is greater than or equal to 300 gross registered tons or has the capacity to hold or discharge more than eight (8) cubic meters (2113 gallons) of ballast water.⁷⁴ Regulated vessels below these thresholds are not required to submit an NOI, but are still required to comply with the discharge limitations.⁷⁵ In addition to providing owner/operator and vessel information, the NOI requires the submitter to identify any and all waste streams from the vessel. Finally, the submitter must certify the accuracy of the information.

It is readily apparent that the NOI cannot be prepared and submitted until the owner/operator has at least thought through each of the 26 waste streams. These potential waste streams were first identified with regard to vessels of the armed forces. A few, such as sonar dome discharges, may be readily dismissed for almost all commercial vessels. Others, such as aqueous film forming foam (frequently used in fire-fighting systems), will require some consideration. Failure to identify an applicable listed waste stream in the NOI can have serious consequences, so care should be taken in preparation and submittal of the form.

Notice of Termination - NOT

If a permittee who is required to submit an NOI wishes to terminate coverage under the VGP permit, it must submit a Notice of Termination (NOT).⁷⁶ The permittee is under a continuing responsibility for covered discharges from its vessel until the NOT is submitted and processed by the EPA.

An NOT is required to be submitted within 30 days after one or more of the following conditions has been met: (1) a new owner or operator has assumed responsibility for the vessel; (2) operation of the vessel has permanently ceased in waters subject to the VGP permit and there are no longer vessel discharges as defined by the permit; or (3) permit coverage has been obtained under an individual or alternative general permit for all discharges requiring NPDES permit coverage. A vessel owner is not required to submit an NOT every time the vessel leaves waters subject to the VGP permit if the vessel may return to waters subject to the permit during the permit term. This allows a vessel to maintain coverage under the permit, as long as the

⁷⁴ VGP, Section 1.5.1.1. See, 40 CFR § 122.28(b)(2)(i) - Dischargers seeking coverage under a general permit shall submit to the Regional Administrator a written notice of intent to be covered by the general permit. The NOI Form may be found at VGP, Appendix E.

⁷⁵ VGP, Section 1.5.1.2. See, 40 CFR § 122.28(b)(2)(v) - Certain dischargers may, at the discretion of the EPA Regional Administrator, be authorized to discharge under a general permit without submitting a notice of intent where the Regional Administrator finds that a notice of intent requirement would be inappropriate.

⁷⁶ VGP, Section 1.6. The NOT Form may be found at VGP, Appendix F.

permit' terms and conditions continue to be met when the vessel is operating in waters subject to the permit.

Relationship to other federal laws and to state laws

The NPDES program does not replace or supersede the requirements of any other federal law or regulation.⁷⁷ It also does not preempt any state or local law or ordinance addressing the same subject matter.⁷⁸ In many instances, the EPA delegates to state officials the authority to enforce EPA regulations, and to set higher standards.

The complicated relationship between the federal EPA and the respective state environmental agencies becomes quickly apparent as one examines the NPDES program. For example, the VGP system should not be expected to impact the more restrictive ballast water management programs that have been adopted by several states, such as California and Michigan. In fact, it has already encouraged at least one other state to follow their lead. These issues will become increasingly complex.

State and Indian Country requirements

The Federal Water Pollution Control Act, at section 401(d),⁷⁹ provides that any certification under the Act "shall set forth any effluent limitations and other limitations, and monitoring requirements" necessary to assure that any applicant for a federal license or permit will comply with any applicable FWPCA-based effluent limitations and other limitations, standards of performance, prohibitions, effluent standards, or pretreatment standards, and with any other appropriate requirements of State and Tribal law. Section 401(d) further provides that such additional limitations and monitoring requirements "shall become a condition on any Federal license or permit subject to the provisions of this section." Pursuant to section 401(d), the EPA has attached provisions provided by States and Tribes in their FWPCA § 401 certifications. Those that constitute effluent or other limitations or monitoring requirements are enforceable conditions of the VGP permit. Thus, violation of an applicable state or tribal requirement is also a violation of the VGP.

Section 6 of the VGP identifies provisions provided to the EPA by States and Tribes in their FWPCA § 401 certifications that the States and Tribes deemed necessary to assure compliance with applicable provisions of the FWPCA and any other appropriate requirements of

⁷⁷ VGP, Section 1.12.

⁷⁸ VGP, Section 1.11. See, Huron Portland Cement Co. v. City of Detroit, 362 U.S. 440 (1960), where the US Supreme Court ruled that vessels were not exempted from compliance with a local smoke abatement ordinance just because they were used in interstate or foreign commerce and were subject to a comprehensive system of federal regulations. See also, Chevron U.S.A., Inc. v. Hammond, 726 F.2d 483 (9th Cir. 1984), *cert. denied sub nom. Chevron U.S.A., Inc. v. Sheffield*, 471 U.S. 1140 (1985).

⁷⁹ 33 U.S.C. § 1341(d).

State and Tribal law.⁸⁰ Pursuant to this requirement, the EPA has attached those State and Tribal provisions to the final VGP. Those that constitute effluent or other limitations or monitoring requirements are enforceable conditions of the federal permit.⁸¹ These conditions are subject to review in State and Tribal administrative and judicial tribunals with appropriate jurisdiction.⁸²

Not surprisingly, California initially adopted the most numerous conditions under its § 401 certification. Among other things, it has included its onerous ballast water management requirements in the VGP program. It also imposed various numeric-based effluent limits. California finally withdrew the most onerous of its conditions in the face of threatened litigation. The state of New York copied some of the California ballast water requirements into its § 401 certification. Most other states and tribes have either stood silent or merely acknowledged the establishment of the VGP program without instituting any unique substantive requirements. Several states and tribes are, though, requiring that copies of NOIs for vessels operating within their jurisdiction be submitted to them. A few states have placed effluent limits on graywater and blackwater. The states of Alaska and Hawaii initially withheld § 401 certification, but relented at the last moment. Alaska signaled its acceptance of the VGP program. Hawaii adopted various conditions similar to those imposed by California. Overall, the state certification provisions will prove to be an administrative difficulty for owners and operators (and for the masters and crew) of vessels calling in a variety of ports.

Penalties and enforcement

The FWPCA provides both civil and criminal penalties for violations of the NPDES program.⁸³ The maximum civil penalty for a permit violation under the NPDES program has recently been increased to \$37,500 per violation.⁸⁴ In addition, the Federal Water Pollution Control Act allows for citizen suits against violators in some circumstances.⁸⁵

⁸⁰ See also, 40 CFR § 124.53(e)(1).

⁸¹ American Rivers, Inc. v. FERC, 129 F.3d 99, 107 (2nd Cir. 1997).

⁸² 40 C.F.R. § 124.55(e); American Rivers, Inc. v. FERC, 129 F.3d 99, 102 (2nd Cir. 1997); Roosevelt Campobello Int'l Park Comm'n v. EPA, 684 F.2d 1041, 1056 (1st Cir. 1982).

⁸³ 33 U.S.C. § 1319. See, United States v. Hagerman, No. 07-3874 (7th Cir., January 15, 2009), where the appellate court upheld the sentence of a company president to 60 months in prison and a fine of \$237,680 against the industrial waste treatment company for submitting fraudulent monitoring reports to the EPA. The reports were required by the NPDES permit that had been issued to the company.

⁸⁴ 40 CFR § 19.4, as amended by EPA final rule, Civil Monetary Penalty Inflation Adjustment Rule, 73 Fed. Reg. 75340 (December 11, 2008)

⁸⁵ 33 U.S.C. § 1365(a). See, Parker v. Scrap Metal Processing, Inc., 386 F.3d 993 (11th Cir. 2004); Sierra Club, Lone Star Chapter v. Cedar Point Oil Co., Inc., 73 F.3d 546 (5th Cir. 1996), cert. denied 519 U.S. 811 (1997).

Details of enforcement have not yet been resolved. Although this is an EPA program, that agency has limited personnel in seaports and little experience aboard ships. The Coast Guard has personnel in the ports and massive experience aboard ships. One should expect a cooperative agreement between the two agencies addressing enforcement. One should also expect to see EPA (or state) personnel boarding commercial ships in the future, with or without Coast Guard partners.

Vessels operating outside US navigable waters

The widely distributed EPA documents regarding the VGP program are vague regarding the application of the program to vessels operating outside the navigable waters of the United States. Many US-flag vessels spend some (or even a majority) of their time beyond the three-mile limit. Foreign vessels almost all spend the vast majority of their time outside US waters. Yet, when these vessels are inside the three-mile boundary, the full panoply of the VGP program applies.

The issue then becomes: with what portions of the VGP program must a vessel comply when it is outside of US navigable waters?

The technical answer is that, when a vessel is operating outside of US navigable waters, none of the requirements of the VGP program apply. The problem is that the instant the vessel crosses into US navigable waters it must be in compliance.

In order to be in full compliance, the vessel must have completed its inventory of waste streams and instituted BMPs for each, including training. If the vessel is of 300 gross tons or greater (or is capable of holding at least eight (8) cubic meters of ballast water) and the date of entry into US waters is on or after June 19, 2009, the owner or operator must have submitted an NOI to the EPA.⁸⁶ While the various inspections and recordkeeping requirements do not apply while the vessel is outside US navigable waters, the inspections and recordkeeping must be brought up-to-date prior to entry. Thus, if a weekly inspection is required for a covered waste stream, such an inspection must have been done at some time during the week prior to initial entry into the United States. Likewise, if a quarterly or annual inspection is required, then such inspection must have been done at some time during the quarter or year respectively prior to entry. As a practical matter, there is nothing that prevents all of these required inspections and recordkeeping entries from being done immediately prior to entry. The major problem would be that if an inspection discovers the need for remedial and/or corrective action, it may be necessary to delay entry in order to bring the vessel back into compliance before entry into the navigable waters of the United States. Thus, the required inspections and recordkeeping/reporting should be done at a convenient time prior to entry in US waters that allows sufficient time for any

⁸⁶ If the date of entry into US navigable waters is after September 19, 2009, and an NOI for the vessel has not been previously submitted, then the NOI must be submitted to the EPA at least 30 days prior to the initial entry into the United States.

additional measures that have to be undertaken based what is discovered by those inspections. For vessels that trade regularly to the United States or that are subject to diversion to the US on very short notice, it may be preferable to continue the applicable BMPs even when outside US waters.

Integration of VGP into existing routine

For non-US ships, management must consider how requirements of the VGP program should be integrated into the existing routine at the company and on the ship. There are two major alternatives. First, the VGP can be treated as a one-off measure, to be addressed only when the ship is bound for US waters. Second, the VGP can be fully integrated into existing plans and operational routines. There are advantages and disadvantages to both approaches. Treating the VGP as a one-off measure may reduce costs, but can also result in unintentional violations of its detailed requirements and/or an inability to trade to the United States for a period of time until the ship is brought back into compliance. Fully integrating the VGP requirements into the existing routine may increase costs, but will increase the likelihood of full compliance and the ability to trade to the US on short notice. Many of the VGP requirements are consistent with existing international or US requirements or with common management practices. Thus, the requirements may not be as onerous as they first appear. If the decision is to treat the VGP as a one-off measure, then management must make arrangements for bringing the ship into compliance on a rapid basis when it has to call in a US port. This is not something to be considered for the first time as the ship approaches the sea buoy.

Conclusion

The VGP program has arrived, but its impact is still uncertain. Clearly, the recordkeeping and reporting requirements will keep numerous individuals fully occupied for the foreseeable future. Crewmember training should also increase. The environmental benefits can only be calculated later.

This paper provides only an overview of the regulation of discharges incidental to the normal operations of vessels. The importance of an early start toward compliance cannot be overemphasized. The ship owner and operator must accurately determine what regulated waste streams are discharged by the ship. Best management practices must then be developed and implemented for each waste stream. Consideration must also be given to whether any type-specific requirements are applicable. Applicable state requirements (discussed above only briefly) must be addressed. Finally, all applicable training, recordkeeping, and reporting requirements must be implemented. This is a detailed, complex program that is being imposed on the maritime industry on a short time-fuse. Due to the potential enforcement measures and the possibility of citizen suits, the program must be given close attention by the regulated community.

Appendix

Best management practices

(1) Deck washdown and runoff and above water line hull cleaning

- a. Minimize the introduction of on-deck debris, garbage, residue, and spillage into deck washdown and runoff discharges.
- b. Vessels must be fitted with and use perimeter spill rails and scuppers, as required by the US Coast Guard, their flag administration, or their classification society.
- c. Where feasible, 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.
- d. The presence of floating solids, visible foam, halogenated phenol compounds, and dispersants in deck washdowns must be minimized.
- e. Deck washdowns must be minimized while the vessel is in port.
- f. Topside surfaces and other above-water line portions of the vessel must be maintained so as to minimize 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.
- g. When conducting maintenance painting, entry into the water of residual paint droplets must be minimized.
- h. If deck washdowns or above-water line hull cleaning will result in a discharge, they must be conducted with non-toxic and phosphate-free cleaners and detergents. Cleaners and detergents should not be caustic (or only minimally caustic) and should be biodegradable.

(2) Bilgewater

- a. All bilgewater discharges must be in compliance with applicable regulations.⁸⁷
- b. Dispersants, detergents, emulsifiers, chemicals, or other substances may not be used to remove the appearance of a visible sheen from bilgewater discharges.
- c. Except of flocculants or other required additives used to enhance oil/water separation during processing, substances may not be added to bilgewater that are not produced in the normal operation of the vessel. Routine cleaning and maintenance activities associated with vessel equipment and structures are considered to be normal operation if those practices fall within normal marine practice.
- d. Discharge of bilgewater into navigable waters of the United States must be minimized. This can be done by minimizing the production of bilgewater; disposing of bilgewater ashore; and/or discharging into waters outside the navigable waters of the United States.

⁸⁷ 40 CFR Part 110 – Discharge of oil (sheen test, etc.); 40 CFR Part 116 – Designation of hazardous substances; 40 CFR Part 117 – Determination of reportable quantities; 33 CFR § 151.10 – Control of oil discharges (use of oily water separator, etc.).

- e. Vessels greater than 400 gross tons may not discharge untreated oily bilgewater into the navigable waters of the United States.
- f. Vessels greater than 400 gross tons that regularly sail outside the navigable waters of the United States (at least once per month) may not discharge treated bilgewater within one (1) nautical mile of shore if technologically feasible to avoid (e.g., holding would not impact safety and stability, would not contaminate other holds or cargo, would not interfere with essential operations of the vessel). Any discharge which is not technologically feasible of treated bilgewater within one (1) nautical mile of shore by a vessel greater than 400 gross tons must be documented.
- g. Vessels greater than 400 gross tons may not discharge treated bilgewater into federally protected waters (marine sanctuaries, national parks, etc.) unless the discharge is necessary to maintain safety and stability of the vessel. Any discharge of bilgewater into these federally protected waters must be documented and the safety reason justifying the discharge must be documented.
- h. Vessels greater than 400 gross tons that regularly sail outside the navigable waters of the United States (at least once per month) may only discharge treated bilgewater within the US navigable waters while underway at speeds greater than six (6) knots, unless doing so would threaten the safety and stability of the vessel. Any discharge made for safety reasons must be documented.

(3) Discharges of ballast water

- a. All discharges of ballast water must comply with the applicable US Coast Guard regulations.⁸⁸
- b. Discharges of ballast water may not contain oil, noxious liquid substances, or hazardous substances.
- c. On vessels equipped with ballast tanks, the master, operator, person-in-charge, and crewmembers who actively take part in ballast water management or who may affect the discharge must be provided training on the application of ballast water and sediment management and treatment procedures.
- d. Vessels equipped with ballast water tanks must maintain and follow a ballast water management plan 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.
- e. Masters of vessels equipped with ballast water tanks that operate in US waters must:
 - 1. Avoid discharge of ballast water into federally protected waters, such as marine sanctuaries and national parks.
 - 2. Minimize or avoid uptake of ballast water in the following areas and situations:

⁸⁸ 33 CFR Part 151, Subpart C – Ballast water management for control of nonindigenous species in the Great Lakes and Hudson River; 33 CFR Part 151, Subpart D – Ballast water management for control of nonindigenous species in waters of the United States.

- (i) Areas known to have infestations or populations of harmful organisms and pathogens (e.g., algal blooms).
 - (ii) Areas near sewage outfalls.
 - (iii) Areas near dredging operations.
 - (iv) Areas where tidal flushing is poor or when a tidal stream is known to be more turbid.
 - (v) In darkness, when bottom dwelling organisms may rise up in the water column.
 - (vi) In shallow water or where propellers may stir up sediment.
 - (vii) Areas with pods of whales, convergence zones, and boundaries of major currents.
3. In order to remove sediments, clean ballast tanks regularly in mid-ocean, under controlled arrangements in port, or in dry dock. Note that no discharge of sediments in the navigable waters of the United States is authorized by the VGP.
 4. Discharge only the minimal amount of ballast water essential for vessel operations while in the navigable waters of the United States.
- f. For those vessels whose design and construction safely allows for the transfer of ballast water to shore, if compatible onshore treatment of ballast water is available and economically practicable and achievable, such onshore treatment must be used for ballast water discharges, unless the vessel uses an onboard ballast water treatment system approved by the US Coast Guard.
 - g. Other than vessels that have used on-shore treatment in one port and that will not discharge ballast water into the navigable waters of the United States for the duration of the voyage, a vessel carrying ballast water that was taken on in areas less than 200 nautical miles from any shore and subsequently operates beyond the US exclusive economic zone (EEZ) and more than 200 nautical miles from any shore may only discharge ballast water into the navigable waters of the United States if that vessel has carried out an exchange of ballast water while in waters more than 200 nautical miles from any shore, unless one of the below exemptions applies.
 - h. A vessel that is carrying ballast water and engaged in a Pacific nearshore voyage and that has taken on ballast water in an area less than 50 nautical miles from any shore may only discharge ballast water in the navigable waters of the United States if it has carried out an exchange of ballast water while in waters more than 50 nautical miles from any shore and in waters more than 200 meters deep. Vessels engaged in Pacific nearshore voyages are: (1) vessels engaged in the Pacific coastwise trade and vessels transiting between Pacific ports that travel between more than one Captain of the Port (COTP) zone; and (2) all other vessels that sail from foreign, non-US Pacific, Atlantic (including the Caribbean Sea), and Gulf of Mexico ports, which do not sail further than 200 nautical miles from any shore, and that discharge or will discharge ballast water into the territorial sea or inland waters of Alaska or off the west coast of the continental United States.
 - i. For vessels that travel between more than one COTP zone while undertaking ocean-going voyages and which have either reported No Ballast on Board (NOBOB) or which have any ballast water tank this is empty or contains unpumpable residual water, a mid-ocean ballast water exchange must be undertaken for those tanks with ballast water. For those tanks which are empty or contain unpumpable residual water, the tanks must either be

sealed or a mid-ocean ballast water exchange must be conducted. Water from sealed tanks may not be commingled with water from other ballast tanks.

- j. For vessels that engage in Pacific nearshore voyages and which have either reported No Ballast on Board (NOBOB) or which have any ballast water tank this is empty or contains unpumpable residual water, a ballast water exchange must be undertaken in accordance with the Pacific nearshore voyage requirements for those tanks with ballast water. For those tanks which are empty or contain unpumpable residual water, the tanks must either be sealed or a ballast water exchange must be conducted in accordance with the Pacific nearshore voyage requirements. Water from sealed tanks may not be commingled with water from other ballast tanks.
- k. In addition to complying with all the other requirements of the VGP, a vessel that is equipped to carry ballast water and that enters the Great Lakes must comply with the Coast Guard ballast water management regulations applicable to such vessel. If the vessel has operated outside the EEZ and more than 200 nautical miles from any shore, it must also have conducted saltwater flushing of its ballast tanks while more than 200 nautical miles from any shore.
- l. Vessels may not discharge unexchanged or untreated ballast water or sediment while within the navigable waters of the United States.
- m. The vessel is not required to exchange its ballast water or conduct saltwater flushing if:
 - 1. The master determines and fully documents in the log or record book why it is unsafe to do so.
 - 2. The vessel uses an alternative, environmentally sound method of ballast water management that has been approved by the US Coast Guard.
 - 3. The vessel has been accepted by the US 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.
 - 4. The vessel retains all ballast water on board for the duration of the voyage in the navigable waters of the United States.
 - 5. The vessel is not engaged in an international voyage and does not traverse more than one COTP zone.
 - 6. The vessel is engaged in a Pacific nearshore voyage and the ballast water consists of water drawn exclusively from treated municipal or similar potable water supplies, provided that such ballast water is not mixed with any ballast water or sediments from other sources.
- n. Except for vessel entering the Great Lakes, a vessel is not required to deviate from its voyage or delay the voyage in order to conduct ballast water exchange or saltwater flushing.

(4) Anti-fouling hull coatings

- a. All anti-fouling hull coatings subject to registration under FIFRA must be registered, sold or distributed, applied, maintained, and removed in a manner consistent with applicable requirements on the coatings' FIFRA label.

- b. For 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 (including those on the EPA's List of Banned or Severely Restricted Pesticides). Note that this requirement applies to all vessels, including those registered and painted outside the United States.
- c. Prior to application or reapplication of anti-fouling hull coatings, consideration must be given to use of coatings with the lowest effective biocide release rates, rapidly biodegradable components (once separated from the hull surface), or non-biocidal alternatives, such as silicone coatings.
- d. If the vessel will spend considerable time (more than 30 days per year) in a port or harbor that is copper-impaired (such as the Shelter Island Yacht Basin in San Diego or the ports of Los Angeles/Long Beach), consideration should be given to use of anti-fouling coatings that rely on a rapidly biodegradable biocide or another alternative rather than copper-based coatings. If a copper-based anti-fouling hull coating is utilized in such vessels, the basis for that decision must be documented.
- e. The discharge of tributyltin (TBT) or any other organotin compound is prohibited by the VGP.

(5) Aqueous Film Forming Foam (AFFF)

- a. Discharges of AFFF are authorized for emergency purposes when needed to ensure the safety and security of the vessel and crew.
- b. For vessels that sail outside the navigable waters of the United States more than once per month, maintenance and training discharges of fluorinated AFFF are not authorized within the navigable waters of the United States.
- c. 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 when within the navigable waters of the United States.
- d. For vessels that do not operate outside the navigable waters of the United States more than once per month, if maintenance and training discharges are required, the AFFF discharged must be collected and stored for disposal onshore if technologically feasible unless the vessel uses a non-fluorinated or alternative foaming agent. For those vessels for which it is not technologically feasible to collect and store the fluorinated AFFF, the discharge must be limited to that amount necessary to conduct legally-required tests. Training should be conducted as far from shore as is practicable. Maintenance and training discharges of AFFF are not allowed in port.
- e. AFFF discharges may not occur within one nautical mile of federally protected waters unless they are discharged: (1) for emergency purposes; (2) by rescue vessels for firefighting purposes; or (3) by vessels owned or under contract by the federal government or a state or local government to do business exclusively within one nautical mile of those federally protected waters. If AFFF is discharged for emergency purposes in federally protected waters, a written explanation must be kept in the ship's log or other vessel recordkeeping documentation.

(6) Boiler/economizer blowdown

- a. Discharge of boiler/economizer blowdown in port must be minimized if chemicals or other additives are used to reduce impurities or prevent scale formation.
- b. For vessels greater than 400 gross tons that depart the navigable waters of the United States at least once per week, boiler/economizer blowdown may not be discharged in the navigable waters of the United States unless: (1) the vessel remains within the navigable waters of the United States for a longer period than the necessary duration between blowdown cycles; (2) the vessel needs to conduct blowdown immediately before entering drydock; or (3) blowdown is required for safety purposes.
- c. Boiler/economizer blowdown may not be discharged in federally protected waters except when necessary for safety purposes.
- d. Boiler/economizer blowdown should be discharged as far from shore as possible.

(7) Cathodic protection

- a. Flaking into the navigable waters of the United States of large, corroded portions of anodes composed of zinc, magnesium, or aluminum must be minimized.
- b. Sacrificial anodes must not be used more than necessary to adequately prevent corrosion of the vessel's hull, sea chest, rudder, and other exposed areas of the vessel.
- c. Sacrificial anodes must be appropriately cleaned and/or replaced in periods of maintenance (such as drydocking) so that release of zinc, magnesium, and aluminum is minimized.
- d. The sacrificial anodes utilized should be composed of the least toxic material that will provide the needed protection and is economically practicable. In this regard, magnesium is less toxic than aluminum, which is less toxic than zinc.
- e. Use of Impressed Current Cathodic Protection (ICCP) is recommended in place of or in conjunction with sacrificial anodes when technologically feasible. If ICCP is installed, dielectric shields must be used to prevent flaking.

(8) Chain locker effluent

- a. The anchor chain must be carefully and thoroughly washed down (i.e., more than a cursory rinse) as it is hauled out of the water so as to remove sediment and marine organisms.
- b. Chain lockers must be cleaned thoroughly during dry docking to eliminate accumulated sediments and any potential accompanying pollutants.
- c. For vessels that regularly sail outside the navigable waters of the United States, the space beneath the chain locker is to be periodically cleaned, rinsed, and/or pumped out (preferably in mid-ocean) prior to entering the navigable waters of the United States, if technologically feasible, if the anchor has been lowered into any nearshore waters.
- d. For vessels that depart the navigable waters of the United States at least once per month, chain lockers may not be rinsed or pumped out while the vessel is in the navigable waters

of the United States, unless not emptying them would compromise safety. Such a safety claim must be documented in the vessel's recordkeeping system.

(9) 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

- a. Protective seals on controllable pitch propellers, azimuth thrusters, propulsion pods, rudder bearings, and other oil-to-sea interfaces must be maintained in good operating order to minimize leaking of hydraulic oil or other oils.
- b. The vessel must not discharge oil in quantities that may be harmful as defined in 40 CFR Part 110 (e.g., visible sheen).
- c. Appropriate spill response resources (e.g., oil booms) must be used to contain any oil leakage.
- d. Vessels must have ready access to necessary spill response resources to clean up any potential oil spills.
- e. After applying lubrication to wire rope and mechanical equipment subject to immersion, those objects must be thoroughly wiped down to remove excess lubricant.
- f. Environmentally preferable lubricant (such as vegetable oil, synthetic ester, or polyalkylene glycol) should be used in lieu of petroleum-based lubricant where feasible. Use of an environmentally preferable lubricant, though, does not authorize any discharge of lubricant in a quantity that may be harmful.

(10) Distillation and reverse osmosis brine

- a. Brine from the distillation system and reverse osmosis reject water shall not contain or come into contact with machinery or industrial equipment (other than that necessary for the production of potable water), toxic or hazardous materials, or wastes.

(11) Elevator pit effluent

- a. Discharges of untreated elevator pit effluent are not authorized except in cases of emergency.
- b. Elevator pit effluent may be discharged if: (1) it is managed as bilgewater and meets all the requirements applicable to such a discharge; or (2) it is treated with an oily-water separator and discharged with an oil content below 15 ppm.
- c. Emergency discharges of elevator pit effluent must be fully documented.

(12) Firemain systems

- a. Discharges from firemain systems are authorized for emergency purposes when needed to ensure the safety and security of the vessel and her crew, other emergency situations,

and for testing and inspection purposes as may be required to assure its operability in an emergency.

- b. Discharges from firemain systems are authorized in port if necessary for certification, maintenance, or training requirements only if the intake comes directly from the surrounding waters or from potable water supplies and there are no additions to the discharge.
- c. Firemain discharges may be used for deck washdown or other secondary uses if the intake comes directly from the surrounding waters or from potable water supplies and the discharge meets all relevant effluent limitations associated with that activity.
- d. To the extent feasible, maintenance and training involving discharges from the firemain systems should be conducted outside of the port.
- e. Discharges from the firemain systems while the vessel is in federally protected waters are prohibited, except in cases of emergency or when washing down the anchor chain to comply with the anchor washdown provisions of the VGP.

(13) Freshwater layup

- a. The amount of disinfection agents used in freshwater layup must be kept to the minimum amount required to prevent aquatic growth.

(14) Gas turbine wash water

- a. Discharge into the navigable waters of the United States of gas turbine wash water is prohibited.
- b. Where feasible, such wash water must be prevented from commingling with bilge water that will be discharged into the navigable waters of the United States. For example, such wash water might be collected separately and disposed of ashore.
- c. Oils, including oily mixtures, from gas turbine wash water may not be discharged into the navigable waters of the United States in quantities that may be harmful (e.g., that result in a visible sheen).

(15) Graywater

- a. While in port, the discharge of graywater must be minimized. For those vessels that cannot store graywater, production of graywater while in port should be minimized.
- b. Vessels that have a capacity to store graywater may not, while in federally protected waters, discharge graywater. For those vessels that cannot store graywater, production of graywater while in federally protected waters should be minimized.
- c. For vessels of greater than 400 gross tons that regularly travel more than 1 nm from shore and that have a capacity to store graywater for a sufficient period, graywater may only be discharged while the vessel is underway and greater than 1 nm from shore (unless the vessel meets applicable vessel-class graywater treatment standards and other requirements of the VGP). Note that additional requirements exist for graywater discharges from large passenger ships and from large ferries.

- d. For vessels that do not regularly travel more than 1 nm from shore, discharge of graywater must be minimized and, provided that the vessel has available graywater storage capacity, the graywater must be disposed off ashore if appropriate facilities are available and such disposal is economically practicable and achievable (unless the vessel meets the applicable vessel-class graywater treatment standards and other requirements of the VGP). Discharge of graywater must be minimized when the vessel is not underway.
- e. If graywater will be discharged into the navigable waters of the United States, introduction of kitchen oils into the graywater system must be minimized. When dishes are being cleaned, as much food and oil residue as practicable must be removed before the dishes are rinsed. Oils used in cooking may not be added to the graywater system. Oil from the galley and scullery may not be discharged in quantities that may be harmful (e.g., create a visible sheen on the water).
- f. Phosphate-free and non-toxic soaps and detergents must be utilized if they are to be discharged into the navigable waters of the United States. These soaps and detergents must be free from toxic or bioaccumulative compounds and not lead to extreme shifts in receiving water pH.
- g. While the vessel is underway in a nutrient-impaired water or a water that is impaired as a result of nutrient enrichment, and the vessel has adequate graywater storage capacity, graywater may not be discharged. Where the vessel does not have sufficient graywater storage capacity, graywater production and discharge must be minimized while in such waters. Any such discharge must be conducted while the vessel is underway in areas with sufficient circulation and depth to the extent feasible.

(16) Motor gasoline and compensating effluent discharge

- a. The discharge of motor gasoline and compensating effluent must not have oil in quantities that may be harmful (e.g., resulting in a visible sheen or an oil concentration that exceeds 15 ppm). Compliance with the 15 ppm concentration limitation may be established with visual monitoring for an oily sheen.
- b. Discharges of motor gasoline and compensating effluent must be minimized while the vessel is in port. If an oily sheen is observed, appropriate oil containment practices (e.g., boom and/or sorbent pads) must be deployed.
- c. Vessels shall not discharge motor gasoline and compensating effluent in federally protected waters.

(17) Non-oily machinery wastewater

- a. If discharged directly overboard, non-oily machinery wastewater must be free from oils (in quantities that may be harmful) and any additives that are toxic or bioaccumulative in nature.
- b. Non-oily machinery wastewater may be drained into the vessel's bilge.

(18) Refrigeration and air conditioning condensate discharge

- a. If refrigeration and/or air conditioning condensate is to be discharged directly overboard, it must not be allowed to come into contact with oily or toxic materials.
- b. Refrigeration and/or air conditioning condensate that is collected and plumbed for internal recycling (e.g., recycled as “technical water”) may be allowed to commingle with oily water; however, the commingled water will be considered bilge water and must be processed as such.

(19) Seawater cooling overboard discharge (including non-contact engine cooling water, hydraulic system cooling water, and refrigeration cooling water)

- a. When possible, seawater cooling overboard discharges should be made when the vessel is underway so that any thermal impacts are dispersed.
- b. To reduce the production and discharge of seawater cooling overboard discharges, it is recommended that the vessel utilize shore power while in port if:
 1. Shore power is readily available for vessels from utilities or port authorities;
 2. Shore-based power supply systems are capable of providing all needed electricity required for vessel operations; and
 3. The vessel is equipped to connect to shore-based power and such systems are compatible with the available shore power.
- c. Maintenance of all piping and seawater cooling systems must meet the seawater piping biofouling prevention requirements.

(20) Seawater piping biofouling prevention

- a. Seawater piping biofouling chemicals subject to FIFRA registration must be used in accordance with their FIFRA label.
- b. No pesticides or chemicals banned for use in the United States may be discharged into the navigable waters of the United States.
- c. Only the minimum amount of biofouling chemicals needed to keep biofouling under control may be utilized while the vessel is in the navigable waters of the United States. Discharges containing active agents must contain as little chlorine as possible.
- d. Biofouling organisms must be removed from seawater piping on a regular basis and disposed of in accordance with applicable local, state, and federal regulations.
- e. Removed biofouling organisms may not be discharged into the navigable waters of the United States. If such organisms are discharged into water, it should only be done when the vessel is more than 50 nautical miles from any shore.
- f. Biofouling organisms should be removed while the vessel is at sea so as to reduce the risk of introduction of invasive species in port.

(21) Boat engine wet exhaust

- a. Vessels generating wet exhaust from their engines must be maintained in good operating order, well tuned, and functioning according to manufacturer specifications (if available) in order to decrease pollutant contributions to the wet exhaust.

- b. To reduce the concentration of pollutants in the wet discharge, engines should utilize low sulfur or alternative fuels to the extent available.
- c. Use of four-stroke engines rather than two-stroke engines is encouraged for vessels generating wet exhaust so as to minimize the discharge of pollutants.

(22) Sonar dome discharge

- a. The water inside the sonar dome may not be discharged for maintenance purposes into the navigable waters of the United States.
- b. Biofouling chemicals that are bioaccumulative should not be used on the exterior of sonar domes when other viable alternatives are available.

(23) Underwater ship husbandry discharges

- a. Transport of living organisms attached to the underwater portion of the vessel (e.g., hull, rudder, etc.) must be minimized when the vessel enters US waters from outside the US exclusive economic zone (EEZ) or when the vessel is traveling between Captain of the Port (COTP) zones.
- b. Whenever possible, rigorous hull-cleaning activities should take place in drydock or another land-based facility where any fouling organisms or spent antifouling coating paint can be contained. If water-pressure based systems are used to clean the hull and remove old paint, the vessel should use a facility that treats the washwater prior to discharge to remove fouling organisms and antifouling hull coatings.
- c. If fouling organisms are to be removed while the vessel is waterborne, methods must be employed that minimize the discharge of fouling organisms and antifouling hull coatings into the navigable waters of the United States. These methods include:
 - 1. Selection of appropriate cleaning brush or sponge rigidity to minimize removal of antifouling coatings and biocide releases into the water column;
 - 2. Limiting use of hard brushes and surfaces to the removal of hard growth; and
 - 3. When available and feasible, use of vacuum control technologies to minimize the release or dispersion of fouling organisms and antifouling hull coatings into the water column.
- d. Release of copper-based antifouling paint into the water column must be minimized when the hull is cleaned. Cleaning of copper-based antifouling paint must not result in any visible cloud or plume of paint in the water. If a visible cloud or plume of paint develops, the operator must shift to a softer brush or less abrasive cleaning technique.
- e. The hull of a vessel that uses copper-based antifouling paint may not be cleaned while the vessel is in copper-impaired waters within the first 365 days after paint application unless there is a significant visible indication of hull fouling.

(24) Welldeck discharges

- a. Welldeck discharges that contain graywater from smaller vessels may not be discharged into the navigable waters of the United States except in an emergency.

- b. Welldeck discharges from washdown of gas turbine engines may not be discharged into the navigable waters of the United States.
- c. Welldeck discharges from equipment and vehicle washdowns must be free from garbage and must not contain oil in quantities that may be harmful (e.g., result in a visible sheen on the water).

(25) Graywater mixed with sewage from vessels

- a. The commingled discharge of graywater mixed with sewage from vessels must comply with the effluent limits for graywater discharges of all applicable portions of the VGP.
- b. The commingled discharge of graywater mixed with sewage from vessels must also comply with all applicable requirements for discharge of sewage as found in the Federal Water Pollution Control Act (FWPCA) and implementing regulations.

(26) Exhaust gas scrubber washwater discharge

- a. Exhaust gas scrubber washwater discharge must not contain oil, including oily mixtures, in quantities that may be harmful (e.g., result in a visible sheen on the water).
- b. Sludge generated from exhaust gas scrubber washwater may not be discharged into the navigable waters of the United States.
- c. It is recommended that vessels with exhaust gas cleaning systems that result in washwater discharges follow the provisions of section 10 of IMO Resolution MEPC.170(57) – Guidelines for exhaust gas cleaning systems – relating to washwater discharge criteria, monitoring, data recording, and residue.