United States Environmental Protection Agency
2014 Final Issuance of

National Pollutant Discharge Elimination System (NPDES) Small Vessel General Permit for Discharges Incidental to the Normal Operation of Vessels Less than 79 Feet (sVGP)

Fact Sheet

Agency: Environmental Protection Agency (EPA)
Action: Notice of NPDES General Permit

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1. GENERAL INFORMATION

1.1 DOES THIS ACTION APPLY TO ME?

This permit is applicable to discharges incidental to the normal operation of vessels identified in Part 1.4 of the permit from non-recreational vessels less than 79 feet (24.08 meters) into waters subject to this permit. Recreational vessels as defined in section 502(25) of the Clean Water Act and vessels of the Armed Forces as defined in Section 312 (a)(14) of the Clean Water Act are not subject to this permit.

Recreational vessels, as defined under the Clean Boating Act (which amends the Clean Water Act), do not have to obtain NPDES permit authorization for incidental discharges, and therefore, are not subject to this permit. Clean Water Act §§ 312(o), 402(r), and 502(25). Instead, discharges incidental to the normal operation of a vessel, if the vessel is a recreational vessel, will become subject to management practices after regulations are finalized establishing those practices. See 33 U.S.C. 1322(o). The Clean Water Act defines a recreational vessel as any vessel that is either: (1) manufactured or used primarily for pleasure, or (2) leased, rented, or chartered to a person for the pleasure of that person. The term recreational vessel does not include a vessel that is both subject to Coast Guard inspection and either (1) engaged in commercial use or (2) carries paying passengers. For example, the following kinds of vessels would be recreational vessels within the meaning of the Clean Water Act and are not subject to this permit:

- Boston whaler-type recreational vessel manufactured for activities like water skiing, but also used for law enforcement purposes, for example, operated by a state police department or fish and wildlife agency.
- Utility vessel used by the Army Corps of Engineers or a state or federal wildlife agency for public resource management purposes such as hydrographic surveys, wildlife management, buoy marker setting, water patrol, inspections, etc., for which the same model is also manufactured and utilized for recreational uses (e.g., a 26 foot aluminum hulled jon-boat, flatbottom, or skiff).
- A vessel originally manufactured for pleasure and not subject to Coast Guard inspection requirements.
- A small vessel chartered to another for the pleasure of that person, including for fishing, but of a size that is not subject to Coast Guard inspection.

Examples of vessels that are subject to NPDES permitting and thus covered under this permit include:

- A charter fishing vessel subject to Coast Guard inspection carrying 12 paying passengers or more.
- A purpose built vessel manufactured for non-recreational purposes such as a steel hull towboat or aluminum hull crew boat.
- A small utility vessel manufactured for barge transport.
- A commercial fishing vessel manufactured for that purpose.

1.2 PUBLIC COMMENT

EPA received over 70 public comments and attachments on the proposed permit. All comments were carefully considered and used to inform decision making in finalizing this permit. EPA's responses to the comments received are reflected in the response to comment document available in today's docket.

1.3 FURTHER INFORMATION

Supporting information and materials for this permit are included in Docket ID No. EPA-HQ-OW-2011-0150, available at www.regulations.gov. Additional information on NPDES permitting of vessels is available at www.epa.gov/npdes/vessels.

2. BACKGROUND

2.1 THE CLEAN WATER ACT

Section 301(a) of the Clean Water Act (CWA) provides that "the discharge of any pollutant by any person shall be unlawful" unless the discharge is in compliance with certain other sections of the Act. 33 U.S.C. 1311(a). The CWA defines "discharge of a pollutant" as "(A) any addition of any pollutant to navigable waters from any point source, (B) any addition of any pollutant to the waters of the contiguous zone or ocean from any point source other than a vessel or other floating craft." 33 U.S.C. 1362(12). A "point source" is a "discernible, confined and discrete conveyance" and includes a "vessel or other floating craft." 33 U.S.C. 1362(14).

The term "pollutant" includes, among other things, "garbage…chemical wastes…and industrial, municipal, and agricultural waste discharged into water." The Act's definition of "pollutant" specifically excludes "sewage from vessels or a discharge incidental to the normal operation of a vessel of the Armed Forces" within the meaning of CWA 312.33 U.S.C. 1362(b).

One way a person may discharge a pollutant without violating the section 301 prohibition is by obtaining authorization to discharge (referred to herein as "coverage") under a section 402 NPDES permit (33 U.S.C. 1342). Under section 402(a), EPA may "issue a permit for the discharge of any pollutant, or combination of pollutants, notwithstanding section 1311(a)" upon certain conditions required by the Act.

2.2 LEGAL CHALLENGE TO THE EXCLUSION OF VESSELS

In December 2003, a long-standing exclusion of discharges incidental to the normal operation of vessels from the NPDES program became the subject of a lawsuit in the U.S. District Court for the Northern District of California. *Northwest Envtl. Advocates et al. v. United States EPA*, 2005 U.S. Dist. LEXIS 5373 (N.D. Cal. 2005). On March 30, 2005, the U.S. District Court for the Northern District of California determined that the exclusion exceeded the Agency's authority under the CWA. Following the submission of briefs and oral arguments by parties and intervenors on the issue of a proper remedy, the District Court issued a final order in September 2006 providing that:

> The blanket exemption for discharges incidental to the normal operation of a vessel, contained in 40 CFR § 122.3(a), shall be vacated as of September 30, 2008. *Northwest Envtl. Advocates et al. v. United States EPA*, 2006 U.S. Dist. LEXIS 69476 (N.D. Cal. 2006).

EPA appealed the District Court's decision to the Ninth Circuit, and on July 23, 2008, the Court upheld the decision. *Northwest Envtl. Advocates v. EPA*, 537 F.3d 1006 (9th Cir. 2008). This meant that, effective December 19, 2008, except for those vessels exempted from NPDES permitting by congressional legislation, discharges incidental to the normal operation of vessels that were excluded from NPDES permitting by 40 CFR § 122.3(a) were subject to CWA section 301's prohibition against discharging, unless authorized by an NPDES permit. The CWA authorizes civil and criminal enforcement for violations of that prohibition and also allows for citizen suits against violators.

2.3 CONGRESSIONAL LEGISLATION

In late July 2008, Congress enacted two pieces of legislation to exempt discharges incidental to the normal operation of certain types of vessels from the need to obtain an NPDES permit.

The first of these, entitled the Clean Boating Act of 2008, amends the CWA to provide that discharges incidental to the normal operation of recreational vessels are not subject to NPDES permitting, and instead, creates a new regulatory regime to be implemented by EPA and the U.S. Coast Guard under the new 312(o) of the CWA. S. 2766, Pub. L. 110-188 (July 29, 2008). As defined in § 3 of that law, recreational vessels subject to its NPDES exclusion are any vessels manufactured or used primarily for pleasure or leased, rented, or chartered to a person for the pleasure of that person, but do not include a vessel that is subject to Coast Guard inspection and that is engaged in commercial use or carries paying passengers. As a result of this legislation, discharges incidental to the normal operation of recreational vessels are not subject to NPDES permitting. EPA is currently developing regulations as directed under the Clean Boating Act for recreational vessels. For more information on this action, please see: http://water.epa.gov/lawsregs/lawsguidance/cwa/vessel/CBA/about.cfm.

The second piece of legislation provided for a temporary moratorium on NPDES permitting for discharges subject to the 40 CFR § 122.3(a) exclusion from (1) commercial fishing vessels (as defined in 46 U.S.C. § 2101 and regardless of size) and (2) from those other non-recreational vessels less than 79 feet in length. S. 3298, Pub. L/10-299 (July 31, 2008). The statute's NPDES permitting moratorium ran for a two-year period beginning on its July 31, 2008, enactment date, during which time EPA was to study the relevant discharges and submit a report to Congress. EPA finalized this Report to Congress, entitled "Study of Discharges Incidental to Normal Operation of Commercial Fishing Vessels and Other Non-Recreational Vessels Less Than 79 Feet" in August 2010 (USEPA, 2010).[1] The moratorium was subsequently extended to December 18, 2013, by P.L. 111-215 and further extended to December 18, 2014, by the Coast Guard and Maritime Transportation Act of 2012 (H.R. 2838) signed on December 20, 2012

[1] EPA's 2010 Vessels Report to Congress cited here is discussed later in this fact sheet and available in its entirety at: www.epa.gov/npdes/vessels.

(P.L. 112-213). In addition, the statute's NPDES permitting moratorium does not extend to ballast water discharges. That moratorium also does not extend to other discharges, which on a case-by-case basis, EPA or the state, as appropriate, determines contribute to a violation of water quality standards or pose an unacceptable risk to human health or the environment.

In order to ensure that permit coverage is available to vessels by the expiration of the moratorium, EPA is finalizing today's sVGP.

2.4 GENERAL PERMITS

An NPDES permit authorizes the discharge of a specified amount of a pollutant or pollutants into receiving water under certain conditions. The NPDES program relies on two basic types of permits: individual and general. Typically, dischargers seeking coverage under a general permit are required to submit a notice of intent (NOI) to be covered by the permit. However, EPA is not requiring vessel owners/operators to submit NOIs to be covered by the sVGP. See Section 3.5.1 of this fact sheet for additional discussion regarding EPA's application of the NPDES NOI regulations to this permit.

An individual permit is a permit specifically tailored for an individual discharger. Upon receiving the appropriate application(s), the permitting authority generally develops a permit for public comment for that particular discharger based on the information contained in the permit application (e.g., type of activity, nature of discharge, receiving water quality). Following consideration of public comments, a final permit may then be issued to the discharger for a specific time period (not to exceed five years), with a provision for reapplying for further permit coverage prior to the expiration date.

A general permit is also subject to public comment and is developed and issued by a permitting authority (in this case, EPA). A general permit covers multiple facilities within a specific category for a specific period of time (not to exceed five years), after which the permit expires. Like individual permits, general permits may be reissued. Under 40 CFR § 122.28, general permits may be written to cover categories of point sources having common elements, such as facilities that involve the same or substantially similar types of operations, that discharge the same types of wastes, or that are more appropriately regulated by a general permit. Given the vast number of vessels requiring NPDES permit coverage and the discharges common to these vessels, EPA believes that it makes administrative sense to issue this general permit, rather than issuing individual permits to each vessel. Courts have approved of the use of general permits. See for example *Natural Res. Def. Council v. Costle*, 568 F.2d 1369 (D.C. Cir. 1977); *EDC v. US EPA*, 344 F.3d 832, 853 (9th Cir. 2003). The general permit approach allows EPA to allocate resources in a more efficient manner and to provide more timely coverage. As with any permit, the CWA requires the general permit to contain technology-based effluent limits, as well as any more stringent limits when necessary to meet applicable state water quality standards. State water quality standards apply in the territorial seas, defined in section 502(8) of the CWA as extending three miles from the baseline. *Pacific Legal Foundation v. Costle*, 586 F.2d 650, 655-656 (9th Cir. 1978); *Natural Resources Defense Council, Inc. v. U.S. EPA*, 863 F.2d 1420, 1435 (9th Cir. 1988). In addition, discharges to the territorial seas are required to comply with section 403(c) of the CWA Ocean Discharge Criteria (40 CFR Part 125 Subpart M). As discussed in Section 6.2 of this fact sheet, the owner/operator of a vessel, after being covered by the permit,

may request to be excluded from such coverage by applying for an individual permit. In addition, EPA may subsequently require a vessel to obtain an individual permit instead of receiving coverage under the general permit.

2.5 ECONOMIC IMPACTS

EPA estimates that between 115,000 and 138,000 vessels are potentially affected by the sVGP requirements. The establishments that own and operate vessels that will be subject to the sVGP are primarily associated with the fishing and water transportation industries, and with the oil and gas sector within the mining industry. To estimate the effect of sVGP requirements on an industry as a whole, EPA's analysis takes into account previous conditions and determines how the industry would act in the future in the absence of permit requirements. The baseline for this analysis is full industry compliance with existing federal and state regulations and with current industry practices or standards that exceed current regulations to the extent that they can be empirically observed. EPA estimated potential compliance costs to vessels associated with each of the practices and discharge categories identified in the sVGP, and with the inspection and recordkeeping requirements. Overall, EPA finds that sVGP requirements could result in total annual incremental costs for domestic vessels ranging between $7.1 million and $16.9 million (2010$) in the aggregate. This includes the paperwork burden costs and the incremental costs of all practices for applicable discharge categories. Per vessel incremental compliance costs average between $17 and $133 per year, depending on the number of applicable discharge categories and baseline practices.

To evaluate economic impacts of sVGP requirements on the affected industries, EPA performed a firm-level analysis. The firm-level analysis examines the impact of incremental costs per vessel to comply with the sVGP requirements on model firms that represent the financial conditions of "typical" businesses in each of the examined industry sectors. Since nearly all firms in the affected industries are small, the firm-level analysis focuses on assessment of impacts on small businesses. Further, given the distribution of revenue among firms in the affected industry sectors, which suggests a relatively greater potential for impacts to small firms in the commercial fishing industry, EPA looked more specifically at this industry when assessing the significance of impacts. To evaluate the potential impact of the sVGP on small entities, EPA used a cost-to-revenue test to evaluate the potential severity of economic impact on vessels and facilities owned by small entities. The test calculates annualized pre-tax compliance cost as a percentage of total revenues and uses a threshold of 1 and 3 percent to identify facilities that would be significantly impacted as a result of this permit. Because the impact of sVGP compliance is likely to be most significant for firms at the lower end of the firm size spectrum, the analysis focused on firms in the smallest revenue category in each industry. The results of this test provide estimated compliance cost thresholds that range between $331 and $680 per year (1 percent) and between $994 and $2,040 per year (3 percent), depending on the industry. The estimated sVGP compliance costs ($17 to $133 per year) are well below these thresholds. Based on this firm-level analysis using the average characteristics of firms in the lowest revenue category, EPA concludes that the sVGP will not have a significant economic impact on a substantial number of small entities based on information showing that firms would have lower compliance costs than would exceed the 1 percent cost-to-revenue threshold under high-end cost assumptions.

3. PERMIT OVERVIEW

Today's permit is issued pursuant to EPA's authority to issue permits under CWA section 402. Clean Water Act section 402 and its implementing regulations contain standards that govern EPA's imposition of NPDES permit conditions. See for example, 40 CFR Part 122 ("EPA Administered Permit Programs: The National Pollutant Discharge Elimination System").

3.1 STRUCTURE OF THE PERMIT

This general permit addresses all vessels less than 79 feet in length, except recreational and military vessels, operating in a capacity as a means of transportation, that have discharges incidental to their normal operation. See Section 1 of this fact sheet for additional discussion of vessels eligible for coverage under the sVGP.

EPA has developed this permit to accommodate the variety of vessel types less than 79 feet in length that will need to obtain permit coverage. Owners/operators of vessels covered under this permit may not be familiar with NPDES requirements and general or individual permits, so EPA has focused on developing a permit tailored to this particular universe of vessels. Part 1 of the permit provides a basic overview of the permit and how to obtain coverage. Part 2 of the permit contains the effluent limits and related requirements, organized into management areas rather than discharge-by-discharge requirements like EPA's VGP. It contains general discharge requirements for all vessel discharges, followed by specific requirements for nine other management areas, including fuel management; engine and oil control; solid and liquid waste management; deck washdown and runoff and above water line hull cleaning; vessel hull maintenance; graywater; fish hold effluent; ballast water, and overboard cooling water discharge. There is also a requirement to comply with other specific regulations applicable to vessel discharges. This organization allows EPA to develop permit terms and conditions that are more suitable for the vessels whose discharges are covered by this permit. Part 3 of the permit contains the monitoring and recordkeeping requirements. Part 4 contains additional provisions, such as how to obtain an alternate permit, specifics about complying with the permit, and additional permit conditions. Parts 5 and 6 of the permit contain definitions and EPA Regional contacts. Part 7 of the permit contains additional state and tribe-specific requirements consistent with section 401 of the CWA.

Appendix A of this permit is the Permit Authorization and Record of Inspection Form that will be required to be completed and maintained onboard each vessel. Appendix B is the Annual Non-Compliance Form for reporting non-compliance events.

3.2 THE VESSEL UNIVERSE AFFECTED BY THIS PERMIT

EPA estimates that there are between 118,000 and 140,000 vessels in the United States subject to the permitting moratorium established by P.L. 110-299.[2] Approximately 115,000 to 138,000 of these vessels are less than 79 feet and as such, eligible for coverage under the sVGP. Roughly one-half of these vessels are commercial fishing vessels involved in such activities as

[2] This range accounts for the uncertainty associated with other non-recreational vessels for which the U.S. Coast Guard's Marine Information for Safety and Law Enforcement (MISLE) database does not record the length or for which the recorded length is zero.

fish catching (e.g., longliner, shrimper, trawler), fish processing,[3] fishing tenders, and charter fishing. The other half are distributed among a variety of vessel classes, including passenger vessels (e.g., water taxis, tour boats, harbor cruise ships, dive boats), utility vessels (e.g., tug/tow boats, research vessels, offshore supply boats), and freight barges. The approximately 2,000 large commercial fishing vessels included in the permitting moratorium that are greater than 79 feet are not eligible for coverage under the sVGP; instead they are eligible for coverage under EPA's VGP.

As discussed above, the vessel universe eligible for coverage under this permit is limited to commercial fishing vessels and other non-recreational vessels 79 feet or less. According to the U.S. Coast Guard's Marine Information for Safety and Law Enforcement (MISLE) database, nearly 80 percent (722,522 vessels) of the 918,469 operational domestic vessels recorded in MISLE are recreational vessels, which are not subject to NPDES permitting requirements. Approximately 7.6 percent of these vessels are identified as commercial fishing vessels. The remainder of the MISLE universe of vessels less than 79 feet is composed of other types of non-recreational vessels such as freight and tank barges and ships, passenger vessels, and utility vessels (10.5 percent collectively), and vessels of unspecified service (3 percent).

Table 1 characterizes the vessel population in terms of length greater than or equal to and less than 79 feet. Figure 1 presents the MISLE population of operational, domestic vessels less than 79 feet for all vessel service categories, excluding recreational vessels. The remainder of this section gives additional detail about vessels eligible for coverage under the sVGP. For additional discussion about these vessels, please see EPA's 2010 Vessels Report to Congress (USEPA, 2010).

Table 1: Population of Operational, Domestic MISLE Vessels by Vessel Length

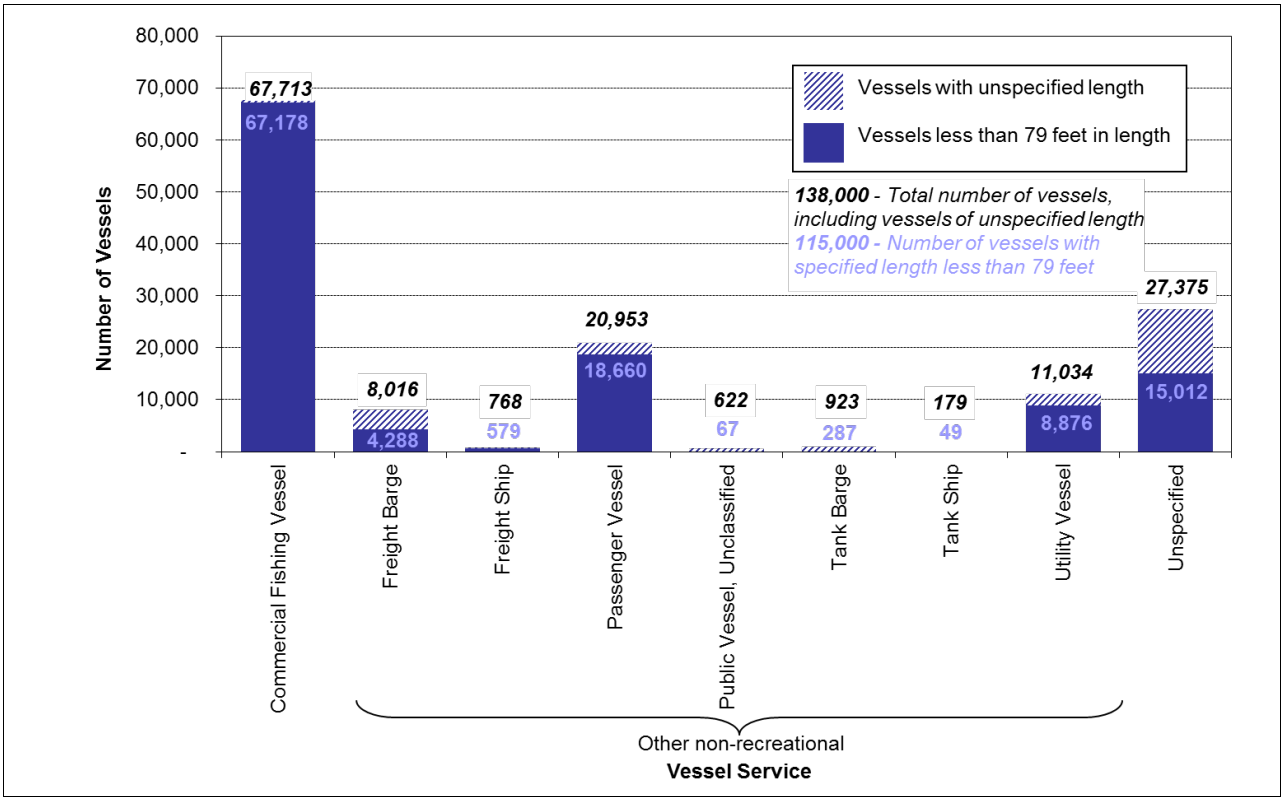
	Recreational	Commercial Fishing	Other Non-Recreational	Unspecified
Greater than or equal to 79 ft	2,256	2,231[2]	54,142	1,991
Less than 79 ft	676,915	54,176	32,799	15,011
Zero or null[1]	43,351	13,537	9,696	12,364
Total	722,522	69,944	96,637	29,366

Source: U. S. Coast Guard, MISLE database, 2009

[1] MISLE indicates a length of zero or the vessel length field is blank.

[2] A separate estimate provided by U.S. Coast Guard personnel suggests that commercial fishing vessels 79 feet or greater number approximately 1,800 to 1,900 vessels.

[3] Seafood processing vessel discharges are an industrial activity; therefore, seafood processing activities are not eligible for coverage under this permit. The sVGP authorizes discharges from vessels less than 79 feet that are subject to the former NPDES permit exclusion set out in 40 CFR § 122.3(a). Seafood processing facilities were explicitly not subject to that exclusion. See section 3.7.1 below. EPA or state NPDES permitting authorities (as appropriate) issue separate NPDES permits for seafood processing vessels when they are engaged in this industrial activity. However, discharges incidental to the normal operation of vessels, including discharges from seafood processing vessels, may be eligible for coverage under the sVGP when they are operating in a capacity as a means of transportation.



Note: The figure is based on operational, U.S.-flagged commercial fishing vessels (regardless of length) and other non-recreational vessels less than 79 feet in length. Some vessels in the MISLE database do not have length reported (see Table 1). For purposes of this figure, "Vessels with unspecified length" includes a fraction of vessels with length reported as zero or null in the MISLE database, based on the share of vessels in the overall vessel population for each vessel type that are reported to be less than 79 feet (96% of commercial fishing vessels, 0.1% of other non-recreational vessels, and 0.0% of vessels of unspecified type).
Source: U.S. EPA, 2010, based on data from U. S. Coast Guard, MISLE database,2009

Figure 1. Estimated Number of Non-Recreational Vessels Potentially Less Than 79 Feet Recorded in MISLE, by Vessel Service (Type)

3.2.1 Commercial Fishing Vessels

Approximately 68,000 commercial fishing vessels represent the largest category of vessels covered by the permit. According to the vessel service categories used by the U.S. Coast Guard in MISLE, "commercial fishing vessels" are vessels involved in such activities as fish catching (e.g., longliner, shrimper, trawler), fish processing, and charter fishing.

For purposes of the MISLE database, the U.S. Coast Guard generally describes commercial fishing vessels as including fishing vessels, fish tender vessels, and fish processing vessels as follows:

- Fish processing vessel[4] means a vessel that commercially prepares fish or fish products other than by gutting, decapitating, gilling, skinning, shucking, icing, freezing, or brine chilling.

[4] Please see footnote number 3 discussing the applicability of the sVGP versus other NPDES permits to fish processing vessels.

- Fish tender vessel means a vessel that commercially supplies, stores, refrigerates, or transports fish, fish products, or materials directly related to fishing or the preparation of fish to and from a fishing, fish processing, or fish tender vessel or a fish processing facility.
- Fishing vessel means a vessel that commercially engages in the catching, taking, or harvesting of fish, or an activity that can reasonably be expected to result in the catching, taking, or harvesting of fish.

While there is some overlap in service use for commercial fishing vessels and other vessel categories, such as passenger vessels (e.g., charter fishing), EPA assumed that the categorization used in MISLE generally follows the U.S. Coast Guard definition of commercial fishing vessels (USEPA, 2010).

3.2.2 Other Non-recreational Vessels

Excluding the approximately 27,000 "unspecified" vessels shown in Figure 1, "passenger vessels" have the second highest number of vessels potentially less than 79 feet, with approximately 21,000 vessels. These vessels are further divided into subtypes according to the types of activities in which they are involved (e.g., diving vessels, charter fishing vessels, ferries, harbor cruise vessels, sailing vessels). The service category labeled "public vessel, unclassified" accounts for nearly 700 vessels (e.g., lighthouse tender vessels, hospital ships, law enforcement vessels, ice breakers). The "utility vessels" category covers the remaining types of vessels, including tug/tow boats, school ships, research vessels/ships, mobile offshore drilling units, offshore vessels, offshore supply vessels, oil recovery vessels, and industrial vessels. More than 11,000 vessels are classified as utility vessels in MISLE.[5,6] Freight barges (8,016 vessels), freight ships (768 vessels), tank barges (622 vessels), and tank ships (179 vessels) account for the remaining non-recreational vessels covered under this permit.

3.2.3 Vessel Size

Vessels can be characterized by size according to two metrics: length and gross tonnage. The two metrics are related to each other (gross tonnage is a function of the ship's enclosed spaces as measured to the outside of the hull framing). In general, most non-recreational vessels in MISLE have a length ranging between 26 and 50 feet, which translates into a tonnage generally below 50 gross tons. The 79-foot length threshold for other non-recreational vessels (the criterion for applicability of P.L. 110-299 moratorium) corresponds roughly to a tonnage of 150 gross tons.

Approximately half of vessels for which MISLE contains a length entry fall within the 26- to 50-foot-length category, with an average vessel length of 41 feet. Tank ships are the only vessel service category with a large percentage of vessels longer than 300 feet. For almost all

[5] Some vessel service categories did not fall into one of the listed categories. EPA determined an appropriate service category based on information provided in other vessel classification fields (class, type, subtype).

[6] As noted previously, some vessels that are marketed as recreational vessels may be used as utility vessels. Provided such vessels are still considered recreational vessels as defined in the Clean Boating Act, they are not required to obtain coverage under this or any other NPDES permit. See Section 1.1 of this Fact Sheet for additional discussion.

vessel service categories, vessels less than 79 feet represent the majority of vessels within the overall population.

Most freight barges reported in MISLE are about 200 feet in length, and relatively few (10 percent) are under 79 feet in length. Hence, most freight barges are not subject to the moratorium in P.L. 110-299 and are currently eligible for coverage under the VGP. In contrast, the majority of utility vessels (e.g., towing vessels), passenger vessels, and commercial fishing vessels overall are less than 79 feet in length. The majority of commercial fishing vessels are relatively small compared to other non-recreational vessels such as barges or utility vessels, with 56 percent of commercial fishing vessels in the 26- to 50-foot range. The length of other non-recreational vessels varies among the subcategories, with as many as 64 percent of passenger vessels in the 26- to 50-foot range, compared to less than 3 percent of freight barges within that same range.

Overall, nearly 77 percent of all vessels in MISLE are less than 50 gross tons, while the remaining vessels generally fall within the 50- to 300-gross-tons range. Note that some vessel service categories appear underrepresented because the gross tons field is blank or is listed as zero in MISLE for approximately 56,000 vessels.

3.3 ELIGIBILITY

The sVGP is applicable to discharges incidental to the normal operation of non-military, non-recreational vessels less than 79 feet. The discharges eligible for coverage under this permit are those covered by the exclusion in 40 CFR § 122.3(a) prior to vacatur of that exclusion (see discussion above in Section 2.2 of this fact sheet). Discharges incidental to normal operation include anti-foulant hull coating leachate, bilgewater, ballast water, deck runoff, fish hold effluent, graywater, non-contact engine cooling water, packing gland effluent, and underwater hull husbandry. Some potential discharges are not incidental to the normal operation of a vessel. For example, any discharge that results from a failure to properly maintain the vessel and equipment, even if the discharge is of a type that is otherwise authorized by the permit, is not eligible for permit coverage. Discharges that are neither covered by this permit nor exempt from section 402 of the CWA must be authorized under a separate individual or general NPDES permit.

If owners/operators choose to do so, vessels less than 79 feet may obtain coverage under EPA's VGP instead of obtaining coverage under the sVGP. Coverage of vessels less than 79 feet under the VGP in lieu of the sVGP is likely an option that would not be exercised by most vessel owners/operators; however, EPA believes that this flexibility might maximize efficiency and consistency for certain companies that own and operate vessels. For instance, EPA can envision certain owners/operators electing to cover smaller vessels under the VGP instead of the sVGP for administrative reasons (e.g., they manage a fleet that includes vessels both smaller and larger than 79 feet and they would like to operate under one permitting framework).

As discussed in Section 4 of this fact sheet, the requirements of this permit are organized by management group rather than by each discharge stream. These categories contain the effluent limits and required best management practices necessary to be followed to maintain compliance with this permit. Permittees should follow all of the effluent limits and best management practices that are applicable to their vessel.

3.4 WATERS COVERED/GEOGRAPHIC SCOPE

This permit applies to non-recreational, non-military vessels less than 79 feet in length, as identified in Part 1.1 of this permit, that discharge into waters subject to this permit. These waters are "waters of the United States," as defined in 40 CFR § 122.2 (extending to the reach of the 3-mile territorial seas as defined in section 502[8] of the CWA).

This general permit will cover vessel discharges in the waters of the United States in all states and territories, regardless of whether a state is authorized to implement other aspects of the NPDES permit program within its jurisdiction. While, pursuant to CWA section 402(c), EPA typically is required to suspend permit issuance in authorized states, EPA may issue NPDES permits in authorized states for discharges incidental to the normal operation of a vessel, because 402(c)(1) of the CWA prohibits EPA from issuing permits in authorized states only for "those discharges subject to [the state's authorized] program." Discharges excluded under 40 CFR § 122.3 are not "subject to" authorized state programs. The vessel discharges covered by the permit are discharges that, until expiration of the permit moratorium, are excluded from NPDES permitting programs under 40 CFR § 122.3. Therefore, the discharges at issue are not considered a part of any currently authorized state NPDES program. See 40 CFR § 123.1(i)(2) (where state programs have a greater scope of coverage than "required" under the federal program, that additional coverage is not part of the authorized program) and 40 CFR § 123.1(g)(1) (authorized state programs are not required to prohibit point source discharges exempted under 40 CFR § 122.3).

3.5 OBTAINING COVERAGE UNDER THIS PERMIT

Part 1.3 of the permit explains that all vessels eligible for coverage under this permit will receive coverage at the time and date of the expiration of the moratorium—December 18, 2014. For the reasons discussed below, the permit does not require vessel owners/operators to file a notice of intent to obtain coverage under this permit.

If an owner/operator of a vessel wishes EPA to consider alternative permit requirements for the vessel other than sVGP or VGP, he or she must apply to EPA for a substitute permit applicable to his or her vessel as required by Part 4.2 of the permit (Alternative Permits).

As a requirement of this permit, vessel owners/operators must complete the sVGP Permit Authorization and Record of Inspection (PARI) Form contained in Appendix A of the permit. The PARI Form must be signed and maintained onboard the vessel for the entire permit term. Additionally, the permittee must conduct quarterly visual self-inspections and certify that he or she has done so by signing the form each year.

A certification statement is included in the sVGP PARI Form that is required under this permit. This form and certification must be printed, signed, and kept on the vessel while under permit coverage. The form can be found in Appendix A of the sVGP.

3.5.1 No Requirement to Submit a Notice of Intent (NOI)

Under 40 CFR § 122.28 (b)(2)(v), some dischargers may, at the discretion of the Director, "be authorized to discharge under a general permit without submitting a notice of intent where the Director finds that a notice of intent requirement would be inappropriate." In making such a determination, the Director must consider: the type of discharge, the expected nature of the discharge, the potential for toxic and conventional pollutants in the discharges, the expected volume of the discharges, other means of identifying discharges covered by the permit, and the estimated number of discharges to be covered by the permit. Based on consideration of these regulatory factors, EPA is exercising its discretion and not requiring operators of vessels covered under this permit to submit NOIs. The reasons for this approach are explained below.

EPA estimates that there are between 115,000 and 138,000 vessels that may be covered by the permit. The size of the permitted universe means that this permit will cover one of the highest numbers of dischargers among any of the general NPDES permits issued by either EPA or any state. To require all these vessels to submit an NOI would be an extremely large administrative burden. In general, the use of NOIs for most point sources provides permitting authorities with useful information to assist in oversight and enforcement of permittees, such as the specific location of the facility and its discharge. However, because vessels are mobile point sources that do not operate from a fixed location and may discharge to multiple receiving waters, the usefulness of requiring the entire universe of point sources covered by this general permit to submit NOIs is questionable.

To determine whether vessels eligible for coverage under the sVGP should be required to submit NOIs, EPA looked at the universe of vessels that would be covered by this permit. EPA found that, based on the types of discharges from these vessels, the variety of discharges containing conventional and toxic pollutants, and the volume and nature of those discharges, vessels subject to this permit should not be required to submit NOIs. The volume of the discharges incidental to the normal operation of the vessel is expected to vary proportionately to the size of the vessel. EPA expects that smaller vessels will have a smaller range of discharge types and a smaller volume of discharges than the larger vessels, which must submit NOIs under the VGP. Some of the typical discharges eligible for coverage under the permit are nearly ubiquitous for most vessels, including deck runoff, bilge water, and leachate from anti-foulant hull coatings. However, larger commercial vessels have a greater range of discharges that will be of greater volume. Thus, the limited range of discharge types from smaller vessels and the reduced likelihood for the introduction of significant quantities of toxic and conventional pollutants make requiring an NOI for these vessels to be of little value at this time. In addition, EPA has access to other sources of data available for identifying discharges from vessels covered by the permit, including state registration information and the MISLE database, discussed above in Section 3.2 of this fact sheet. From these sources, EPA can obtain information from which we can deduce the nature of ship and boat discharges from these smaller vessels.

Based on the analysis outlined above, EPA has determined that it would be inappropriate to require vessels eligible for coverage under the sVGP to provide information about their discharges through submission of an NOI. However, these owners/operators would still be subject to all applicable requirements contained within the permit, including signing the sVGP PARI Form and maintaining that form onboard at all times. EPA has imposed the PARI Form

requirement (under 40 CFR § 122.43) because it is an efficient way for owners/operators to certify that they have read and agreed to comply with the terms of the permit, and to demonstrate basic understanding of the permit's terms and conditions. In addition, the form will provide EPA (or its authorized representative) with a standardized foundation for conducting inspections.

3.5.2 Terminating Coverage

Vessel permit coverage is automatically terminated if: (1) a new owner or operator has assumed responsibility for the vessel; (2) operation of the vessel has permanently ceased in waters subject to this permit and there are no longer vessel discharges; or (3) permit coverage has been obtained under an individual or alternative general permit for all discharges requiring NPDES permit coverage. A new owner or operator of a vessel is authorized to discharge upon signing a copy of the PARI Form and retaining that form onboard the vessel.

3.6 VESSEL DISCHARGES ELIGIBLE FOR COVERAGE

Part 1.4 of the permit discusses that all discharges incidental to the normal operation of a vessel, when that vessel is operating in capacity as a means of transportation, are eligible for coverage under this permit. These may include discharges such as anti-foulant hull coating leachate, bilgewater, ballast water, deck runoff, fish hold effluent, graywater, non-contact engine cooling water, packing gland effluent, and underwater hull husbandry. To make compliance easier for small boat owners and operators, in this permit, requirements are organized by management group rather than specific to each discharge stream. This organizational structure should be easier to follow for the types of vessels covered under this permit.

3.7 VESSEL DISCHARGES NOT ELIGIBLE FOR COVERAGE

Discharges that are not incidental to the normal operation of a vessel are not covered under this general permit. Any discharge that results from a practice that is not consistent with good marine practice is not considered incidental to the normal operation of the vessel. This includes the addition of pollutants or constituents of concern to discharge streams; disposing of prohibited materials, such as oil, overboard; and discharging material resulting from improper maintenance of the vessel, motor, or onboard machinery. For example, intentionally adding used motor oil to the bilge or graywater will result in a discharge that is not incidental to the normal operation of a vessel. If two covered discharge streams are combined into one, the resulting commingled discharge stream must meet the requirements applicable to both streams.

While not an exhaustive list, EPA has identified several common discharge types that would not be authorized by this permit because, among other things, the discharge is not within the scope of the current 40 CFR § 122.3(a) exclusion or not within the scope of EPA's NPDES permitting authority.

3.7.1 Discharges Not Subject to Former NPDES Permit Exclusion Including Vessels Being Operated in a Capacity Other Than as a Means of Transportation

This permit authorizes discharges subject to the former NPDES permit exclusion set out in 40 CFR § 122.3(a)[7] and the moratorium on NPDES permitting enacted by Congress in P.L.110-299 and extended under P.L. 111-215 and H.R. 2838. December 18, 2014, is the day the moratorium expires and any incidental vessel discharge covered by the moratorium requires authorization.

The permit does not apply when the vessel is operating in a capacity other than as a means of transportation. Vessels that are not being operated in a capacity as a means of transportation include vessels being used as energy or mining facilities, storage facilities, or seafood processing facilities, or vessels that are secured to a storage facility or a seafood processing facility, or when secured to the bed of the ocean, contiguous zone, or water of the United States for the purpose of mineral or oil exploration or development. Similarly, vessels, when in drydock, also do not operate in a capacity as a means of transportation. Vessels that operate in a capacity other than as a means of transportation generally have not been excluded from NPDES permitting under 40 CFR Part § 122.3(a).

"Floating" craft that are permanently moored to their piers, such as "floating" casinos, hotels, restaurants, bars, etc., are not covered by the current vessel exclusion and thus would not be covered by the vessel permit. These structures are outside the scope of the 40 CFR § 122.3(a) exclusion because they operate "in a capacity other than as a means of transportation." They are best characterized as casinos, hotels, restaurants, bars, etc., that happen to be located on water instead of land, much like, for example, the water-based storage facilities mentioned in § 122.3(a) as being outside the scope of the exclusion.

With respect to vessels under construction, when the vessel is engaged in sea trials that result in operational discharges, because testing is a critical part of vessel operation, such discharges would be incidental to the normal operation of a vessel, and thus eligible for coverage under this sVGP. However, any discharges resulting from construction activities are not covered by the sVGP, as they are incidental to vessel construction, not vessel operation. With respect to vessels engaged in dredging operations, the resulting discharges of dredged or fill material generated by their dredging activity is covered by a CWA § 404 permit or Marine Protection, Research, and Sanctuaries Act (MPRSA) ocean dumping permit, and such discharges are excluded from CWA § 402 permitting. The incidental discharges (e.g., graywater, bilgewater) coming from the dredging vessels themselves are eligible for coverage under this permit (because they move as they dredge and thus are still operating as a means of transportation), but

[7] 40 CFR § 122.3(a) states that the following discharges do not require NPDES permits:

(a) 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. This exclusion does not apply to rubbish, trash, garbage, or other such materials discharged overboard, nor to other discharges when the vessel is operating in a capacity other than as a means of transportation, such as when used as an energy or mining facility, a storage facility or seafood processing facility, or when secured to a storage facility or a seafood processing facility, or when secured to the bed of the ocean, contiguous zone, or waters of the United States for the purpose of mineral or oil exploration or development.

the industrial-like activity from these vessels is by statute not subject to the requirement for a CWA § 402 permit, and they are covered by a § 404 permit or MRPSA ocean dumping permit.

Furthermore, the discharges of noxious liquid substance (NLS) residues subject to 46 CFR § 153.1102 are not eligible for coverage under the permit. Under 46 CFR § 153.1102, discharges of NLS residues are either prohibited or, if allowable, may only take place at sea at least 12 nautical miles from the nearest shore. In light of this, the permit does not authorize such discharges within waters subject to the permit (i.e., inland waters and the waters of the 3-mile territorial sea). The relevant Coast Guard definition of the term "noxious liquid substance" (see 46 CFR Part 151) is set out in Part 5 of the permit.

3.7.2 Sewage from Vessels

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

3.7.3 Used or Spent Oil

The discharge of used or spent oil is not eligible for coverage, except when such discharge is incidental to the normal operation of the vessel (e.g., such as when small amounts may be released during their proper use) and in compliance with all other applicable permit requirements (see below). This also prohibits the discharge of used or spent oil by adding it to a discharge stream that is otherwise eligible for coverage under the permit.

Discharges of small amounts of oil incidental to the normal operation of a vessel are permissible, provided that all appropriate effluent limits are met, including that oil is not discharged in quantities that are harmful, pursuant to 40 CFR § 110.3. See the discussion of limitations for specific waste streams in Section 4 of this fact sheet below.

3.7.4 Garbage or Trash

Rubbish, trash, garbage, or other materials discharged overboard are not eligible for coverage under the permit because such materials are not subject to the 40 CFR § 122.3(a) exclusion.

3.7.5 Tetrachloroethylene (Perchloroethylene) and Trichloroethylene Degreasers and Other Products

Any degreasers containing tetrachloroethylene or trichloroethylene (TCE) are not authorized for discharge into waters subject to this permit. Both tetrachloroethylene and TCE are considered probably carcinogenic to humans and both are priority pollutants. In developing the 2008 VGP, EPA compared the cost of tetrachloroethylene or TCE degreasers to products not containing tetrachloroethylene or TCE and determined that other viable products are available and use of those products is economically practicable and achievable (Abt, 2008). See the 2008 VGP economic analysis in the docket for today's permit (Abt, 2008). Alternatives to TCE degreasing products include alkaline aqueous solutions and semi-aqueous solutions. EPA believes the same conclusion is applicable to today's final permit.

3.7.6 Discharges Currently or Previously Covered by Another NPDES Permit

Any vessel discharge that is currently or has previously been covered by either an individual NPDES permit or another general NPDES permit is not eligible for coverage under the permit, unless those discharges are covered by the 2008 VGP, EPA specifically allows coverage under Part 4.2 of the permit, or unless EPA provides written authorization for coverage to be obtained for such discharges under this permit. The sVGP is not intended to supplant or replace any current or previous NPDES permit.

3.8 CONSTITUENTS CONTROLLED BY THIS PERMIT

In today's permit, EPA is establishing effluent limitations to control a variety of materials, which, for the purposes of this fact sheet, have been classified into seven major groups: aquatic nuisance species (ANS), nutrients, pathogens (including *E. coli* & fecal coliform), oil and grease, metals, toxic and non-conventional pollutants with toxic effects, and other non-conventional and conventional pollutants. EPA is establishing effluent limitations to control these materials because such materials are, depending on the particular vessel, constituents in the industrial waste, chemical waste, and/or garbage "pollutant" discharge resulting from the activities of these vessels. The discharge from vessels addressed in today's permit falls within these broad pollutant categories.

Short summaries of each of the constituent types regulated in today's permit follow.

3.8.1 Aquatic Nuisance Species

ANS, also known as invasive species, are a persistent problem in U.S. coastal and inland waters. ANS may be introduced through a variety of vectors, including vessel hull maintenance and fish hold effluent. Though no reliable and comprehensive estimates of total ANS introductions nationwide exist, case studies of several major bodies of water across the country, as summarized in Table 2, provide a sense of the extent of the problem.

Table 2: Estimates of Invasive Species in Several Major Water Systems

Region	Estimated Rate of Invasion[1]	Estimated Total Invasions to Date
Great Lakes	Once every 28 weeks[2]	182[2]
Mississippi River System	Unknown	100[3]
San Francisco Bay	Once every 14 weeks[4]	234[4]
Lower Columbia River Basin	Once every 22 weeks[5]	81[5]
Gulf of Mexico	Unknown	704[6]

[1] Ruiz and Reid (2007) suggest that these figures may not reliably represent the true rate of introduction, as they are based on discovery data, which may not always track with the underlying rate of introduction.

[2] Ricciardi, 2006.

[3] USCG, 2009.

[4] Cohen and Carlton, 1998.

[5] Sytsma et al., 2004.

[6] Battelle, 2000.

ANS pose several dangers to aquatic ecosystems, including outcompeting native species, threatening endangered species, damaging habitat, changing food webs, and altering the chemical and physical aquatic environment. Furthermore, ANS have been documented to damage recreational and commercial fisheries, infrastructure, and water-based recreation and tourism.

One of the most well-known examples of ANS is the Zebra Mussel. Zebra Mussels are native to Eurasia, near the Black and Caspian Seas, and were first discovered in U.S. waters in 1988. Populations of Zebra Mussels were established in the Great Lakes and are now found throughout most of the eastern United States and in some western states. Zebra Mussels are filter feeders and can remove algae from the water column that other native species depend on as a food source; therefore, Zebra Mussels outcompete native (and sometimes endangered) mollusks and other filter feeders. Zebra Mussels also damage public infrastructure and have been estimated to cause tens to hundreds of millions of dollars in losses per year to the Great Lakes alone.

3.8.2 Nutrients

Nutrients, including nitrogen, phosphorus, and numerous micronutrients, are constituents of vessel discharges. Though traditionally associated with discharges from sewage treatment facilities and runoff from agricultural and urban stormwater sources, nutrients resulting from vessels are also thought to be discharged from deck runoff, vessel graywater, and vessel bilgewater, among other sources. Increased nutrient discharges from human sources are a major source of water quality degradation throughout the United States (USGS, 1999).

Nutrients are associated with a variety of negative environmental impacts, the most notable of which is eutrophication. Eutrophication can lead to reduced levels of dissolved oxygen (sometimes to the extremes of hypoxia), reduced levels of light penetration, increased turbidity, and changes in the composition of aquatic flora and fauna. Excess nutrients fuel harmful algal blooms (HABs), which can have devastating impacts on both aquatic life and human health (National Research Council, 2000; WHOI, 2007). The National Research Council (2000) found that:

- Nutrient over-enrichment of coastal ecosystems generally triggers ecological changes that decrease the biological diversity of bays and estuaries.
- While moderate nitrogen enrichment of some coastal waters may increase fish production, over-enrichment generally degrades the marine food web that supports commercially valuable fish.
- The marked increase in nutrient pollution of coastal waters has been accompanied by an increase in HABs, and in at least some cases, pollution has triggered these blooms.
- High nutrient levels and the changes they cause in water quality and the makeup of the algal community are detrimental to the health of coral reefs and the diversity of animal life supported by seagrass and kelp communities.

- Nitrogen is the chief culprit in eutrophication and other impacts of nutrient over-enrichment in temperate coastal waters, while phosphorus is most problematic in eutrophication of freshwater lakes.
- Human conversion of atmospheric nitrogen into biologically useable forms, principally synthetic inorganic fertilizers, now matches the natural rate of biological nitrogen fixation from all the land surfaces of the earth.

EPA's study of discharges incidental to normal operation of commercial fishing vessels and other non-recreational vessels less than 79 feet found that nutrient levels were elevated in some samples for some discharges from these vessels (USEPA, 2010). The sVGP is designed to reduce nutrient loadings into waters subject to this permit such as by requiring the use of phosphate-free soaps, keeping food waste out of discharges, and potentially reducing the discharge of graywater. Phosphate-free soaps are commonly available at retailers nationwide. The discharge of food waste into waters covered by this permit is already prohibited by the Act to Prevent Pollution from Ships (APPS), 33 U.S.C.1901 et seq. Minimizing graywater can easily be accomplished by reducing shower or sink use when traversing select waters. As described above, these requirements could reduce the discharge of nutrients to waters that have too much phosphorus or in waters where there are large numbers of boaters.

3.8.3 Pathogens

Pathogens are another important constituent of discharges from vessels, particularly in graywater and potentially from ballast water discharges. Though fecal coliform is considered a conventional pollutant, it is discussed here because it shares characteristics with many other pathogens potentially discharged from vessels.

EPA's study of discharges incidental to normal operation of commercial fishing vessels and other non-recreational vessels less than 79 feet found elevated concentrations of pathogen indicators (*E. coli*, enterococci, and fecal coliforms) in some samples of bilgewater and deck washdown (fishing vessels only), fish hold effluent, and graywater discharges. These three types of bacteria are all found in animal digestive tracts. Epidemiological studies suggest a link between high concentrations of *E. coli* and enterococci in ambient waters and incidents of gastrointestinal illnesses associated with swimming. Accordingly, they are used as indicators of the possible presence of intestinal pathogens. The highest concentrations by far of all three pathogen indicators were found in graywater for all three bacteria. The estimated discharge volume of graywater from study vessels (i.e., vessels that are subject to the permit), however, is relatively small. Fish hold effluent contained the second highest concentrations of these pathogen indicators and may pose a potential risk considering the relatively high volume of this discharge and possible discharge by multiple vessels in the same location. However, EPA noted that most of the pathogen concentrations in fish hold effluent were well below or similar to ambient water concentrations, and the study was inconclusive as to whether fish hold effluent results in additional contribution of pathogen indicators.

Elevated levels of these pathogens have increasingly resulted in beach closures in recent years, primarily from on-shore sources such as urban stormwater runoff and sewage overflows, which in turn have reduced the recreational value of impacted beaches. Additional pathogens

have been associated with ballast water discharges, including *E. coli*, *enterococci*, *Vibrio cholerae*, *Clostridium perfingens*, *Salmonella* spp., *Cryptosporidium* spp., and *Giardia* spp., as well as a variety of viruses.

Though it is difficult to determine the contribution of vessel discharges to infections by these organisms, it is likely that they are not a primary source. Epidemiologists have attempted to quantify the proportion of total infections that are waterborne. For example, waterborne infection may account for as many as 60 percent of *Giardia* infections and 75 percent of pathogenic *E. coli* infections (National Research Council 1993). Graywater discharges may be a significant source of pathogenic microorganisms within some regulated waters, and reducing graywater discharges may provide some human health benefits.

3.8.4 Oil and Grease

Oil and grease are another known component of vessel discharges with potentially harmful impacts to humans and to aquatic life. Vessels discharge oil in everyday operation, including lubricating oils, hydraulic oils, and vegetable or organic oils. These discharges may contain enough oil to do ecological damage in confined areas or where vessels are concentrated, or where there are accidental spills or discharges of "oil in quantities that may be harmful."[8] Oils are highly toxic and carcinogenic and can also taint organisms that are consumed by humans, which is a potential source of adverse health impacts. Such a discharge could decrease natural oxygen transfer, resulting in depressed dissolved oxygen concentrations. Also, oils might contain heavy metals and semivolatile organic compounds, which can bioaccumulate in fish, birds, marine mammals, and ultimately humans. Bilgewater, fish hold effluent (fish oils), and graywater (galley wastewater) are the vessel discharges most likely to contain oil and grease.

The permit requirements apply to discharges of oil, fuel, other petrochemicals, and oily mixtures, and attempt to further minimize oil discharges in U.S. waters. The effluent limits under fuel management, engine and oil control, and the general requirements should all minimize the discharge of oil and oily materials by specifying techniques and behaviors that, when followed, will reduce the discharge of these materials. For example, knowing the capacity of fuel tanks will reduce the chance of vessel owners or operators accidentally overfilling their vessel fuel tank, contaminating discharges from the vessel and potentially harming the aquatic environment. When fueling in the water, using oil absorbent materials or other appropriate devices to catch drops from vent overflows and fuel tanks will perform the same function. The discharge of used or spent oil no longer being used for its intended purpose is not eligible for coverage under this permit (the discharge of small amounts of oil is authorized when such discharge is incidental to the normal operation of the vessel and meets all other permit limits). The permit also prohibits the discharge of used or spent oil by adding it to a discharge stream that is otherwise eligible for coverage under the permit.

3.8.5 Metals

Metals are a diverse group of pollutants, many of which are toxic to aquatic life and humans. While some metals, including copper, nickel, and zinc, are known to be essential to

[8] "Oil in quantities that may be harmful" is a term of art which means any discharge of oil having the effects identified in 40 CFR § 110.3.

organism function, many others, including thallium and arsenic, are nonessential and known to have only adverse impacts. Even essential metals can do serious damage to organism function in sufficiently elevated concentrations. Adverse impacts can include impaired organ function, impaired reproduction, birth defects, and at extreme concentrations, acute mortality. For example, Katranitsasa et al. (2003) noted that copper released from copper anti-fouling paints are toxic to non-targeted aquatic organisms. Additionally, through a process known as bioaccumulation, metals may not be fully eliminated from blood and tissues by natural processes and may accumulate in predator organisms further up the food chain, including commercially harvested fish species (EPA, 2007).

The toxic potential of a metal depends on its bioavailability in a given aquatic environment. A metal's bioavailability is determined by the characteristics of the surrounding environment (e.g., temperature, pH, salinity, total organic carbon (TOC)) and the species of the affected organism. The environmental conditions determine a metal's tendency to either adsorb suspended organic matter and clay minerals or to precipitate out of solution and settle to the sediments. Benthic organisms can bioaccumulate metals by consuming metal-enriched sediments and suspended particles or by uptaking ambient water containing the dissolved form of the metal.

EPA's study of discharges incidental to normal operation of commercial fishing vessels and other non-recreational vessels less than 79 feet found dissolved copper concentrations that consistently posed the greatest potential risk for local impacts and for contributing to exceedances of water quality standards in larger water bodies (EPA, 2010). Dissolved copper was detected at the highest concentrations in the deck washdown, graywater, fish hold, and bilgewater discharges from most vessel classes, particularly utility vessels (e.g., towboats, supply boats). Copper is released (leached) from anti-fouling hull coatings used on certain vessels to prevent buildup of organisms such as barnacles and algae. Copper can also be released via underwater hull cleaning, hull coating removal operations, and paint application. Although copper anti-fouling discharges were not measured, previous studies have shown it can be a major contributor to copper concentrations in harbors, especially marinas with large vessel populations (California Regional Water Quality Control Board, 2005; Singhasemanon et al., 2009). Other metals of concern found in discharges from vessels subject to the moratorium include total arsenic, particularly in bilgewater, and total aluminum in virtually all sampled discharges.

3.8.6 Toxic and Non-Conventional Pollutants with Toxic Effects

The term "toxic and non-conventional pollutants with toxic effects," as it applies to constituents of vessel discharges, encompasses a variety of chemical compounds known to have a broad array of adverse impacts on aquatic species and human health. For example, EPA's study of discharges incidental to normal operation of commercial fishing vessels and other non-recreational vessels less than 79 feet found the semivolatile organic compound bis (2-ethylhexyl) phthalate in elevated concentrations in some samples of bilgewater, stern tube packing gland, deck washdown, firemain, and inboard engine and engine generator discharges (USEPA, 2010). The highest concentration for bis (2-ethylhexyl) phthalate was found in a bilgewater discharge sample. This compound is a plasticizer that is added to an ever-increasing variety of plastics to provide flexibility and is the most common phthalate in the environment. Phthalates are known to interfere with reproductive health, liver, and kidney function in both animals and humans (Sekizawa et al., 2003; DiGangi et al., 2002).

Benzene was the only volatile organic compound found with any frequency at concentrations above water quality standards. Benzene is a known carcinogen that is a common constituent of fuel. Benzene can also be formed as a product of incomplete combustion of fuel. Elevated concentrations of benzene were detected in a bilgewater sample and in samples from both outboard engine and generator engine discharges.

Long- or short-chain nonylphenol and octylphenol ethoxylates (two distinct subsets of alkylphenol ethoxylates) were detected in some samples of bilgewater, stern tube packing gland, deck washdown, and graywater discharges, and total nonylphenol was detected in one sample from bilgewater. Nonylphenols (a term used generally here to identify a specific group of alkylphenols of potential human and environmental concern which also includes the octylphenols) are manmade organic compounds that are used in a wide variety of applications, such as the manufacturing of detergents, because of their surfactant properties. Nonylphenols are synthetic estrogens which means they can mimic the natural vertebrate hormone estrogen and evoke an estrogen-like response. An example of such a response is the disruption of male sexual development, causing female characteristics to emerge.

3.8.7 Other Non-Conventional and Conventional Pollutants (Except Fecal Coliform)

The category "other non-conventional and conventional pollutants," as applied to vessel discharges, also consists of multiple pollutants with disparate impacts. Discharges of graywater, bilgewater, fish hold effluent, and other vessel waste streams or effluent can include pollutants that affect pH, add heat, and/or increase turbidity or discharge suspended sediment.

Some vessel discharges are more acidic or basic than the receiving waters, which can have a localized effect on pH (ADEC, 2007). Though no research has been done linking vessel pollution specifically to pH impacts on aquatic ecosystems, extensive literature on the impacts of pH changes in the contexts of aquaculture and acid rain does exist. For nearly all fish populations, pH more acidic than 5 or more basic than 10 will cause rapid mortality. In addition, many individual species are sensitive to more moderate changes in pH (Wurts and Durborrow, 1992).

Some vessel discharges may also affect temperature locally (Battelle, 2007). Thermal impacts of vessel discharges are generally much smaller than those from better known sources, such as dams, power plant cooling water, and runoff. However, even small temperature changes can impact some sensitive organisms' growth, reproduction, and even survival, which implies that some vessel discharges may have localized adverse impacts on aquatic organisms (Abbaspour et al., 2005; Cairns, 1972; Govorushko, 2007).

Some vessel discharges, such as those from bilgewater, can contain suspended sediments and have elevated turbidity. Loadings of sediment from vessel discharges are likely much smaller than from other sources such as construction, urban stormwater, and agriculture. The most significant sources of sediment from vessel discharges likely come from areas in the vessel where water is held, allowing sediment to settle out of suspension and accumulate over time. Sediment can then be resuspended before discharge.

Designated uses, such as navigation, drinking water, recreation, and agriculture, are impaired by excess suspended sediments (USEPA, 2003). When sediments diminish water quality to support aquatic life, other human uses of the same water bodies, such as recreational or commercial fishing, may also be diminished. Furthermore, there is evidence that aquatic life uses are one of the most sensitive endpoints to alterations in sediment loading. Direct effects on invertebrates and fish are complex, ranging from behavioral to physiological to toxicological impacts. Suspended sediments have been documented to have a negative effect on the survival of fish, freshwater mussels, and other benthic organisms. In a frequently cited review paper prepared by Newcombe and Jensen (1996), sublethal effects (e.g., increased respiration rate) were observed in eggs and larvae of salmonids and nonsalmonids, as well as in adult estuarine and freshwater nonsalmonids, when exposed to total suspended solids (TSS) concentrations as low as 55 mg/L for one hour. Mussels compensate for increased levels of suspended sediment by increasing filtration rates, increasing the proportion of filtered material that is rejected, and increasing the selection efficiency for organic matter. Excess sediment smothers benthic organisms, and the surface layer of the benthos can be heavily impacted and altered. Increased turbidity associated with suspended sediments can reduce primary productivity of algae as well as growth and reproduction of submerged vegetation (Jha, 2003). In addition, once in the system, resuspension and deposition can "recycle" sediments so that they exert water column and benthic effects repeatedly over time and in multiple locations.

4. THE sVGP EFFLUENT LIMITS AND RELATED REQUIREMENTS

The CWA requires that all point source discharges must meet technology-based effluent limitations representing the applicable levels of technology-based control. Water quality-based effluent limitations (WQBELs) are required, as necessary, where the technology-based limitations are not sufficient to meet applicable water quality standards (WQS). See *P.U.D. No. 1 of Jefferson County et al v. Washington Dept of Ecology*, 511 U.S. 700, 704 (1994). Water quality-based requirements are discussed in greater depth in Section 6.5 of this fact sheet. Both technology-based and water quality-based effluent limitations are implemented through NPDES permits containing such limitations issued to point sources. CWA sections 301(a) and (b).

Today's permit contains both technology-based effluent limits and water quality-based effluent limits. The rationale for these limits is explained in greater detail below. Please see Section 4.12 of this fact sheet for additional explanation of how technology-based effluent limits are derived and the factors EPA used in deriving them.

4.1 GENERAL REQUIREMENTS

Part 2.1 of the permit sets forth requirements for all permittees to the extent they are applicable. For example, the sVGP requires that all cleaners must be minimally toxic, biodegradable and phosphate free. These products are widely available and comparable in cost to products that contain phosphorus, are not biodegradable, and exhibit toxicity (USEPA, 2013a). Product substitution of a more environmentally friendly cleaner will result in improving the quality of the vessel discharges with little to no cost to the vessel owner/operator. A second example of a general requirement requires that vessel owners/operators minimize the discharge of any antifreeze into waters subject to the permit and prohibits the discharge of antifreeze with

toxic or known carcinogenic additives. Some antifreeze products and their additives, including ethylene glycol and methanol, are known to negatively impact human health and potentially impact the natural environment. This requirement is designed to eliminate the discharge of known toxic compounds, while reducing the discharge of other antifreeze compounds, which, in addition to the antifreeze itself (e.g., propylene glycol), might contain other pollutants in elevated concentrations such as metals or five-day biochemical oxygen demand (BOD_5) (see USEPA, 2010, for further discussion). The permit also requires the operator to frequently check the area around and behind the vessel when the engine is operating to ensure that no visible sheen, dust, chemicals, or discoloration is originating from the vessel.

4.2 FUEL MANAGEMENT

Fueling operations are conducted on a routine basis on vessels. Fuel tanks are vented to allow gasses to escape during tank filling, to allow air to be drawn into the tank as fuel is being consumed, and to allow for the natural expansion or contraction of fuel with changes in temperature. Some vessels have fuel/air separators installed on fuel tank vent lines that prevent fuel from escaping through the vents. Fuel can be discharged directly to surface water or to the bilge from accidental spills during tank filling due to vessel movement, overfilling, and backsplash. Excess fuel can also drain from transfer hoses following vessel fueling. Fuel tanks can discharge fuel through tank vents due to fuel expansion, especially if they are full and are not equipped with fuel/air separators on vent lines. Two-stroke engines require a small amount of oil be added to the fuel prior to combustion to provide lubrication. Spills of gasoline and diesel fuel during fueling can cause an oil slick or sheen to form on surface waters, contaminating the ambient water with volatile and semivolatile organic compounds.

The required best management practices for fuel management in Part 2.2 of the permit are designed to minimize the amount of fuel released to receiving waters by requiring preventive maintenance that minimizes the occurrence of leaks and spills and by preventing any spills and leaks from entering receiving waters. Specifically, filling portable fuel tanks on shore, away from water, will eliminate discharges from these activities. Regular inspection and prompt maintenance and repair of fuel and hydraulic systems will reduce or eliminate incidences of spills and leaks. Capturing any spills and leaks that do occur during fueling is a simple and inexpensive way to prevent their release to receiving waters.

The sVGP also includes a requirement for any new motorized vessels (constructed on or after December 19, 2014) to have a functioning fuel-air separator or a fuel tank vent to prevent a fuel spill. EPA has included this requirement for new vessels because the Agency found it economically practicable and achievable for these vessels. Please see the sVGP economic analysis for discussion of costs for installation of fuel tank vents or fuel-air separators.

4.3 ENGINE AND OIL CONTROL

Routine maintenance of engines and generators includes periodic inspection of the engine for leaks or other damage; repair and replacement of engine parts; changing the oil in the engine, generators, and gear boxes; lubricating bearings on the steering components; and flushing the cooling systems. It also includes inspection and maintenance of bilge pumps, oily water separators, and any areas of segregated bilge on board a vessel.

As engines and generators are generally contained within a below-deck engine compartment, leaked and spilled oil from this equipment and machinery typically lands in the vessel bilge. Bilgewater is the water and any comingled wastes, such as oils, that accumulate in the bilge. Sources of bilgewater are typically leaks and condensates from interior machinery, engine cooling and hydraulic systems, and the stern tube system. Depending on vessel configuration, bilgewater may also include drainage from the decks above, such as deck runoff and deck washdown, and equipment cleaning wastewater. Some vessels have watertight bulkheads (compartments) that separate the engine area from other areas of the bilge. In this way, motor oil, along with hydraulic line leaks, fuel spills, and engine cooling system leaks, are contained within the engine compartment, which prevents bilgewater in other compartments from becoming contaminated with engine wastes. Some vessels also segregate ambient water that drips from the stern tube packing gland or stuffing box from the engine area of the bilge. The constituents in the bilgewater discharge include oil and grease, and volatile and semivolatile organic compounds, as well as metals from engine wear.

The water that collects in the bilge must be pumped out periodically. Some vessels have fixed bilge pumps that automatically discharge bilgewater as it accumulates; these vessels might discharge bilgewater at any time and in any location. Some vessels may transfer bilgewater to an oily waste holding tank, where it is stored for shore disposal or treated in an oily water separator to remove oil before being discharged overboard. Some vessels also have an oil content meter installed downstream of the oily water separator to monitor bilgewater oil content prior to discharge. Larger vessels with oil content meters have the capability to return bilgewater not meeting a preset oil concentration to the oily water separator for reprocessing until the set point is met. Oil collected from the oily water separations is held in a waste oil tank until transferred to shore facilities for disposal.

Some external surfaces on vessels are lubricated and submerged in, partially submerged in, or directly exposed to water. The lubricants on these machinery and equipment come into contact with water by design and can contaminate ambient water. Examples include stern tube seals and bearings; a wire cable that has been lubricated with grease (if that cable is expected to come into contact with water); and two-stroke engines, which require a small amount of oil be added to the fuel prior to combustion to provide lubrication. Lubricants used include oil, grease, heavy petroleum compounds, and solvents.

The required best management practices for engine and oil content in Part 2.3 of the permit are designed to minimize the amount of spills, leaks, or overflows of oil and other engine fluids released to receiving waters using practices that are simple and inexpensive to implement. Specifically, preventive maintenance of engines, machinery, and their fueling systems will reduce or eliminate the incidences of spills and leaks into the bilge or directly into receiving waters. Capturing and containing for shore disposal any leaks or spills that do occur using oil absorbent materials, oily water separators, or other means will prevent their release into bilgewater discharges. Two ways to reduce or eliminate the discharge of uncontrolled or partially controlled discharges include: (1) suspending the discharge if a visible sheen is observed until the problem is corrected, and (2) prohibiting use of dispersants, detergents, emulsifiers, chemicals, or other substances to remove the appearance of a visible sheen. Finally, substituting environmentally acceptable lubricants (EALs) will lessen the environmental impact of any lubricants that are released. These products are widely available and affordable (see USEPA,

2013a, for more discussion). In the final permit, EPA has clarified that EALs are to be used in all machinery and equipment where discharges of oil to surrounding waters are likely to occur unless technically infeasible. Technically infeasible means that no EAL products are approved for use in a given application that meet manufacturer specifications for that equipment, that products which come pre- lubricated (e.g., wire ropes) have no available alternatives manufactured with EAL, that products meeting a manufacturer's specifications are not available within any port in which the vessel calls, or that change over and use of an EAL must wait until the vessel's next drydocking. For more information on identifying available EALs, see VGP factsheet section 4.4.9. In addition, EPA intends to provide further technical assistance to stakeholders on the use of EALs.

4.4 SOLID AND LIQUID WASTE MANAGEMENT

Solid and liquid wastes such as trash or garbage; fishing waste; loose items on the deck; and toxic materials such as used antifreeze, paint, and out-of-date flares can enter receiving waters by intentional disposal or by accidental disposal due to vessel movement, wind, or rain. Such wastes may contain oil and grease, petroleum hydrocarbons, surfactants, detergents, glycols, solvents, and general debris. The permit contains management measures which are designed to reduce or eliminate the discharges of these pollutants into waters subject to the permit. The permit also prohibits the discard of unused live bait, unless the bait was caught in that waterbody or watershed. This will prevent the spread or dispersal of potentially invasive species if the bait are invasive species or are contaminated with invasive pathogens. The release of live bait is suspected as having introduced invasive species into new waters. For instance, both the European green crab (*Carcinus maenas*) and the rough periwinkle snail (*Littorina saxatilis*) may have been introduced to the San Francisco Bay as a result of the release of live bait (Cohen et al., 1995). The discharge of all other unused bait overboard is strongly discouraged unless the bait was caught in the same waterbody or watershed. Although the term "waterbody" is not defined in the permit, it generally includes a lake, river segment, or reasonably proximate area of ocean. For purposes of this permit, the entire Pacific Ocean should not be considered one waterbody, but regions of an ocean where the ecosystem and species found are similar could be regarded as part of the same waterbody.

The required best management practices for solid and liquid waste management in Part 2.4 of the permit, including the requirement that waste be physically secured or otherwise prevented from entering receiving waters, will eliminate the release of these materials by preventing their entry into any permitted wastestream. Based on public comments, EPA specifically included a provision in the final permit that to the extent practicable, remove all accumulated bilgewater prior to transporting the vessel from one waterbody to another over land to reduce the risk of transporting invasive species and to remove other potential pollutants. These requirements are common-sense approaches to preventing these wastes from entering any waste stream and are consistent with the existing prohibitions for many of these wastes being discharged into waters of the United States and, as demonstrated by the economic analysis conducted for this permit, are practicable and economically achievable.

4.5 DECK WASHDOWN AND RUNOFF AND ABOVE THE WATER LINE HULL CLEANING

Deck and above the water line hull cleaning are conducted on a routine basis on vessels. Typically, decks and superstructures are cleaned by wetting the surface with ambient or potable water, cleaning and scrubbing the surface with a brush or sponge and a cleaning solution, and rinsing the surface with water. Potable water is generally supplied by a shore-side garden hose, or ambient water can be supplied by the vessel firemain system, if so equipped. A restrictor or a high-pressure hose system can also be used to pressure-wash the decks; these systems generally use less water and require less physical scrubbing but are more abrasive to the surfaces being cleaned. Spot cleaning may be performed by applying a cleaning solution using a spray bottle and wiping away dirt and solution using a sponge and water. Cleaning wastewater typically discharges through scuppers (located along the perimeter of the deck) directly to the waterbody. Vessels that are actively used and well maintained may be cleaned daily. In contrast, vessels that are used infrequently or are not well maintained may only be cleaned on rare instances.

Deck runoff may consist of precipitation or surface water that sprays or washes over the decks and flows to the scuppers where it is discharged overboard. Accordingly, deck runoff discharges can contain anything dropped, spilled, dripped, or scattered onto the deck surface as a result of vessel maintenance or commercial use.

Deck washdown and deck runoff have the potential to contain a variety of pollutants, including oil and grease, petroleum hydrocarbons, surfactants, soaps and detergents, glycols, solvents, and metals. Some or all of these pollutants could be introduced to the deck from shipboard activities, storage of material on the deck, maintenance activities, and the decking material itself. The amount of contaminants and debris in deck washdown and runoff is related to the quality of housekeeping practices.

The required best management practices for deck washdown, deck runoff and above the water line hull cleaning in Part 2.5 of the permit are designed to minimize the amounts of soaps and cleaners, garbage, debris, spills, residue, and paint chips released to receiving waters. Requiring the collection and shore disposal of paint chips and residues prior to cleaning, maintenance, and paint application and reapplication will reduce or eliminate the discharge of these materials through deck washdown, deck runoff, and above the water line hull cleaning. Substituting minimally toxic, biodegradable, and phosphate-free soaps and cleaners is an available and economically achievable way to lessen the environmental impact of deck washdown and above the water line hull cleaning wastewater discharges. Not all biodegradable soaps are appropriate for all aquatic environments, but EPA believes that non-harmful varieties will be available in most situations and should be used when they are available. EPA expects that minimally-toxic cleaners and detergents will contain little to no nonylphenols.

4.6 VESSEL HULL MAINTENANCE

Vessel hull maintenance is when the underwater portions of the vessel hull are repaired, inspected, cleaned, or otherwise maintained. Vessel hull maintenance is usually performed in response to marine biofouling of the underwater hull and hull appendages of boats and ships, including propellers, rudders, through-hull fittings, and corrosion control equipment. While some hull maintenance activities, including inspection, cleaning, and application of anti-fouling

coatings (AFCs), take place out of the water (in dry dock, slipway, or haul-out facilities), others are carried out while the vessel is afloat. These include underwater hull cleaning and propeller polishing to control biofouling. Vessel hull maintenance also includes marine growth protection systems (MGPSs), which control biofouling in sea chests and seawater circulation systems. Vessel hulls are often coated with anti-fouling compounds to prohibit the attachment and growth of aquatic life. Coatings are formulated for different conditions and purposes and many contain biocides. Those that contain biocides are toxic to aquatic life. A variety of different ingredients may be used in these compounds; the most commonly used is copper. While vessel hull maintenance of AFC is necessary to prevent the spread or dispersal of potentially invasive species, it unavoidably results in a release of toxic biocides from AFCs.

The required best management practices for vessel hull maintenance in Part 2.6 of the permit are designed to reduce or eliminate discharges from AFCs and to prevent the spread or dispersal of potentially invasive species. In addition, there is a zero-discharge standard for Tributyltin (TBT) in order to eliminate that specific discharge. EPA expects that few, if any, vessels have exposed TBT coatings on their hulls. EPA believes that a zero discharge standard for TBT is technologically available based on the availability of other antifoulant coating options (e.g., copper and silicon) and feasible and economically achievable because few, if any, vessels still utilize TBT as an antifoulant.

Use of other organotin compounds as AFCs is also generally prohibited, except in the following circumstances. Consistent with the VGP and as requested by commenters, EPA added a provision clarifying that certain other less toxic organotin compounds such as dibutyltin oxide, which sometimes are used in very small quantities as catalysts in some biocide-free coatings, are eligible for coverage under the sVGP in trace amounts. One class of biocidal-free coatings, which are sometimes referred to as fouling release coatings, produce a low-energy surface (i.e., non-stick) to which fouling organisms cannot firmly adhere. To function properly, the coating surface must remain smooth and intact, and not leach into the surrounding water. Because these less toxic organotins are used as a catalyst in the production of biocide free coatings, such production may result in trace amounts of organotin in AFCs. Part 2.6 of the sVGP authorizes the use of non-biocidal coatings which contains trace amounts of catalytic organotin (other than TBT) under the following conditions:

1) The trace amounts of organotin are not used as a biocide. When used as a catalyst, an organotin compound is not to be present above 2,500 mg total tin per kilogram of dry paint.
2) The coating is not designed to slough or otherwise peel from the vessel hull. Incidental amounts of coating may be released by abrasion during cleaning or after contact with other hard surfaces (e.g., moorings).

Prohibition of performing vessel hull maintenance within the first 90 days of application of antifoulant paint that releases biocides will minimize the discharge of biocides during the period of time when biocide releases are most concentrated. EPA also encourages vessel owners/operators to avoid using copper-based anti-fouling systems or to clean and maintain anti-fouling systems in a way that prevents releases to receiving waters (for example, by performing maintenance activities away from water). Other practices, such as frequent gentle cleaning of AFC, will minimize the release of biocides during vessel hull maintenance and will reduce the

need for stronger cleaners or more rigorous cleaning. The final permit clarifies that while cleaning hulls coated with anti-fouling paint, the owner or operator must stop cleaning immediately if any visible plume or cloud of paint appears in the water. Production of a plume or cloud of sediment or hull growth is normal in some cases during vessel hull cleaning, but this plume or cloud must be substantially paint free (e.g., paint should not be clearly identifiable in the plume or cloud).

Additionally, hull cleaning should be minimized in designated critical habitats for aquatic listed species. The list of designated critical habitats can be found at http://criticalhabitat.fws.gov/crithab/ and http://www.nmfs.noaa.gov/pr/species/criticalhabitat.htm.

The permit requirements to periodically inspect and regularly clean the hull will also minimize the spread or dispersal of potentially invasive species. In this context, EPA believes that to clean "regularly" means to prevent substantial fouling of the vessel's hull. "Regularly" will vary from vessel to vessel, but cleaning should be done on a scheduled basis to prevent the accumulation of potential ANS or other pollutants. By not defining a specific timeframe for cleaning (e.g., quarterly), the permit gives vessel owners/operators flexibility to manage their operations efficiently based on their best professional judgment as to the needed frequency of cleaning. However, a severely fouled hull would indicate that cleaning has not occurred regularly and could be determined to be a permit violation. As demonstrated in the Economic Analysis for this permit, these practices are practicable and economically achievable.

4.7 GRAYWATER

Graywater is water from showers, baths, sinks, and laundry facilities. The primary sources of graywater on vessels are sinks. Larger vessels may have additional graywater sources, such as clothes washers, dishwashing machines, water fountains, showers, and tubs. The largest vessels may have wastewater from additional sources, such as floor drains, ice machines, food garbage grinders, interior deck drains, hot tubs, and pools. Graywater discharges may contain soaps and detergents; oil and grease from foods and personal products; food waste solids; nutrients from food wastes and detergents; hair; bleach and other cleaners and disinfectants; pathogens; and a variety of additional personal care products such as hand moisturizer, deodorant, perfume, and cosmetics. Soaps and detergents can cause foam. Detergents can also form precipitates with minerals, creating scale and scum. Phosphates in detergents add to the nutrient loading of the graywater discharges.

The required best management practices for graywater in Part 2.7 of the permit are designed to reduce the amount of graywater generated, reduce the amount of graywater discharged into sensitive water bodies, and lessen the environmental impacts of any graywater that is discharged. Requiring the storage of graywater by vessels that have storage capacity will eliminate the discharge of graywater in waters subject to this permit, or will allow for graywater discharge only when the vessel is underway to reduce the environmental impact of graywater discharges. Minimizing graywater discharges into areas of heavy vessel traffic, sensitive water bodies, and confined waters will reduce the amount of graywater discharged into these particular areas of concern. Using biodegradable, phosphate-free, and nontoxic cleaning products and prohibiting the addition of cooking oils to graywater systems will further lessen the

environmental impacts of graywater discharges. As discussed in the Economic Analysis conducted for this permit, use of these products does not result in an increase in costs for vessel owners/operators. Furthermore, these products are readily available in numerous retail outlets, including outlets specifically tailored to meet the needs of small vessel owners/operators.

4.8 FISH HOLD EFFLUENT

Commercial fishing vessels use different methods to keep seafood fresh after catch. Most seafood is either dead when brought onboard or is killed shortly thereafter, before being stored in a refrigerated seawater holding tank, with the exception of certain shellfish (e.g., crab, lobster), which must be kept alive. The two most common methods of cooling seawater are by mechanical refrigeration or by adding ice. Mechanical refrigeration is common on tenders, purse seiners, and some trawlers, while chipped and slurry ice tanks are more common on trollers, longliners, gillnetters, and some other trawlers.

For vessels with refrigerated seawater fish holding tanks, fish are typically extracted using a vacuum system that removes both the fish and refrigerated seawater simultaneously. Any excess refrigerated seawater that is not required to assist in fish extraction typically is pumped overboard pierside. Vessels that use chipped or slurry ice generally remove the seafood and then discharge the spent ice overboard pierside. Occasionally, vessels that store their catch in ice slurry also use vacuum filtration systems (e.g., some shrimp boats in the Gulf of Mexico). These discharges often contain pollutants generated by the catch, such as biological wastes.

Tanks used to keep lobster and crab catch alive use pumps for continuous flow through of ambient water to maintain the highest water quality possible in the fish hold tanks. The flow rate through these systems results in a nearly continuous discharge of fish hold effluent. Because the majority of the seafood product remains alive, there is little biological decay or water quality degradation in the tank. Furthermore, because these tanks have reasonably rapid flushing times and a continuous discharge, there is little accumulation of pollutants.

Fish holds are also often cleaned or disinfected by vessel crews between catches. To rinse the tank, vessel crews use either dockside municipal water supply or surrounding ambient water. Cleaning may simply involve rinsing the tanks, or crews also sometimes add detergents or disinfectants. Crews often use scrub brushes to clean the walls and floor of the fish hold to maximize the removal of organic material. Therefore, fish hold cleaning results in a combination of residual fish hold water and ambient or municipal water and often contains soaps or detergents.

In addition to the pollutants from fish hold cleaning, fish hold effluent also may contain waste fish parts or other materials generated by fish cleaning, unused bait, solids, oils, nutrients, bacteria, and viruses. Fish hold effluent may create scum and foam, produce a visible slick or sheen on surface waters, generate odors, and exert oxygen demand in receiving waters. This discharge also has the potential to introduce ANS into receiving waters.

The required best management practices for fish hold effluent in Part 2.8 of the sVGP are common practices that are easily implemented by vessel owners/operators and are designed to reduce the volume of fish hold effluent discharged into sensitive water bodies and to reduce the

adverse environmental impact of fish hold effluent that is discharged. The requirement to physically separate solid fish waste from fish hold effluent prior to discharge is intended to reduce the volume and concentration of the discharge. Use of physical separation techniques or equipment is consistent with existing fishing vessel practices. For example, most vessels have coarse filters to keep solid fish waste from being discharged with liquid effluent (USEPA, 2011). Another way that vessel operators remove solids is through use of a De-Watering Box (DWB) or Wet Pump Separator, which serve as a physical separation barrier. A DWB is standard commercial fishing industry chamber-type separation equipment used by vessel owners and processing plants to separate fishery products from the vessel's chilled seawater. The fish hold contents are pumped directly from the vessel into the DWB chamber by conveyor belt and across a screen grate to separate seawater and organic matter. Screening large solid material from any fish hold effluent discharged overboard will help protect water quality in nearshore waters by limiting the spread of ANS and reducing oxygen demand, odor, nutrients, and any pathogens in unused bait and fish solids.

Requiring the discharge of fish hold effluent to shore facilities, where available, will reduce fish hold effluent discharges at piers. Based on the nature of the discharge (as described above) and comments received, the final sVGP was revised so that this requirement is not applicable to the discharge from pumped through holding tanks used for the sole purpose of keeping the catch alive before being immediately discharged (e.g., holding tanks on crabbing/lobster vessels). The effluent from this latter type of vessel, which involves the pumping of continuous "once through" ambient water, is less likely to have accumulated the type and volume of biological wastes that otherwise is removed under this permit limitation.

Discharging fish hold effluent to an available shore-based discharge facility when in port will reduce the amount of fish hold effluent discharged into these nearshore waters. When vessel operators are evaluating whether the facilities are available, factors they should consider include whether the shore-based facility's use is economically achievable, whether the facility has been designed to receive fish hold effluent, whether the vessel and the facility have the infrastructure to transfer the effluent, and whether the transfer would not unduly delay the departure of the fishing vessel. In the absence of available shore-based facilities, use of physical separation techniques or equipment, such as use of DWBs, will assist in protecting nearshore waters, and these approaches can be used to meet the requirements of the sVGP. With use of a DWB, after physical separation and wherever possible, the chilled seawater is collected and re-circulated back to the vessel for disposal at sea, or is pumped into the plant's waste water system. At sea disposal, however, must be outside of harbors or other protected and enclosed coastal waters, and outside of other areas where EPA has found that such deposits could endanger health, the environment, or ecological systems in a specific location under the Marine Protection, Research and Sanctuaries Act, 33 U.S.C 1412[d]. At sea disposal of such fish wastes at such locations requires a permit under that statute.) When these alternatives are not available, the fish hold effluent that passes through the separation barrier is discharged at the pier. For purposes of the sVGP, a vessel at a pier may discharge fish hold effluent and fish hold cleaning effluent consisting of refrigerated seawater, provided the water and fishery products (incl. organic matter) are physically separated using a de-watering box-type or similar separation technique, or by screening the outflow valve in the fish hold if shore based facilities are not available.

Finally, any cleaners or detergents used to clean the fish hold must be phosphate-free, minimally toxic, and biodegradable. Use of these products will reduce the adverse impacts from fish hold effluent cleaning into surrounding waters. Phosphate detergents contribute to eutrophication of the surrounding waters, which depletes dissolved oxygen.

4.9 BALLAST WATER

EPA believes that it is not practicable and economically achievable for vessels covered by this permit to install a ballast water treatment system, and therefore, those vessels are more appropriately controlled by the technology-based requirements in today's permit.

Vessels covered by this permit must implement the management practices outlined in Part 2.9 of the sVGP. EPA believes that no existing ballast water treatment systems have been developed and are available for vessels with very small volumes of ballast water. For vessels with these small volumes of ballast water, EPA has included these best management practices for their ballast water discharges as technology-based effluent limits because EPA believes that they are feasible and economically practicable and achievable. These requirements are common sense measures that reduce the risk of vessels transporting potentially harmful pollution and ANS from one water body to another.

These best management practices include avoiding or minimizing ballast water uptake in areas with a high potential to contain harmful organisms and only discharging the minimal amounts of ballast water necessary in coastal and internal waters. When achievable, vessel operators should not take up any ballast water in any waters with a known outbreak of harmful organisms and/or invasive species such as *Pfisteria* blooms (or other harmful algal blooms) and viral hemorrhagic septicemia (VHS). In these areas, it may be achievable for vessel owners/operators to minimize or avoid the uptake of water. When the uptake of ballast water is required in these waters, the vessel owner/operator must take on ballast in those waters that have the lowest known risk factors for these harmful organisms. Additionally, EPA notes that the discharge of ballast water in critical habitat should be avoided when feasible, consistent with the advice offered to EPA by the Fish and Wildlife Service (FWS) and the National Marine Fisheries Service (NMFS) during EPA's consultation with those two federal resource agencies. The list of critical habitat can be found at http://criticalhabitat.fws.gov/crithab/ and http://www.nmfs.noaa.gov/pr/species/criticalhabitat.htm.

For additional explanation regarding the ballast water provisions including best management practices, please see Part 4.4.3 of EPA's Vessel General Permit Fact Sheet (USEPA, 2013b), available in the docket for this permit.

Today's permit does not authorize the discharge of ballast water from vessels that are less than 79 feet and greater than 1600 gross registered tons (if such a vessel were to exist). EPA believes that it is practicable and economically achievable for these vessels that discharge ballast water to install a ballast water treatment system, and therefore, those vessels are more appropriately controlled by the technology-based requirements in the VGP. See the Fact Sheet for EPA's VGP for additional discussion.

4.10 OVERBOARD COOLING WATER DISCHARGE (INCLUDING NON-CONTACT ENGINE COOLING WATER, HYDRAULIC SYSTEM COOLING WATER, REFRIGERATION COOLING WATER)

EPA included the overboard cooling water provisions at the request of National Oceanic and Atmospheric Administration (NOAA) Fisheries. NOAA Fisheries identified that the inclusion of these requirements would better protect essential fish habitat. These provisions in the sVGP are common-sense management approaches that when used, will reduce the discharge of overboard cooling water. The potential constituents of overboard cooling water include entrained or dissolved materials from the system itself, including copper, iron, aluminum, zinc, nickel, tin, titanium, arsenic, manganese, chromium, lead, and oil and grease. Cooling water also can reach high temperatures, with the thermal difference between seawater intake and discharge typically ranging from 5°C to 25°C, with maximum temperatures reaching 140°C. EPA has not prohibited the discharge of the heated water because it is infeasible with existing vessel design to prohibit their discharge. However, the Agency believes if vessel operators institute the best management practice of reducing discharges to ports or enclosed water bodies, impacts from the heated waters will be reduced. Discharges of cooling water can be reduced by using shore-based power when electrical systems onboard vessels are compatible with the available shore power.

4.11 COMPLIANCE WITH OTHER STATUTES AND REGULATIONS

These effluent limits contain the requirement to comply with other applicable statutes and regulations dealing with vessel discharges. Reliance on other statutes and regulations to develop the permit requirements is a reasonable exercise of best professional judgement (BPJ) because these statutes and regulations have gone through an extensive process of evaluation and analysis by federal agencies and international organizations that have considerable expertise in vessel management. These statutes and regulations are currently being implemented and therefore are technologically and economically practicable (BPT) and achievable (BAT) in light of best marine practice. Rather than reiterate the provisions of these statutes and regulations in their entirety for the permit's general effluent limits, EPA has determined, based on BPJ, that incorporation of these statutes and regulations by reference is reasonable.

EPA has clarified in the permit's "general provisions" section (Part 4.12 of the sVGP) that the permit is intended to refer to those provisions of other regulatory programs as they were in effect on the date of issuance of today's sVGP. The statutes and regulations that were examined to inform the Agency's BPJ decision and which are incorporated by reference into the provisions of the permit follow. These summaries are not meant to be legally binding or comprehensive reiterations; rather, they are short summaries designed to inform owners/operators of the existence of these authorities. The actual statutes and regulations implementing these authorities are the legally binding conditions of the permit.

4.11.1 Clean Water Act Section 311 (33 U.S.C. 1321)

CWA section 311, states that it is the United States' policy that there should be no discharges of oil or hazardous substances into waters of the United States, adjoining shorelines, and certain specified areas, except where permitted under federal regulations (e.g., the NPDES program). As such, the Act prohibits the discharge of oil or hazardous substances into these areas

in such quantities as may be harmful. Further, the Act states that the President shall, by regulation, determine those quantities of oil and any hazardous substances that may be harmful if discharged.

EPA has defined oil quantities that "may be harmful" as those that violate applicable water quality standards or "cause a film or sheen upon or discoloration of the surface of the water or adjoining shorelines or cause a sludge or emulsion to be deposited beneath the surface of the water or upon adjoining shorelines." 40 CFR § 110.3. Sheen is clarified to mean an iridescent appearance on the surface of the water. 40 CFR § 110.1.

In the permit, oil, including oily mixtures, may not be discharged in quantities that may be harmful. This goal has proven to be achievable using available treatment technologies such as oil-water separators or oil-absorbent materials. For other discharges that can potentially be contaminated by oils, but may not easily be collected and treated, the Agency requires the operator to observe the surface of the receiving water to determine whether a sheen is visible. This would indicate that oils are present at concentrations that may be harmful and discharge must cease.

Available at http://www.epa.gov/oem/content/lawsregs/opprover.htm.

4.11.2 National Marine Sanctuaries Act (NMSA) (16 U.S.C. Section 1431 et seq. and Implementing Regulations Found at 15 CFR Part 922 and 50 CFR Part 404)

NMSA authorizes the designation and management of National Marine Sanctuaries to protect marine resources with conservation and education, as well as historical, scientific, and other special qualities. Additional restrictions and requirements may be imposed on vessel owners/operators who boat in and around National Marine Sanctuaries. For more information, please see the NOAA National Marine Sanctuaries Program website at http://sanctuaries.noaa.gov/.

4.11.3 USDA Federal Noxious Weed Act, 7 CFR Part 360

The Federal Noxious Weed Act makes it unlawful to import or move any listed noxious weed. This may impact small vessel owners/operators who may unknowingly transfer listed noxious weeds on their trailers, propellers, and other related areas. Additional information, as well as the list of noxious weeds, may be found on the United States Department of Agriculture (USDA) website at http://www.aphis.usda.gov/plant_health/plant_pest_info/weeds/index.shtml.

4.11.4 Act to Prevent Pollution from Ships (APPS), 33 U.S.C. 1901

The International Convention for the Prevention of Pollution from Ships (MARPOL 73/78) is an international treaty that regulates certain discharges from vessels. It is primarily implemented in the United States by APPS, 33 U.S.C.1901 et seq. The U.S. Coast Guard is the lead agency for APPS implementation and has issued implementing regulations, primarily found at 33 CFR Part 151. Those requirements already apply to many of the vessels covered by the permit. APPS regulates the discharge of oil and oily mixtures, noxious liquid substances, and garbage, including food wastes and plastic.

With respect to oil and oily mixtures, Coast Guard regulations at 33 CFR § 151.10 prohibit "any discharge of oil or oily mixtures into the sea from a ship" except when certain conditions are met, including a discharge oil content of less than 15 parts per million (ppm), and that the ship has in operation oily-water separating equipment, an oil content monitor, a bilge alarm, or a combination thereof. These requirements have been in place for a significant length of time, and the equipment necessary to meet these standards is widely available and already in use on ships subject to these regulations. Note that these requirements generally apply to vessels greater than 150 gross tons or 400 gross tons, depending upon vessel class; therefore, the requirements likely only apply to a few, if any, vessels eligible for coverage under the sVGP.

Substances regulated as "noxious liquid substances" (NLS) under APPS are divided into four categories based on their potential to harm marine resources and human health. See 33 CFR §§ 151.47 and 151.49; 46 CFR Part 153, Table 1. Under 46 CFR § 153.1128, discharges of NLS residues at sea may only take place at least 12 nautical miles from the nearest land. In light of this, the permit does not authorize such discharges within waters subject to the permit (i.e., inland waters and the waters of the 3-mile territorial sea).

Annex III to MARPOL addresses harmful substances in packaged form and is implemented in the United States by the Hazardous Materials Transportation Authorization Act of 1994, as amended (49 U.S.C. 5901 et seq.), and regulations appearing at 46 CFR Part 148 and 49 CFR Part 176. That regulatory scheme establishes labeling, packaging, and stowage requirements for such materials so as to help avoid their accidental loss or spillage during transport. 40 CFR § 122.44(p) provides that when an NPDES permit is issued to a vessel operating as a means of transportation, the permit is to require compliance with any applicable Coast Guard regulations that establish specifications for safe transportation, handling, carriage, and storage of pollutants. The permit incorporates this requirement in Part 2.1.

Available at http://epw.senate.gov/atppfs.pdf.

4.11.5 The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) (7 U.S.C. 136 et seq.)

FIFRA regulates the distribution, sale, and use of pesticides. One of the primary components of FIFRA requires the registration and labeling of all pesticides sold or distributed in the U.S., ensuring that if pesticides are used in accordance with the specifications on the label, they will not cause unreasonable adverse effects on humans or the environment. It is a requirement of the permit that any registered pesticide must be used in accordance with its FIFRA label. This is included as a binding permit requirement because FIFRA label requirements are established after review of the label and underlying science, and approval of the label by the EPA Office of Chemical Safety and Pollution Prevention will ensure that the pesticide, when used according to the label, will not cause unreasonable adverse effects on humans or the environment.

4.11.6 Oil Pollution Control Act (33 U.S.C. 2701 et seq.)

Additional requirements also affect vessel discharges—in particular, the Oil Pollution Act of 1990 and the associated U.S. Coast Guard implementing regulations at 33 CFR Parts 155 and

157. These regulations establish and reinforce the APPS 15 ppm discharge standard for oil and oily mixtures for oceangoing ships and require most vessels to have an oily-water separator. Oceangoing vessels less than 400 gross tons must either have an approved oily-water separator or retain oily-water mixtures onboard for disposal to an approved reception facility onshore.

Oceangoing vessels more than 400 gross tons, except vessels that carry ballast water in their fuel oil tanks, must be fitted with "approved 15 parts per million (ppm) oily-water separating equipment for the processing of oily mixtures from bilges or fuel oil tank ballast" (33 CFR § 155.360). The maximum oily discharge standard is included as a binding requirement in this permit because it is the most appropriate standard for oil and oily discharges and maintains current national and international standards. 33 CFR Part 155 was also referenced for oil containment and cleanup equipment and procedures. This section provides information on both equipment and procedures that are required for preventing and reacting to oil spills and discharges.

4.12 EPA Establishment of Technology-Based Effluent Limits in the sVGP

4.12.1 Background

The CWA requires that all point source discharges must meet technology-based effluent limitations representing the applicable levels of technology-based control. WQBELs are required, as necessary, where the technology-based limitations are not sufficient to meet applicable WQS. See *P.U.D. No. 1 of Jefferson County et al. v. Washington Dept. of Ecology*, 511 U.S. 700, 704 (1994). Water quality-based requirements will be discussed in greater depth in Section 6.5 of the fact sheet. Both technology-based and water quality-based effluent limitations are implemented through NPDES permits containing such limitations issued to point sources. CWA sections 301(a) and (b).

4.12.2 The Clean Water Act Requires EPA to Develop Effluent Limitations That Represent the Following:

4.12.2.1 Best Practicable Control Technology Currently Available (BPT)

The CWA requires BPT effluent limitations for conventional, toxic, and non-conventional pollutants. Section 304(a)(4) designates the following as conventional pollutants: BOD_5, TSS, fecal coliform, pH, and any additional pollutants defined by the Administrator as conventional. The Administrator designated oil and grease as an additional conventional pollutant on July 30, 1979. 40 CFR § 401.16. EPA has identified 65 pollutants and classes of pollutants as toxic pollutants, of which 126 specific substances have been designated priority toxic pollutants. 40 CFR § 401.15 and 40 CFR Part 423 Appendix A. All other pollutants are considered to be non-conventional.

In specifying BPT, under CWA section 301(b)(1)(A); 304(b)(1)(B); 40 CFR § 125.3(d)(1), EPA looks at a number of factors. EPA first considers the total cost of applying the control technology in relation to the effluent reduction benefits. The Agency also considers the age of the equipment and facilities; the processes employed; and any required process changes, engineering aspects of the control technologies, non-water quality environmental impacts (including energy requirements), and such other factors as the EPA Administrator deems

appropriate. Traditionally, EPA establishes BPT effluent limitations based on the average of the best performance of facilities within the industry of various ages, sizes, processes, or other common characteristics. Where existing performance is uniformly inadequate, BPT may reflect higher levels of control than currently in place in an industrial category if the Agency determines that the technology can be practically applied.

4.12.2.2 Best Conventional Pollutant Control Technology (BCT)

The 1977 amendments to the CWA required EPA to identify effluent reduction levels for conventional pollutants associated with BCT for discharges from existing industrial point sources. CWA section 301(b)(2)(E); 304(b)(4)(B); 40 CFR § 125.3(d)(2). In addition to considering the other factors specified in section 304(b)(4)(B) to establish BCT limitations, EPA also considers a two-part "cost-reasonableness" test. EPA explained its methodology for the development of BCT limitations in 1986. 51 FR 24974 (July 9, 1986).

4.12.2.3 Best Available Technology Economically Achievable (BAT)

For toxic pollutants and non-conventional pollutants, EPA promulgates effluent limitations based on BAT. CWA section 301(b)(2)(A); 304(b)(2)(B); 40 CFR § 125.3(d)(3). In establishing BAT, the technology must be technologically "available" and "economically achievable." The factors considered in assessing BAT include the cost of achieving BAT effluent reductions; the age of equipment and facilities involved; the process employed; potential process changes; non-water quality environmental impacts, including energy requirements; and other such factors as the EPA Administrator deems appropriate. The Agency retains considerable discretion in assigning the weight accorded to these factors. BAT limitations may be based on effluent reductions attainable through changes in a facility's processes and operations. Where existing performance is uniformly inadequate, BAT may reflect a higher level of performance than is currently being achieved within a particular subcategory based on technology transferred from a different subcategory or category. BAT may be based upon process changes or internal controls, even when these technologies are not common industry practice.

This permit contains effluent limits that correspond to required levels of technology-based control (BPT, BCT, BAT) for various discharges under the CWA. Some effluent limits have been established by examining other existing laws and requirements. Where these laws already exist, it was deemed feasible for the operators to implement these practices as effluent limits in this permit. Because these are demonstrated practices, EPA has found that they are technologically available and economically practicable (BPT) or achievable (BAT). In some cases, such as with the no (zero) discharge of TBT standard, numeric effluent limits have been established.

4.12.3 Numeric Limitations Are Infeasible

Because of the nature of the vessel discharges authorized by this permit, it is infeasible to derive numeric effluent limits to achieve these levels of control for all discharge types until greater information is available. Constituents in properly controlled discharges may vary based upon vessel type, age, size, and activities occurring onboard the vessel. In such situations, the CWA authorizes EPA to include non-numeric effluent limits in NPDES permits. 40 CFR §

122.44(k)(3). The sVGP includes such non-numeric effluent limits developed for discharges for which developing numeric effluent limits are infeasible at this time. Many of these non-numeric effluent limits require permittees to engage in specific behaviors or best management practices.

The non-numeric effluent limits are all intended to minimize or reduce pollutants or constituents of concern in the vessel discharges authorized by this permit. These effluent limits include, but are not limited to, requirements to use phosphate-free and minimally toxic soaps (reduce the discharge of nutrients and toxic constituents in vessel cleaning discharges) and exercising extra precautions when fueling the vessel (to reduce the discharges of fuel or oil, including oily mixtures, into waters subject to this permit). The limits are expected to be effective in reducing harmful constituents in effluent streams reaching receiving waters. The non-numeric effluent limits are discussed in greater detail in Part 2.1 of the permit.

For purposes of this permit, and consistent with the technology-based requirements of the CWA, EPA is clarifying that the term "minimize" means to reduce and/or eliminate to the extent achievable using control measures (including best management practices) that are technologically available and economically practicable and achievable in light of best marine practice. This permit defines the term "minimize" in order to provide a reasonable approach by which EPA, permittees, and the public can determine/evaluate appropriate control measures for vessels to control discharges. EPA believes that minimization of pollutants in those discharges can be achieved without using highly engineered, complex treatment systems. The specific limits included in Part 2 emphasize effective pollution prevention controls, such as requiring phosphorus-free soap and minimizing production of graywater in port.

4.12.4 Technology-Based Effluent Limits

EPA has determined that the technology-based numeric and non-numeric effluent limits in this permit, taken as a whole, constitute the first level of control (BPT for all pollutants) and the second level of control (BAT for toxic and non-conventional pollutants and/or BCT for conventional pollutants) for discharges from vessels. For all of the discharges in this permit, the technology-based limits are based on best professional judgment, as authorized under CWA section 402(a)(1) and 40 CFR § 125.3.

4.12.4.1 Types of Technology-Based Effluent Limits

As stated above, the CWA establishes two levels of technology-based controls. The first level of control, "best practicable control technology currently available," or BPT, applies to all pollutants. CWA section 304(b)(1)(B); 33 U.S.C. § 1314(b)(1)(B). BPT represents the initial stage of pollutant discharge reduction, designed to bring all sources in an industrial category up to the level of the average of the best source in that category. See *EPA v. National Crushed Stone Ass'n*, 449 U.S. 64, 75-76 (1980). In the second level of control, all point sources are required to meet effluent limitations based on "best conventional pollutant control technology," or "BCT" CWA section 304(b)(4)(B); 33 U.S.C. § 1314(b)(4)(B) or "best available technology economically achievable," or "BAT" CWA section 301(b)(2)(A); 33 U.S.C. § 1311(b)(2)(A), depending on the types of pollutants discharged. BCT applies to conventional pollutants, listed at 40 CFR § 401.16 (BOD_5, pH, TSS, fecal coliform, and oil and grease). BAT applies to toxic and non-conventional pollutants. Technology-based limits are to be applied throughout industry

without regard to receiving water quality. *Appalachian Power Co. v. EPA,* 671 F.2d 801 (4th Cir. 1982). The following sections describe these limits in greater detail.

4.12.4.2 Inclusion of Non-Numeric Technology-Based Limits in NPDES Permits

NPDES permits are required to contain technology-based limitations. CWA sections 301(b)(1)(A)(BPT); 301(b)(2)(A)(BAT); 301(b)(2)(E) (BCT); 40 CFR § 122.44(a)(1). Technology-based limits in the permit represent the BPT (for conventional, toxic, and non-conventional pollutants), BCT (for conventional pollutants), and BAT (for toxic and non-conventional pollutants) level of control for the applicable pollutants. Where EPA has not promulgated effluent limitations guidelines and standards for an industry, or if an operator is discharging a pollutant not covered by the effluent guideline, permit limitations may be based on the BPJ (sometimes also referred to as best engineering judgment) of the permit writer. 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 (3d Cir. 1985); *American Petroleum Inst. v. EPA*, 787 F.2d 965, 971 (5th Cir. 1986). For this general permit, all of the technology-based limits are based on BPJ decision-making because no effluent limitation guidelines (ELGs) apply.

Most of the BPJ limits in this permit are in the form of non-numeric control measures, commonly referred to as best management practices. Best management practices are considered "effluent limitations" within the meaning of the CWA. 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 (2d Cir. 2005) (holding that site-specific best management practices at issue constitute effluent limitations within the meaning of the CWA); *Natural Res. Def. Council, Inc. v. EPA*, 673 F.2d 400, 403 (D.C. Cir.1982) ("section 502[11] defines 'effluent limitation' as '*any* restriction' on the amounts of pollutants discharged, not just a numerical restriction").

Through the Agency's NPDES permit regulations, EPA interpreted the CWA to allow best management practices to take the place of numeric effluent limitations under certain circumstances. 40 CFR § 122.44(k), entitled "Establishing limitations, standards, and other permit conditions (applicable to state NPDES programs ...)," provides that permits may include best management practices to control or abate the discharge of pollutants when: (1) "[a]uthorized under section 304(e) of the CWA for the control of toxic pollutants and hazardous substances from ancillary industrial activities," (2) "[a]uthorized under section 402(p) of the CWA for the control of stormwater discharges," (3) "[n]umeric effluent limitations are infeasible," or (4) "[t]he practices are reasonably necessary to achieve effluent limitations and standards or to carry out the purposes and intent of the CWA." 40 CFR § 122.44(k).

Various courts have held that the CWA does not require EPA to set numeric limits where such limits are infeasible. See, e.g*., Natural Resources Defense Council v. Costle,* 568 F.3d at 1380 ("when numerical effluent limitations are infeasible, EPA may issue permits with conditions designed to reduce the level of effluent discharges to acceptable levels"; *Citizens Coal Council v. EPA*, 447 F.3d 879, 895-96 [6th Cir. 2006]. The Sixth Circuit cited *Waterkeeper Alliance, Inc. v. EPA*, 399 F.3d 486, 502 [2d Cir. 2005], stating "site-specific best management practices are effluent limitations under the CWA" [agreeing with EPA that the CWA does not

require numeric effluent limits "where such limits are infeasible" because "a baseline pollutant loading cannot be calculated"]).

4.12.4.3 EPA's Decision to Include Non-Numeric Technology-Based Effluent Limits in This Permit and Rationale for Why the Limits Represent the Appropriate (BPT, BCT, or BAT) Level of Control

4.12.4.3.1 Non-Numeric Technology-Based Effluent Limits in This Permit

With the exception of the zero-discharge standard for TBT, numeric effluent limitations are not feasible to calculate for vessel discharges in this permit iteration. EPA may develop numeric effluent limits for certain discharge types for the next permit iteration, if applicable. Vessels vary widely by type and/or class, size, and activity and can discharge a wide variety of waste streams, whose volume will vary dependent upon seas, cargo carried, and age of the vessel. Additionally, vessel operators cannot install equipment onboard their vessels until that equipment has been approved by the Coast Guard and, in some cases, their class societies. Hence, EPA cannot require use of equipment or technologies that would conflict with the requirements of these organizations without fully understanding the implications of such requirements.

These factors create a situation where, at this time, it is generally not feasible for EPA to calculate numeric effluent limitations to effectively regulate vessel discharges, with the exception noted above (EPA is able to calculate a numeric effluent limit for that discharge category because extensive research has been conducted and effective pollution control technologies are widely or will be widely commercially available). Non-numeric effluent limits, such as use of phosphate-free, minimally toxic, biodegradable soaps and detergents, will reduce the discharge of known pollutants into waters subject to this permit. However, when considering factors such as precipitation and the variability of volumes of water used in deck washdowns, the number of individual discharge points that may exist onboard, and the range of quantities of soaps and detergents used, it is not feasible for EPA to calculate numeric discharge limits. Therefore, in light of these considerations, EPA has determined that it is not feasible for the Agency to calculate numeric, technology-based limits for many of the discharges covered under this permit, and, based on the authority of 40 CFR § 122.44(k)(3), has chosen to adopt non-numeric effluent limits.

The BAT/BCT/BPT non-numeric effluent limits in this permit are expressed as:

- Specific pollution prevention practices for minimizing or eliminating the pollutants or constituents of concern in the discharge.
- Specific behavioral practices for minimizing or eliminating the pollutants or constituents of concern in the discharge.
- Narrative requirements to minimize pollutants or constituents of concern in discharges or the discharges themselves.[9]

[9] These types of effluent limits allow owners/operators to use any control measures appropriate for their vessels to meet those limits.

- Limiting or eliminating discharges at certain times for discharge types that can be limited or eliminated for short periods due to technology available onboard the vessel and the vessel design (i.e., if the vessel can hold the discharge type for limited periods or reduce production of the effluent or use an onshore disposal option).

In the context of this general permit, EPA has determined these non-numeric effluent limits represent the BPT for all pollutants, BCT for conventional pollutants, and BAT economically achievable for toxic and non-conventional pollutants. EPA has determined that the combination of pollution prevention approaches and structural management practices described above are the most environmentally sound way to control the discharge of pollutants from vessels.

4.12.4.3.2 Requirements Are Technologically Available and Meet the BPT and BAT Economic Tests Set Forth in the CWA

EPA has found that the requirements of this permit represent the appropriate (BPT, BCT, and BAT) level of control representing performance of commercial fishing vessels and other non-recreational vessels less than 79 feet, taking into account the various ages of equipment and types of vessels involved; the process employed; the engineering aspects of various types of control techniques; process changes; and non-water quality environmental impacts, including energy impacts, of the controls required under this permit. With respect to the non-water quality environmental impacts, including energy impacts, EPA finds that they are negligible. Additionally, EPA finds that the limits in this permit meet the BPT and BAT economic tests. Because of the type of controls under consideration here minimize toxic, non-conventional, and conventional pollutants, conventional pollutants are controlled by the same practices that control toxic and non-conventional pollutants. Hence, EPA is evaluating effluent limits using a BPT and a BAT standard, but because conventional pollutants will also be adequately controlled by these same effluent limits for which EPA applied the BPT and BAT tests, EPA has determined that it is not necessary to conduct BCT economic tests.

5. MONITORING AND RECORDKEEPING

Pursuant to CWA section 308 and 402(a)(2), 40 § CFR 122.43(a), and other applicable implementing regulations, the following requirements have been included in the permit, as discussed below.

5.1 RECORDKEEPING

Records are useful tools for both the vessel owner or operator and EPA. They allow an owner or operator to assess their own permit compliance by providing an easy way to reference permit requirements that have been met, as well as a way to identify troublesome areas of the vessel that cause more pollution-related issues. They also allow EPA to assess permit compliance.

Vessel owners/operators must maintain a signed paper copy of the PARI Form onboard the vessel. EPA, or EPA's authorized representative, may use this form to determine basic compliance with the permit, including whether the owner/operator has read the terms of the

permit and whether the owner/operator has conducted quarterly visual inspections as required by the permit. You must produce this form for EPA or EPA's authorized representative upon request (see Part 4.5 of the sVGP).

Vessel owners/operators may keep sVGP records electronically if it is in a format that can be read in a similar manner as a paper record, is legally dependable with no less evidentiary value than the paper equivalent, and accessible to the inspector during an inspection to the same extent as a paper copy stored on the vessel would be, if the records were stored in paper form.

5.2 QUARTERLY VISUAL INSPECTION

The quarterly visual inspection requirements include a detailed, thorough inspection of areas of the vessel that are difficult to inspect on a more regular basis, such as the vessel hull. It also requires that vessel owners/operators conduct an inspection of areas, which if not properly maintained or if damaged, are more likely to result in environmental degradation (e.g., protective seals, machinery). The permit requires that any necessary corrective actions be taken based on findings from these inspections. However, the routine quarterly visual inspections do not require the vessel be placed out of the water or into a drydock.

The quarterly visual inspection of the vessel may highlight problem areas of the vessel that need additional attention and supports establishing and implementing additional procedures applicable to problem areas to reduce future problems. To this end, the quarterly visual inspection requires that all pollution control equipment be inspected to ensure it is functioning properly. This requirement provides a reminder and opportunity to complete maintenance activities on onboard equipment. The sVGP provides that these inspections are to be conducted by the owner/operator or an authorized representative of such; although, if the owner/operator is unsure of the quality of inspections that will be included as part of their quarterly visual inspection, EPA strongly recommends they use their own personnel to conduct these inspections. The owner/operator is ultimately responsible for completion of this requirement.

To aid in determining permit compliance, each quarterly visual inspection must be recorded on the PARI Form. The form must be signed by the person conducting the inspection and must include basic information relating to the inspection and any corrective actions taken as a result of inspection findings.

For today's permit, EPA has included inspection provisions for vessels that are maintained on land for a full quarter. If a vessel is being maintained on land for a full quarter, they need not be inspected. Instead the owners/operators must document that the vessel was not in the water for that quarter on their PARI Form before placing the vessel back into the water.

6. ADDITIONAL REQUIREMENTS

6.1 CONTINUATION OF THE PERMIT

If the permit is not reissued or replaced prior to its expiration date, existing dischargers will continue to be covered under an administrative continuance, in accordance with section 558(c) of the Administrative Procedure Act (APA) and 40 CFR § 122.6. The current permit will

remain in effect for discharges that were covered prior to expiration until EPA acts on a permit renewal. If coverage is provided to a permittee prior to the expiration date of the permit, the permittee would automatically be covered by the permit until the earliest of: (1) the authorization for coverage under a reissuance or replacement of the permit; (2) the issuance of a new general permit which covers the vessel discharges or vessel type and provides coverage without requiring to submit a notice of intent to obtain coverage; (3) the issuance or denial of an individual permit for the permittee's discharges; or (4) the formal permit decision by EPA not to reissue the general permit, at which time EPA will identify a reasonable time period for covered dischargers to seek coverage under an alternative general permit or an individual permit.

EPA has followed this approach in order to extend coverage for these permittees under a permit vehicle until reissuance of the permit or coverage under some other permit. For more information, see 40 CFR § 122.6. EPA does not have the authority to provide coverage to "new" vessels seeking coverage under an expired permit (i.e., vessels that were not covered under the permit prior to expiration).

6.2 ALTERNATIVE PERMITS

6.2.1 EPA Requiring Coverage under an Alternative Permit

Pursuant to 40 CFR § 122.28(b)(3), EPA may require a discharger to apply for and obtain an individual permit instead of obtaining coverage under the general permit. These regulations also provide that any interested party may petition EPA to take such an action. The issuance of an individual permit will be in accordance with 40 CFR Part 124 and provide for public comment and appeal of any final permit decision. The circumstances in which such an action would be taken are set forth at 40 CFR § 122.28(b)(3). In addition, if EPA denies your application for an individual NPDES permit, you are also not authorized to discharge under this general permit, unless EPA explicitly authorizes your continued coverage under this general permit at the time of the individual permit denial.

6.2.2 Permittee Requesting Coverage under an Alternative Permit

After issuance of the permit, the permittee may request to be excluded from such coverage by applying for an individual permit. In such a case, the permittee must submit an individual permit application, no later than 90 days after the date of publication of final permit in the Federal Register, in accordance with 40 CFR § 122.28(b)(3)(iii), along with a statement of reasons supporting the request, to the applicable EPA regional office listed in Part 7 of the permit. The request may be granted by issuance of an individual permit or authorization of coverage under an alternative general permit if the reasons are adequate to support the request. Under this scenario, if an individual permit is issued, or authorization to discharge under an alternative NPDES permit is granted, your authorization to discharge under this permit is automatically terminated under 40 CFR § 122.28(b)(3)(iv) on the effective date of the individual permit or the date of authorization of coverage under the alternative general permit.

6.3 PERMIT COMPLIANCE

Part 4.3 of the permit is intended to inform the permittee of the potential consequences of failure to comply with the conditions of the permit. Part 4.3 explains that any failure to comply

with the conditions of the permit constitutes a violation of the Clean Water Act. In addition, the standard NPDES permit condition for the "duty to comply" (see 40 CFR § 122.41(a)) is applicable to all permittees.

6.4 OTHER PERMIT CONDITIONS (PARTS 4.4-4.10 OF THE SVGP)

Today's sVGP clearly states that no property rights are conveyed to any permittee, among other things. Furthermore, the permit states that if a portion of this permit is invalidated, it does not render the whole sVGP invalid.

This permit also contains savings clauses which state that nothing in the permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation under authority preserved by section 510 of the CWA or applicable requirements or prohibitions under other provisions of federal law or regulations. In addition, federal regulations require that the standard permit conditions provided at 40 CFR § 122.41 be applied to all NPDES permits. As provided by the introductory text of 40 CFR § 122.41 and the regulation at 40 CFR § 122.43(c), all of the standard permit conditions published in federal regulations at 40 CFR § 122.41 are incorporated into the permit by reference. The permit requires permittees to comply with all applicable standard conditions. The standard NPDES regulations include provisions allowing the permit to be re-opened and modified during the term of the permit. Among other things, permit modification may result if new information, not available at the time of permit issuance, is received that would have justified the application of different permit conditions at the time of issuance. This information could also allow EPA to determine whether re-initiation of formal consultation with the U.S. Fish and Wildlife Service and/or National Marine Fisheries Service pursuant to the Endangered Species Act could be required as provided in 50 CFR § 402.16.

6.5 WATER QUALITY-BASED EFFLUENT LIMITATIONS

The sVGP includes WQBELs to control discharges as stringently as necessary to meet applicable WQS. The provisions of Part 4.11 of the permit constitute the WQBELs for this permit, and supplement the permit's technology-based effluent limits in Part 2. Where the implementation of the technology-based requirements in this permit is not sufficient to meet the applicable receiving water's WQS, the permittee may be subject to further WQBELs. Prior to or after permit issuance and authorization to discharge, EPA may require additional WQBELs on a site-specific basis, or require the permittee to obtain coverage under an individual permit, if information in required reports or from other sources indicates that, after meeting the technology-based limits in Part 2 and the WQBELs in Part 4.11, the facility is causing or contributing to an excursion above WQS.[10]

Part 4.11 includes the permit limits that are as stringent as necessary to achieve WQS, consistent with CWA section 301(b)(1)(C) and 122.44(d)(1). EPA generally expects that vessels

[10] In using the phrase "excursion above," the permit tracks the language in 40 CFR § 122.44(d)(1). There are some instances, however, where pollutants would cause nonattainment of the applicable criterion by lowering the water quality *below* the criterion, as with dissolved oxygen. In such situations, such lowering would be considered an "excursion above" within the meaning of the permit condition.

that achieve the permit's technology-based limits through the careful implementation of effective pollution control measures and best management practices are likely to already be controlling their vessel discharges to a degree that would make additional water quality-based controls unnecessary. However, to ensure that this is the case, the permit contains additional conditions, which, in combination with the BAT/BPT/BCT limits in this permit, EPA expects to be as stringent as necessary to achieve WQS. EPA notes that the WQBELs included in this permit are non-numeric. EPA relies on a narrative expression of the need to control discharges as necessary to meet applicable WQS, and to employ additional controls where necessary to be consistent with applicable waste load allocations (WLAs) in an approved or established total maximum daily load (TMDL) or to comply with a state or tribe's antidegradation policies. This is a reasonable approach for this permit because EPA has determined that it is infeasible to calculate numeric WQBELs for vessels at this time. EPA reached this determination primarily based on the mobile nature of vessels used in a capacity of transportation. With thousands of waterbodies across the country, and the potential for any vessel to discharge into almost any water, it is infeasible for EPA to calculate numeric limits for each vessel for each waterbody at this time. Furthermore, as explained in Section 4.12 of this fact sheet, establishing numeric water quality-based limits poses many of the same challenges that EPA faced in setting technology-based discharge limits.

As mentioned, this permit requires that each permittee must control its discharge as necessary to meet applicable WQS. EPA generally expects that compliance with the other conditions in this permit (e.g., the technology-based limits, corrective actions, etc.) will result in discharges that are controlled as necessary to meet applicable WQS. If the permittee becomes aware, or EPA determines, that the discharge causes or contributes to a standards exceedance, corrective actions and EPA notification are required. In addition, at any time EPA may impose additional, more stringent WQBELs on a site-specific basis, or require an individual permit, if information suggests that the discharge is not controlled as necessary to meet applicable WQS. The language in Part 4.11 affirms the permittee's requirement to control its discharges as stringently as necessary to meet applicable WQS. EPA reserves the authority to require more stringent requirements where necessary to meet applicable standards, or, alternatively, to require the permittee to apply for an individual permit.

The purpose of Part 4.11.1 of the sVGP is to include a definition for "impaired waters" so that the scope of the requirements in 4.11.1 can be more readily understood by permittees. Part 4.11.1 defines "impaired waters" as those which have been identified by a state or EPA pursuant to section 303(d) of the CWA as not meeting applicable state WQS. This may include both waters with approved or established TMDLs, and those for which a TMDL has not yet been approved or established. The permit contains additional provisions for vessels discharging pollutants that have the reasonable potential to cause or contribute to an impairment of those specified waters.

Part 4.11.1 reiterates that if a vessel discharges to an impaired water without an EPA-approved or established TMDL, EPA can provide the permittee with additional requirements with which to comply. EPA can also impose additional requirements on discharges that are not directly discharged to an impaired water if they cause or contribute to an exceedance in another waterbody affected by the discharge.

Part 4.11.1 outlines the process for imposing additional requirements on permittees when they discharge into waters that have a WLA assigned to vessels. During the term of the permit, EPA may inform the owner/operator if such a WLA has been established that applies to their vessel discharges. In addition to requiring permittees to comply with the conditions of the WLA, EPA will also assess whether any more stringent requirements are necessary to comply with the WLA, whether compliance with the permit's existing requirements is sufficient to comply with the WLA, or whether the owner/operator must apply for individual permit coverage (see Part 4.2.1 of the permit).

EPA believes that the permit's provisions are consistent with EPA's antidegradation policy. EPA does not believe that a vessel covered under this permit should be considered a new or increased point source discharge that would foreseeably lower water quality under EPA's antidegradation regulation, located at 40 CFR § 131.12, the typical trigger for antidegradation review (see EPA Water Quality Standards Handbook, p. 4-10, available at http://www.epa.gov/waterscience/standards/handbook/ (US EPA, 2012a): see also EPA's Response to Comments for Oregon Water Quality Standards 2004 approval, page 31). Generally speaking, the vessels covered under this permit and their discharges existed before EPA's issuance of the sVGP. Such existing discharges do not constitute "new or increased point source discharges" that would foreseeably lower water quality within the meaning of 40 CFR § 131.12, and thus do not trigger antidegradation review. As stated in EPA's Water Quality Standards Handbook, antidegradation review requirements "are triggered by any action that would result in the lowering of water quality in high-quality water. Such activities as new discharges or expansion of existing facilities would presumably lower water quality and would not be permissible unless the state conducts a review consistent with" the state's antidegradation requirements (EPA Water Quality Standards Handbook, p. 4-7, available at: http://www.epa.gov/waterscience/standards/handbook/).

EPA's issuance of the sVGP and vessels' applications for coverage under the VGP will not foreseeably result in the lowering of water quality because those vessels and their discharges existed before the permit was issued and coverage was granted. If anything, EPA's issuance of the sVGP will improve water quality as vessels carry out the permit's technology-based requirements. Further, as stated by EPA in its July 7, 1998, Advance Notice of Proposed Rulemaking, antidegradation "specifies the framework to be used in making decisions regarding changes in water quality." See 63 Fed. Reg. 36779-80. Again, in the context of the sVGP, there are no expected "changes in water quality," at least no negative changes. Finally, as stated in EPA's Response to Comments for Oregon Water Quality Standards 2004 approval (US EPA, 2004), antidegradation "would require the permit authority and applicant to undergo an antidegradation review if the discharge would lower water quality as compared to the prior discharge." Again, vessels covered under the sVGP will not typically "lower water quality as compared to the prior discharge" since the very same vessels that are being permitted under the sVGP constituted the prior unregulated discharges that existed before issuance of the permit. The sVGP merely authorizes point source discharges that previously existed but were unregulated by EPA's NPDES regulations. Such existing discharges are not what EPA's antidegradation regulation intends to cover, as evidenced by the statements cited above. As a result, EPA does not consider vessels covered by this permit to be new or increased point source discharges that would foreseeably lower water quality for antidegradation purposes, and thus antidegradation review is not triggered.

6.6 OTHER LEGAL REQUIREMENTS

6.6.1 Ocean Discharge Criteria

The Ocean Discharge Criteria (40 CFR Part 125, Subpart M) establish regulations for issuance of NPDES permits for discharges into the territorial seas, the contiguous zone, and the ocean as these terms are defined in the CWA. The permit includes coverage of vessels less than 79 feet operating as a means of transportation when within the territorial seas. EPA's issuance of the permit thus is subject to evaluation under the Ocean Discharge Criteria regulation with respect to discharges incidental to the normal operation of such vessels into the territorial seas. For purposes of this evaluation, the 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 miles. 33 U.S.C. 1362(8).

Under 40 CFR § 125.123(a), if EPA, on the basis of available information determines prior to permit issuance that the discharges authorized will not cause unreasonable degradation of the marine environment, then EPA may issue an NPDES permit, which may include any conditions specified under 124.123(d) as necessary to assure that the discharge will not cause unreasonable degradation. The regulations at 40 CFR § 125.121(e) define unreasonable degradation of the marine environment as meaning:

- Significant adverse changes in ecosystem diversity, productivity, and stability of the biological community within the area of discharge and surrounding biological communities.
- Threat to human health through direct exposure to pollutants or through consumption of exposed aquatic organisms.
- Loss of aesthetic, recreational, scientific, or economic values which is unreasonable in relation to the benefit derived from the discharge.

The Ocean Discharge Criteria require that EPA consider a number of factors in determining the degree of degradation to the marine environment. These factors include the amount and nature of the pollutants, the potential transport of the pollutants, the character and uses of the receiving water and its biological communities, the existence of special aquatic sites (including parks, refuges, etc.), any applicable requirements of an approved Coastal Zone Management plan, and potential impacts on water quality, ecological health and human health, and any other factors the Administrator deems appropriate. 40 CFR § 125.122(a). In addition, the Ocean Discharge Criteria establish a presumption that discharges in compliance with state WQS will not cause unreasonable degradation with respect to the pollutants subject to those standards. 40 CFR § 125.122(b). After consideration of the Ocean Discharge Criteria, EPA has determined that the discharges authorized by the NPDES permit into the territorial seas in accordance with permit requirements will not cause unreasonable degradation of the receiving waters.

The discharges authorized by the permit are limited to those discharges incidental to the normal operation a vessel less than 79 feet, and typically will be of limited volumes. In addition, because vessels in the territorial seas are likely to be underway as part of their voyage, any

discharges incidental to their normal operation would typically be well-mixed upon discharge before they are subject to further dispersal and transport beyond the area of the vessel's operation.

In developing the permit, the Agency has taken into consideration that discharges incidental to the normal operation of vessels that are subject to the permit have the potential to be contaminated with oil or other potentially persistent or bioaccumulative pollutants. The permit therefore contains a number of best management practices intended to avoid or reduce the potential for such contamination. In addition, the permit requires compliance with all federal environmental laws that establish controls on oily or hazardous discharges, including among others, CWA section 311 (33 U.S.C. 1321), -APPS (33 U.S.C. 190-1915), the FIFRA (7 U.S.C. 136 et seq.), and the Oil Pollution Control Act, 33 U.S.C. 2701-2761. EPA believes that these controls are necessary to prevent unreasonable degradation of the marine environment.

The Agency also has taken into account the biological communities and receiving waters that would be exposed to the discharges incidental to the normal operation of vessels that will be authorized by the permit. This consideration has necessarily been complicated by the fact that vessels have the potential to traverse vast distances in the territorial sea while discharging. The Agency has taken an approach of identifying potentially sensitive areas in which vessels may operate and providing for additional controls when discharges occur in such areas. In addition to requiring compliance with marine sanctuaries provisions of NMSA (16 U.S.C. 1431 *et seq.*) and implementing regulations found at 15 CFR Part 922 and 50 CFR Part 404 (Part 2.1.5), the permit includes other conditions to impose additional controls and requirements on covered discharges in sensitive receiving waters. EPA has also determined that issuance of this permit will not adversely affect essential fish habitat.

Finally, this permit applies to discharges to the outer limit of the three mile territorial sea. State WQS also apply within these waters and the permit thus contains effluent limitations as necessary to meet those applicable WQS (Parts 4.11 and 5 of the Permit). EPA has requested states' certifications under section 401 of the CWA, and requested concurrence on EPA's consistency determination for this permit from state coastal management agencies, in accordance with section 307(c) of the Coastal Zone Management Act (CZMA). Additional conditions are incorporated into Part 5 of the permit, pursuant to CWA section 401, CZMA section 307(c), and implementing regulations. Under 40 CFR 125.122(b), EPA presumes that discharges in compliance with state WQS will not cause unreasonable degradation of the marine environment with respect to specific pollutants or conditions specified in such standards.

In light of the foregoing, EPA has determined that issuance of the permit will not cause:

- Significant adverse changes in ecosystem diversity, productivity, and stability of the biological community within the area of discharge and surrounding biological communities.
- Threat to human health through direct exposure to pollutants or through consumption of exposed aquatic organisms.
- Loss of aesthetic, recreational, scientific, or economic values which is unreasonable in relation to the benefit derived from the discharge.

Accordingly, in accordance with 40 CFR § 125.123(a), the Agency has determined that issuance of the permit with the controls complies with the Ocean Discharge Criteria guidelines established under CWA section 403(c).

6.6.2 Coastal Zone Management Act (CZMA)

CZMA and its implementing regulations (15 CFR Part 930) require that any federal agency activity or federally licensed or permitted activity occurring within (or outside but affecting) the coastal zone of a state with an approved coastal zone management program (CZMP) be consistent with the enforceable policies of that approved program to the maximum extent practicable. Agency general permits that do not involve case-by-case or individualized determinations by the Agency are federal activities for the purposes of CZMA section 307(c)(1). Following proposal of the sVGP, EPA provided the relevant state coastal zone management agencies with EPA's national consistency determination regarding the enforceable policies in approved state CZMPs for the coastal zones including state waters where the sVGP would authorize discharges. 15 CFR § 930.31(d). Consistent with the maximum extent practicable standard in 15 CFR § 930.32, the final sVGP either incorporates state conditions (see sVGP Part 7), or if not incorporated or if a state coastal zone management agency objected to the sVGP, Part 7 of the sVGP notifies potential users of the permit that the sVGP is not available for use in that state unless vessel owners/operators wanting to use the sVGP in that state provide the state agency with an individual consistency certification under 15 CFR Part 930 subpart D and the state agency concurs.

6.6.3 Endangered Species Consultation

Section 7(a)(2) of the Endangered Species Act (ESA) requires each federal agency, in consultation with and with the assistance of the Fish and Wildlife Service (FWS) and the National Marine Fisheries Service (NMFS), collectively "the Services," to ensure that the actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of any endangered or threatened species (referred to as "listed species") or result in the destruction or adverse modification of their designated critical habitats.

The Services have published regulations implementing ESA section 7 at 50 CFR Part 402. The regulations provide that a federal agency (such as EPA) must consult with FWS, NMFS, or both if the agency determines that an activity authorized, funded, or carried out by the agency may affect listed species or critical habitat. The kinds of effects that trigger the consultation obligation could include, among other things, beneficial, detrimental, direct, and indirect effects. EPA commenced informal consultation with the Services in December 2011. Informal consultation consisted of briefing the Services' staff on the contents of the draft VGP and sVGP, discussing EPA's proposed outline and methodological approach of a biological evaluation for both permits, including using a detailed analysis of expected constituents in and impacts from incidental vessel discharges, representative listed species, and reference action areas to inform the broader effects analysis. EPA also requested species lists, additional pertinent information from the Services, and discussed the permit issuance timeline. As part of informal consultation, EPA met with the Services on multiple occasions, and sought and received valuable input on the design of the Agency's Biological Evaluation (USEPA, 2012b; Nagle, 2012).

EPA initiated formal consultation with the Services on July 3, 2012, submitting a formal consultation package including an extensive biological evaluation for the 2013 VGP and sVGP. Section 7 of the ESA allows 90 days for interagency consultation and an additional 45 days for the Services to prepare a biological opinion, under most circumstances. After a short, mutually agreed upon extension of the formal consultation time frame, EPA and the Services successfully concluded formal consultation on November 28 and 29, 2012, with transmittal of separate biological opinions. Both of those opinions concluded that EPA's issuance of the sVGP was not likely to jeopardize listed or proposed species or adversely modify designated or proposed critical habitat. Both biological opinions can be found in the docket for this permit issuance.

6.6.4 Tribal Consultation

Consistent with Executive Order 13175, EPA engaged in consultation and collaboration with tribal officials in the development of the sVGP. As part of these consultations, EPA provided overviews of the NPDES vessel program to the National Tribal Council, and provided additional information and sought feedback from tribal representatives. EPA has considered any potential concerns of tribes of which it is aware with respect to how this permit might affect Indian Country or other tribal interests.

6.6.5 Essential Fish Habitat Consultations

Pursuant to section 305(b)(2) of the Magnuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267), federal agencies must consult with NMFS regarding any of their actions authorized, funded, or undertaken, or proposed to be authorized, funded, or undertaken that may adversely affect Essential Fish Habitat (EFH). Upon review, EPA has determined that issuance of this final permit will have no adverse effect on EFH. Any effects of this permit on essential fish habitat would be beneficial by imposing restrictions, including management practices, on discharges incidental to the normal operation of vessels. Since prior to enactment of the CWA and the Magnuson-Stevens Act, such discharges have occurred without restrictions.

7. STATE OR TRIBAL REQUIREMENTS RESULTING FROM 401 CERTIFICATION

Part 7 of the final sVGP identifies provisions provided to EPA by states and tribes in their CWA § 401 certifications that the states and tribes deem necessary to assure compliance with applicable provisions of the CWA and any other appropriate requirements of state and tribal law. See 33 U.S.C. 1341(d); 40 CFR § 124.53(e)(1). Pursuant to CWA § 401(d), EPA attached those state and tribal provisions to the final sVGP; those that constitute effluent or other limitations or monitoring requirements are enforceable conditions of the federal permit. *American Rivers, Inc. v. FERC*, 129 F.3d 99, 107 (2nd Cir. 1997). These conditions are subject to review in state and tribal administrative and judicial tribunals with appropriate jurisdiction. 40 CFR § 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). The sVGP also includes conditions provided by states as part of their concurrence with this permit for CZMA purposes if applicable (see Section 6.6.2 of this fact sheet).

8. DEFINITIONS

Part 5 of the permit provides permit-specific definitions of statutory, regulatory, and other terms important for understanding this permit and its requirements. Any terms that are not listed in this definitions section have the meaning given to the terms by 40 CFR § 122.2 (the definitions section of the NPDES regulations). To develop these definitions, EPA has, where possible, relied on existing definitions in other laws and regulations applicable to this universe of permittees in order to provide consistency with those laws and provide permittees with a familiar framework. For those definitions that were developed based on another source, the citation to that law or regulation is included in brackets after the definition.

9. REFERENCES

Abbaspour, M., Javid, A.H., Moghimi, P., & Kayhan, K. (2005). Modeling of thermal pollution in coastal areas and its economical and environmental assessment. *International Journal of Environmental Science and Technology*, *2*, 13-26.

Abt Associates, Inc. (2008). *Economic and Benefits Analysis of the Final Vessel General Permit (VGP)*. December 18, 2008.

Alaska Department of Environmental Conservation (ADEC). (2007). *Large Commercial Passenger Vessel Wastewater Discharge: General Permit Information Sheet*. Retrieved from http://www.dec.state.ak.us/water/cruise_ships/gp/2008_GP_Info2.pdf.

Battelle. (2000). *An Initial Survey of Aquatic Invasive Species Issues in the Gulf of Mexico Region.* (EPA-855-R-00-003). New Orleans, LA: Environmental Protection Agency.

Battelle. (2007). *Technical support for EPA development of a permitting framework to address the vacatur of the NPDES vessel exclusion* (Revised Draft Report).

Cairns Jr., J. (1972). Environmental Quality and the Thermal Pollution Problem. In Farvar, M.G. and J.P. Milton (Eds.), *The Careless Technology: Ecology and International Development*. Garden City, NY: Natural History Press.

California Regional Water Quality Control Board. (2005). *Total Maximum Daily Load for Dissolved Copper in Shelter Island Yacht Basin, San Diego Bay* (Resolution No. R9-2005-0019 Basin Plan Amendment and Technical Report).

Cohen, A.H., Carlton, J.T., and Fountain, M.C. (1995). Introduction, dispersal and potential impacts of the green crab Carcinus maenas in San Francisco Bay, California. *Marine Biology*, *122*, 225-237.

Cohen, A.N. and Carlton, J.T. (1998). Accelerating Invasion Rate in a Highly Invaded Estuary. *Science, 279*, 555-558.

DiGangi, J., Schettler, T., Cobbing, M., and Rossi, M. (2002). *Aggregate exposures to phthalate in humans*.

Govorushko, S.M. (2007). Effect of Human Activity on Rivers. *Proceedings at the International Conference on River Basin Management*. Retrieved from http://www2.dsi.gov.tr/english/congress2007/chapter_2/37.pdf.

Jha, M. and Swietlik, W. (2003). Developing water quality criteria for suspended and bedded sediments (SABS). Draft U.S. EPA Report.

Katranitsasa, A., Castritsi-Catharios, J., and Persoone, G. (2003). The effects of a copper-based antifouling paint on mortality and enzymatic activity of a non-target marine organism. *Marine Pollution Bulletin*, *46*, 1491-1494.

Nagle, D. 2012. *Initiation of Formal Consultation on EPA's Vessel General Permit for Discharges Incidental to the Normal Operation of Vessels (VGP) and Small Vessel General Permit for Discharges Incidental to the Normal Operation of Vessel Less than 79 Feet (sVGP).* Letters to Helen Golde and Gary Frazier.

National Research Council. (1993). *Managing Wastewater in Coastal Urban Areas*. United States of America: National Academy of Sciences.

National Research Council. (2000). *Clean Coastal Waters: Understanding and Reducing the Effects of Nutrient Pollution*. United States of America: National Academy of Sciences.

Newcombe, C.P. and Jensen, J.O.T. (1996). Channel suspended sediment and fisheries: a synthesis for quantitative assessment of risk and impact. *North American Journal of Fisheries Managemen*t, *16*, 693-727.

Ricciardi, A. (2006). Patterns of invasion in the Laurentian Great Lakes in relation to changes in vector activity. *Diversity and Distributions*, *12*, 425-433.

Ruiz, G.M., & Reid, D.F. (Ed.). (2007). Current state of understanding about the effectiveness of ballast water exchange (BWE) in reducing aquatic Nonindigenous species (ANS) introductions to the Great Lakes Basin and Chesapeake Bay, USA: synthesis and analysis of existing information (NOAA Technical Memorandum GLERL-142). Ann Arbor, MI: NOAA.

Sekizawa, J., S. Dobson & R. Touch III. (2003). Diethyl Phthalate. World Health Organization, Concise International Chemical Assessment Document 52.

Singhasemanon, N., Pyatt, E., and Bacey, J. (2009). *Monitoring for Indicators of Antifouling Paint Pollution in California Marinas* (EH08-05). Sacramento, CA: California Environmental Protection Agency, Environmental Monitoring Branch, California Department of Pesticide Regulation.

Sytsma, M.D., Cordell, J.R, Chapman, J.W., and Draheim, R.C. (2004). *Lower Columbia River Aquatic Nonindigenous Species Survey 2001-2004: Final Technical Report*. Prepared for the U.S. Coast Guard and U.S. Fish and Wildlife Service. Retrieved from http://pdxscholar.library.pdx.edu/centerforlakes_pub/23/.

USCG. (2009). *U.S. Coast Guard Draft Programmatic Environmental Impact Statement for Standards for Living Organisms in Ship's Ballast Water Discharged in U.S. Waters (DOT Document Number USCG-2001-10486)*. Washington, D.C.: U.S. Coast Guard. Retrieved from www.regulations.gov (Docket ID: USCG-2001-10486-0139.1).

USEPA. (2003). *Biological Evaluation for the Issuance of Ambient Water Quality Criteria for Dissolved Oxygen, Water Clarity and Chlorophyll a for the Chesapeake Bay and Its Tidal Tributaries*. United States Environmental Protection Agency, Region III, Chesapeake Bay Program Office. Retrieved from http://www.chesapeakebay.net/content/publications/cbp_28935.pdf.

USEPA. (2004). Support Document for EPA's Action Reviewing New Or Revised Water Quality Standards for the State of Oregon. Washington, D.C.: U.S. Environmental Protection Agency. March 2, 2004.

USEPA. (2007). Framework for Metals Risk Assessment. Retrieved from http://www.epa.gov/osa/metalsframework/.

USEPA. (2010). *Report to Congress: Study of Discharges Incidental to Normal Operation of Commercial Fishing Vessels and Other Non Recreational Vessels less than 79 feet* (EPA-833-R-10-005). Washington, D.C.: U.S. Environmental Protection Agency.

USEPA. (2011). *Invasive Species*. Retrieved from http://water.epa.gov/type/oceb/habitat/invasive_species_index.cfm.

USEPA. (2012a). Water Quality Standards Handbook: Second Edition. Washington, D.C.: U.S. Environmental Protection Agency.

USEPA. (2012b). Biological Evaluation of the 2013 VGP and sVGP. EPA-830-R-12-001 Washington D.C.: U.S. Environmental Protection Agency.

USEPA. (2013a). *Economic and Benefits Analysis of the 2013 Small Vessel General Permit (sVGP)*. Washington, D.C.: U.S. Environmental Protection Agency.

USEPA. (2013b). 2013 Final Issuance of National Pollutant Discharge Elimination System (NPDES) Vessel General Permit (VGP) for Discharges Incidental to the Normal Operation of Vessels Fact Sheet. Washington, D.C. U.S. Environmental Protection Agency.

USGS. (1999). *The Quality of our Nation's Waters: Nutrients and Pesticides*. USGS Circular 1225. Retrieved from http://pubs.usgs.gov/circ/circ1225/.

Woods Hole Oceanographic Institute (WHOI). (2007). *Harmful Algae: What are Harmful Algal Blooms (HABS)*. Retrieved from http://www.whoi.edu/redtide/.

Wurts, W.A., & Durborrow, R.M. (1992). *Interactions of pH, Carbon Dioxide, Alkalinity and Hardness in Fish Ponds* (Southern Regional Aquaculture Center Publication No. 464).