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Water Docket
U.S. Environmental Protection Agency
Mail Code: 4101T
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Re.: Draft National Pollutant Discharge Elimination System Vessel General Permit (Docket ID No. EPA-HQ-OW-2011-0141)

Dear Sir or Madam:

The American Waterways Operators is the national trade association for the tugboat, towboat, and barge industry. AWO's 350 member companies include the owners and operators of barges and towing vessels operating on the U.S. inland and intracoastal waterways; the Atlantic, Pacific, and Gulf coasts; and the Great Lakes. Our industry's 5,000 towing vessels and 27,000 dry and liquid cargo barges comprise the largest segment of the U.S.-flag domestic fleet, both in number of vessels and on-board crew positions. Each year, the barge and towing industry safely and efficiently moves more than 800 million tons of cargo critical to the U.S. economy, including coal, grain, petroleum products, chemicals, steel, aggregates, and containers. Tugboats also provide essential services including shipdocking, tanker escort, and bunkering in our nation's ports and harbors. On behalf of AWO's members, thank you for the opportunity to comment on the draft National Pollutant Discharge Elimination System Vessel General Permit that would authorize discharges incidental to the normal operation of commercial vessels greater than or equal to 79 feet in length, beginning December 19, 2013.

The tugboat, towboat, and barge industry is not only an integral part of the U.S. intermodal transportation system, but also the safest and most fuel-efficient, with the smallest carbon footprint, of any surface transportation mode. Ensuring that the federal regulatory regime governing vessel discharges provides for a high level of environmental protection and preserves the economic efficiency of barge transportation is thus a national imperative. Put differently, regulations that do not adequately ensure the safe and environmentally responsible operation of all towing vessels and barges, that impose unnecessary costs on companies operating towing vessels and barges, or that result in the diversion of cargo to other modes of transportation are bad not only for the industry, but for the U.S. economy and marine environment.

AWO members are committed to building on the natural advantages of marine transportation and leading the development of higher standards of marine safety and environmental protection. In 1994, AWO became the first transportation trade association to adopt a code of safe practice and environmental stewardship for member companies. Today, compliance with the AWO Responsible Carrier Program is a condition of membership in AWO, and members undergo independent third-party audits every three years to demonstrate their continued compliance.

AWO is also a member of the Shipping Industry Vessel Discharges Coalition, a group of maritime trade associations that, together, represent more than 90 percent of all vessels calling at U.S. ports, in both the domestic and international trades. The Coalition is committed to working with legislators, regulators, and non-governmental organizations to develop and implement environmentally sound and economically practicable solutions to prevent the introduction and spread of aquatic invasive species in U.S. waters.

This history and these organizational characteristics inform our view of the proposed VGP. We seek to protect the marine environment in which our vessels operate, to provide a practical regulatory framework that allows for the continued safe and efficient movement of essential maritime commerce, and to ensure that infeasible or overly burdensome regulations do not result in the diversion of cargo to other transportation modes that pose increased risks to safety and the environment.

Pursue a Two-Track Approach While Affirmatively Managing the Section 401 State Certification Process

Before commenting on the content of the proposed VGP, we emphasize that AWO continues to believe that as a matter of public policy, the NPDES permit program, which was designed for stationary, land-based facilities, is an ill-fitting framework for the regulation of discharges from mobile sources like vessels, which regularly travel between the waters of multiple states. As we have seen, under the section 401 certification process states may add contradictory or unachievable conditions to the VGP, creating a confusing patchwork of impracticable rules for vessels in interstate commerce. Legislation passed by the House of Representatives in November 2011 would address this untenable situation by establishing nationally consistent, clear, and science-based standards for vessel discharges.[1] We respectfully urge EPA to work to generate Administration support for this and other congressional efforts to reform the regulation of vessel discharges that would effectively safeguard the marine environment while eliminating the operational and administrative difficulties that have been caused by the grafting of a permit program designed for fixed facilities onto vessels.

In the meantime, AWO recognizes that EPA must administer the VGP as effectively as possible within the confines of current law. We therefore urge EPA to affirmatively manage the section 401 state certification process to ensure that vessel operators are not faced with inconsistent and unnecessarily burdensome state requirements as they transit through the waters of multiple

[1] United States Congress. 2011. Coast Guard and Maritime Transportation Act of 2011, Title VII, Commercial Vessel Discharges Reform. U.S. Congress, H.R. 2838, passed in House on November 11, 2011.

states. AWO believes that EPA can help to prevent another unacceptable patchwork of infeasible state conditions by working with the states to make the section 401 certification process as transparent and accessible to the regulated community as possible. During the certification process accompanying the first VGP in 2008, it was extremely difficult, and in many cases impossible, for the regulated community to obtain timely information on proposed state requirements and provide needed expertise and perspective before the certifications and associated conditions were finalized. We urge EPA to facilitate stakeholders' engagement with the states by providing information about state notice and comment periods and any other opportunities for public participation in their certification processes, and publishing these announcements on the EPA Website. EPA should also play a leadership role in helping states that share a waterway or coastline to resolve any conflicts or inconsistencies among their proposed conditions before they certify the permit.

Exempt Towing Vessels from Numeric Discharge Limitations for Ballast Water

AWO urges EPA to exempt towing vessels from the numeric discharge limitations for ballast water described in Part 2.2.3.5 of the proposed VGP, alongside other enumerated classes of vessels such as barges and confined Lakers. Both unmanned, unpowered barges and Great Lakes bulk carrier vessels, or Lakers, were identified by the EPA Science Advisory Board in its 2011 report on the efficacy of ballast water treatment systems as "important examples of specific constraints [that] can greatly limit treatment options."[2] In its VGP Fact Sheet, EPA relies on the SAB's description of barges' and Lakers' "unique" limitations to make its determination that ballast water treatment systems are not currently available for these vessel types.[3] However, the SAB also acknowledged that "a multitude of vessel designs and operation scenarios exist" that can influence the performance of ballast water treatment systems. The SAB concludes:

> [T]here are several factors to consider beyond mechanical and biological efficacy. A variety of environmental (e.g., temperature and salinity), operational (e.g., ballasting flow rates and holding times), and vessel design (e.g., ballast volume and unmanned barges) parameters will impact the performance and applicability of individual [ballast water treatment systems].[4]

Ballast Water Treatment Systems for Towing Vessels Are Not Currently Available

Like barges and Lakers, tugboats and towboats have unique environmental, operational, and design constraints that make the installation of onboard ballast water treatment systems impractical.

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[2] United States Environmental Protection Agency Science Advisory Board (U.S. EPA SAB). 2011. *Efficacy of Ballast Water Treatment Systems.* Ecological Processes and Effects Committee Augmented for the Ballast Water Advisory, U.S. EPA SAB, Washington, DC. Part 4.8.

[3] United States Environmental Protection Agency (U.S. EPA). 2011b. *Proposed 2013 Vessel General Permit Fact Sheet.* Office of Water, U.S. EPA, Washington, DC. Parts 4.4.3.5.6.2 and 4.4.3.5.6.3.

[4] U.S. EPA SAB 2011, Part 4.8.

In particular, towing vessels have relatively small volumes of ballast water that amount to a fraction of the thousands of cubic meters of ballast water carried by large oceangoing ships. A typical inland towboat can carry 20,000 to 40,000 gallons, or 75 to 150 cubic meters, of ballast water. A typical coastal tugboat has a ballast water capacity of 20,000 to 70,000 gallons, or 75 to 265 cubic meters. Towing vessels also have very low ballasting rates compared to other classes of commercial vessels, usually ranging from 20 to 250 gallons per minute, or 5 to 55 cubic meters per hour. AWO and its members know of no currently available ballast water treatment system that has been designed for, tested, or installed onboard vessels with these characteristic volumes and flow rates. In a 2010 analysis of ballast water treatment technology, Lloyd's Register reported that most available treatment technologies "have been developed for a flow rate of about 250 m^3/hr" – more than four times the highest towing vessel ballasting rate.[5]

Other physical and operational attributes of towing vessels may also limit the suitability or effectiveness of various types of ballast water treatment systems. For example, well over half of the current towing vessel population operates exclusively in the freshwater environments of the inland waterways system. As noted by the SAB, "electrochlorination and ozonation may only work in freshwater with the addition of brine." These categories of treatment technologies "rely on the salinity of the feedwater" to work effectively, so "supplementary brine is necessary when the abstracted ballast water is fresh."[6] The inland rivers also have a higher turbidity, which diminishes the effectiveness of technologies using ultraviolet irradiation. UV "is well known to be effective against a wide range of microorganisms […] but relies on good UV transmission through the water and hence needs clear water" to work successfully, according to Lloyd's Register.[7] In addition, the duration of the average towing vessel voyage is similar to that of a typical Laker – "four to five days, with many less than two days."[8] However, "[d]eoxygenation takes a number of days to come into effect due to the length of time it takes the organisms to be asphyxiated."[9] The SAB wrote that "deoxygenation and chemical treatments that require holding times to effectively treat water (or for the breakdown of active substances) may not be completely effective on short voyages."[10]

The installation of currently available ballast water treatment systems on tugboats and towboats is also complicated by the very limited size of towing vessels. Many towing vessels are less than 125 feet long, with small engine rooms averaging between 900 and 1,300 square feet. In a towing vessel engine room, there is virtually no space that is not already dedicated to machinery

[5] Lloyd's Register. 2010. *Ballast Water Treatment Technology: Current Status.* Lloyd's Register, London. p.14.

[6] Ibid., p. 13.

[7] Lloyd's Register 2010, p. 9.

[8] U.S. EPA SAB 2011, Part 4.8.

[9] Lloyd's Register 2010, p. 10.

[10] U.S. EPA SAB 2011, Part 4.8.

or walkways. Keeping these areas clear and leaving enough room for engineers to maintain the existing equipment is critical to the safe operation of the vessel. The SAB acknowledged the similar constraints of Lakers, writing that "the space and power needed for the required numbers of filtration + UV treatments may simply not be available."[11] This is equally true of towing vessels, but not only for filtration + UV treatment technologies; size limitations will severely restrict the feasibility of retrofitting towing vessels to accommodate any currently available ballast water treatment systems. Lloyd's Register found that the mean footprint for currently available treatment systems with a "small" capacity of 200 cubic meters per hour was 7 square meters, or 75 square feet – one-fifth to one-tenth the size of an average towing vessel engine room.[12] The mean power needed to operate the technologies it surveyed was 68 kilowatts per 1000 cubic meters of ballast water, but Lloyd's Register noted a tendency "for larger units to be more efficient in terms of power requirements,"[13] and added, "[F]or large power consumers (electrolytic and advanced oxidation processes), availability of shipboard power will be a factor."[14] If a tugboat or towboat's existing power generation capacity is not adequate to operate these systems, there may be insufficient space to install additional generators. Additional or larger generators would also have negative impacts on engine performance and result in increased fuel consumption and carbon emissions.

Due to the challenges of installing currently available ballast water treatment systems on towing vessels, and the lack of appropriate currently available treatment technologies for installation on tugboats and towboats, AWO urges EPA not to subject towing vessels to the requirement to meet the ballast water discharge standards and related limits proposed in Part 2.2.3.5 during the term of this permit.

Alternative Ballast Water Management Measures Are Not Universally Feasible

It is important that EPA exempt towing vessels from all of the requirements of Part 2.2.3.5 because many towing vessels cannot meet these limits using any of the prescribed ballast water management measures, including those listed in Parts 2.2.3.5.1.2, 2.2.3.5.1.3, and 2.2.3.5.1.4 of the proposed VGP.

Part 2.2.3.5.1.2 would allow operators of "vessels whose design and construction safely allows for the transfer of ballast water to shore, if compatible onshore treatment is available," to use "onshore treatment for any ballast water discharges to meet the requirements of Part 2.2.3.5."[15] However, EPA writes in its VGP Fact Sheet that it "is unaware of any such onshore treatment facilities capable of meeting the VGP's 2.2.3.5 ballast water standards currently available in the

[11] Ibid.

[12] Lloyd's Register 2010, Table 4.

[13] Ibid., p. 14.

[14] Ibid., p. 16.

[15] United States Environmental Protection Agency (U.S. EPA). 2011a. *Proposed 2013 Vessel General Permit (VGP).* Office of Water, U.S. EPA, Washington, DC. Part 2.2.3.5.1.2.

U.S."[16] Likewise, the SAB reported that "[a]lthough reception facilities are allowed in policy and rules have identified advantages relative to [ballast water treatment systems], there are no reception facilities currently available in the U.S. to remove organisms from ballast water."[17] Further, the SAB wrote, "It typically takes up to 30 months to design, permit, and construct a sewage treatment plant larger than 10 [million gallons per day], and potentially much longer if sites are scarce, or if there are issues related to permit approvals."[18] While "[m]ost ballast water reception facilities needed in the U.S. would be smaller"[19] than 10 million gallons per day, AWO knows of no facility for onshore treatment currently under development. Given "the implications of land availability adjacent to port terminals, and time to acquire and permit newly designed treatment facilities and required support services,"[20] it is evident that no onshore ballast water treatment facility will be operational when this permit becomes effective on December 19, 2013 – let alone the many facilities that would be necessary for towing vessel owners and operators to consistently employ this ballast water management measure. As EPA notes in its VGP Fact Sheet, "if even one anticipated port location for a vessel does not have onshore treatment, that vessel may need to install a shipboard treatment system, defer the discharge of ballast water, or decline to call at that port."[21]

Regarding the practicability of onshore reception facilities, the SAB also observed that "[v]essels would need to be outfitted with appropriate pipes and pumps to move ballast water to the deck and off the ship at a fast enough rate so the vessel is not unduly delayed in port."[22] EPA calls the retrofitting of vessels with suitable equipment to avoid "significant and costly delays" a "critical challenge" to the implementation of onshore ballast water treatment.[23] Due to the operational and design characteristics previously described, the installation of necessary piping and pumps on tugboats and towboats would be especially difficult. For all of these reasons, AWO strongly believes that the onshore treatment of ballast water is not currently a viable alternative to shipboard treatment systems for towing vessels and cannot be used by this vessel class to satisfy the requirements of Part 2.2.3.5 of the draft permit.

Part 2.2.3.5.1.3 of the proposed VGP provides that "[v]essels may meet the requirements of Part 2.2.3.5 by using only water from a U.S. public water system or Canadian drinking water system […] as ballast water."[24] The use of a public water supply is indeed "a common practice for

[16] U.S. EPA 2011b, Part 4.4.3.5.2.

[17] U.S. EPA SAB 2011, Part 4.8.

[18] Ibid.

[19] Ibid.

[20] Ibid.

[21] U.S. EPA 2011b, Part 4.4.3.5.2.

[22] U.S. EPA SAB 2011, Part 6.4.

[23] U.S. EPA 2011b, Part 4.4.3.5.2.

[24] U.S. EPA 2011a, Part 2.2.3.5.1.3.

inland towing vessels," as EPA notes in its Fact Sheet.[25] However, it is not a universal practice, and it is in fact operationally and economically infeasible for some towing vessels, including those that routinely carry ballast water to maintain stability and trim as fuel is consumed during a voyage. These vessels must compensate for fuel burn as it occurs in order to accommodate changes to displacement and balance.

For example, a towboat pushing loaded barges northbound on the Mississippi River may need to take up 3,000 to 5,000 gallons of ballast water a day to offset spent fuel. It is not operationally practicable for the towboat to make the frequent stops that would be required to exclusively fill its ballast tanks from municipal water supplies. AWO members that utilize potable water for ballast report filling their tanks dockside with common hoses, which have estimated flow rates of 10 to 12 gallons per minute, or portable pumps, with flow rates of approximately 30 gallons per minute, connected to a public water system. Taking on only 1,000 gallons of ballast water requires anywhere from 30 minutes to an hour and a half. Such frequent stops would therefore compromise the efficient movement of the vessel and impede the timely delivery of cargo in its tow.

Moreover, the ability of a towboat to obtain public water supply water dockside would be dependent on the availability of docks at facilities with a public water supply along its route – and at precisely the right times, so as not to compromise the maneuverability of the vessel. Of course, a towboat does not usually travel independently, or "light boat"; it could be pushing as many as 40 barges, which it could not leave at anchorage or in a fleeting area to take on ballast water at a dock without further compounding costly delays.

Towboats can be refueled midstream by fuel flats, small barges used for transporting fuel. Fuel flats often carry potable water, which the towing vessels they service utilize for activities such as dishwashing, food preparation, laundry, and bathing. However, the average potable water capacity of a fuel flat is only 10,000 to 20,000 gallons. If that water were taken on by towing vessels at the volumes necessary to use as ballast water, the fuel flat's water supply would be depleted far faster than its fuel.

In addition, towing vessels engaged in international commerce that must take on ballast water in a foreign port are not permitted by the proposed permit to use public water supply from any other country, save Canada. If a towing vessel took on untreated ballast water, it could "not return to using [public water supply] water until the tanks and supply lines have been cleaned, including removal of all residual sediments," which would likely require drydocking the vessel.[26] AWO does not believe that these operational parameters support the use of public supply water as a practicable ballast water management measure for towing vessels to meet the requirements of Part 2.2.3.5 of the proposed VGP.

It is likewise infeasible for many towing vessels to stop discharging ballast water, as proposed in Part 2.2.3.5.1.4 of the draft permit, to meet the requirements of Part 2.2.3.5. EPA cites AWO's

[25] U.S. EPA 2011b, Part 4.4.3.5.3.

[26] U.S. EPA 2011a, Part 2.2.3.5.1.3.

2009 comments on the U.S. Coast Guard's ballast water management rulemaking in its Fact Sheet to support its correct assertion that "some tugboats use permanent ballast and never discharge that water."[27] For other tugboats and towboats, however, the ability to take on and discharge ballast water is necessary to their safe operation. The owners and operators of such vessels rely on the intake and discharge of ballast water to provide proper stability and trim, aid maneuvering, reduce vessel motions of roll and pitch, and perform cargo operations. They cannot redesign, reengineer, or retrofit these existing vessels so as not to require ballast. AWO therefore urges EPA to recognize the unique limitations of towing vessels by not requiring towing vessels to meet the numeric discharge limitations for ballast water or alternative management measures found in Part 2.2.3.5 of the proposed VGP during the term of the 2013 VGP.

Extend the BAT Schedule

If EPA chooses not to exempt towing vessels from the numeric discharge limits for ballast water, AWO urges the agency to extend the schedule for when ballast water treatment is determined to be Best Available Technology Economically Achievable (BAT). Contrary to the discussion in Section 4.4.3.5.5 of the Fact Sheet, domestic towing vessel operators who are not subject to International Maritime Organization requirements have not been "engaging in the multi-year planning necessary to implement the IMO standards on the IMO schedule" and are not "thus […] on track to have treatment technologies installed on that schedule."[28] Furthermore, the U.S. Coast Guard's final rule on ballast water discharge standards has not been published and, although it is an outgrowth of a 2009 proposed rule that would have applied to towing vessels, its ultimate content is uncertain given the significant questions raised by commenters on the proposed rule about the feasibility of installing ballast water treatment systems on such vessels. (Indeed, AWO is aware that the Coast Guard had sufficiently serious questions about the ability of towing vessels and barges to install ballast water treatment systems that the agency last year commissioned a study, in which several AWO members participated, to understand the design and operational limitations of these vessels.) AWO members cannot reasonably be expected to invest hundreds of thousands of dollars in the identification, procurement, and installation of untested and uncertified ballast water treatment technology that may not be required, either on existing vessels or vessels currently under construction. Therefore, if towing vessels are not exempted from numeric discharge limitations for ballast water, AWO requests that EPA extend the BAT schedule by five years for towing vessels in consideration of the lack of imminently enforceable standards for ballast water treatment, as well as the current unavailability of ballast water treatment systems, for this vessel class.

[27] U.S. EPA 2011b, Part 4.4.3.5.4.

[28] Ibid., Part 4.4.3.5.5.

Barges Are Appropriately Exempted From Numeric Discharge Limits

AWO appreciates EPA's recognition that "treatment technologies are not currently available for unmanned, unpowered barges which meet the IMO discharge limit."[29] AWO believes that the agency's decision not to propose numeric ballast water discharge standards for barges is based on an accurate understanding of the physical and operational characteristics of barges. As EPA notes, barges "do not have dedicated ballast water tanks," and, as the SAB acknowledged, "do not have their own source of power or ballast pumps and are unmanned."[30] In its Fact Sheet, EPA correctly asserts that "ballasting for barges is typically done in limited locations […] [or] to improve stability in stormy conditions or other rough water."[31] Although operations vary widely across the inland and coastal barge industries, AWO and its members can confirm that barges, as a vessel class, are not "a significant discharger of ballast water."[32]

Reject California's "No Living Organism" Standard

AWO strongly agrees with EPA that the California State Lands Commission's 2009 report cannot "be used to support the assertion that technologies are available to meet a limit 100 or 1000 times" the International Maritime Organization D-2 standard for ballast water discharges, equivalent to the standard proposed in Part 2.2.3.5 of the draft permit.[33] The SAB, which employed a much more rigorous methodology than CSLC in its report, found that "none of the systems evaluated by the Panel performed at 100 times or 1000 times the IMO standard," and further "concluded that it is not reasonable to assume that [ballast water treatment systems] are able to reliably meet or closely approach a 'no living organism' standard. Available data demonstrate that current [ballast water treatment systems] do not achieve sterilization or the complete removal of all living organisms."[34] As the National Research Council wrote in its 2011 report on the relationship between the concentration of living organisms in ballast water and invasion risk, the criterion on which CSLC based its conclusion that several systems "have the potential to meet their standards" – at least one test for which no living organisms of the largest class sizes were detected – is flawed because "the absence of live organisms in a sample or set of samples does not provide sufficient information to accurately assess densities, and there is always a non-zero probability that organisms are present below some threshold (defined by the specific sampling effort imposed)."[35] The SAB agreed, stating:

[29] U.S. EPA 2011a, Part 4.4.3.5.6.2.

[30] U.S. EPA SAB 2011, p. 40.

[31] U.S. EPA 2011b, Part 4.4.3.5.6.2.

[32] Ibid.

[33] Ibid, Part 4.4.3.5.1.

[34] U.S. EPA SAB 2011, p. 4.

[35] United States National Research Council of the National Academies (U.S. NRC). 2011. *Assessing the Relationship Between Propagule Pressure and Invasion Risk in Ballast Water.* Committee on Assessing Numeric Limits for Living Organisms in Ballast Water, U.S. NRC, Washington, DC. p. 118.

> [C]urrent methods (and associated detection limits) prevent testing of [ballast water treatment systems] to any standard more stringent than [IMO] D-2/[U.S. Coast Guard] Phase 1 and make it impracticable for verifying a standard 100 or 1,000 times more stringent. New or improved methods will be required to increase detection limits sufficiently to statistically evaluate a standard 10x more stringent than IMO D-2.[36]

AWO does not believe that EPA can reasonably adopt standards that the SAB has found to be unachievable, and which both the SAB and the NRC have concluded are unverifiable and, therefore, unenforceable. We strongly urge EPA to reject such "fantasy standards."

Change the Definition of "Short-Distance Voyage"

AWO also recommends that EPA amend its definition of "short-distance voyage" in Section 2.2.3.5.3.1 of the draft permit from vessels that "operate exclusively in one Captain of the Port Zone" to vessels that take up and discharge ballast water exclusively in one COTP Zone. Vessels that operate in more than one COTP Zone, for various operational reasons, may only take up and discharge ballast water in a single COTP Zone. This change to the proposed permit language will allow these vessels to utilize the exemption for short-distance voyages without compromising the environmental protections intended by the current exclusion. AWO would also be pleased to work with EPA to identify other criteria for defining short-distance voyages based on geographic boundaries or ecological criteria that present a low risk for the introduction and spread of aquatic invasive species.

Allow Unmanned, Unpowered Barges to Obtain Coverage under the sVGP

AWO recommends that EPA allow unmanned, non-self-propelled barges to obtain permit coverage under the Small Vessel General Permit, rather than the VGP, if the barge operator so chooses. While the vast majority of inland and coastal barges are longer than 79 feet, their discharge characteristics have far more in common with the small vessels that will be covered by the sVGP than with the other classes of vessels subject to the VGP. Indeed, most unmanned barges produce fewer effluent streams, and smaller volumes of effluent, than the small self-propelled vessels for which the sVGP was designed. For example, of the 27 discharge categories that would be covered by the proposed VGP, hopper barges – which are essentially floating steel boxes for carrying dry bulk cargoes – typically discharge only deck runoff, occasional water pumped from void spaces below deck, and, very occasionally, ballast water. Tank barges typically produce deck runoff and, in some cases, ballast water.

[36] U.S. EPA SAB, p. 3.

Volumes of deck runoff from barges are dependent on precipitation and surface water spray "landing on the deck in sufficient quantities to mobilize pollutants on the deck surface."[37] The size and design of a barge are also determinants; for instance, covered barges, including tank barges, will generate greater volumes of deck runoff than will open barges, such as dry cargo hopper barges. During light rainfall events of 0.25 inches, as much as 2,500 gallons of deck runoff may be generated from the surface of a tank barge, depending on its size and speed. "Operators of the vessel do not have control over the volume of discharge related to precipitation events or sea sprays,"[38] distinguishing deck runoff from deck washdown, which involves the intentional removal of dirt, grit, or other material from a deck surface, most often with the use of detergents or cleaners. In its report, EPA claims that "deck runoff incorporates pollutants that would have been included in an eventual washdown so the samples are comparable."[39] However, because barge operators do not wash down barge decks, and so do not use detergents and disinfectants, it is unlikely that deck runoff from barges will contain pollutants associated with these cleaning agents, such as nonylphenols, phosphorous, and chlorine.[40]

Under Parts 5.4 of both the current and proposed VGP, the vessel class-specific requirements for barges include a provision that "[a]fter every instance of pumping water from areas below decks," vessel owners and operators "must conduct a visual sheen test […] to detect free oil by observing the surface of the receiving water for the presence of an oily sheen." According to AWO members, unwanted water in barge voids is costly, due to the fuel demands of towing added weight. Barge operators practice preventative maintenance designed to minimize leaks and, when they do occur, address them as quickly as possible, so the volumes of these discharges are small. AWO members also report that in their experience few, if any, corrective actions or notification requirements have been initiated as the result of a visual sheen from such discharges. Finally, as previously discussed, in its VGP Fact Sheet EPA acknowledges that the agency "does not believe that barges are a significant discharger of ballast water."[41]

Given the small number of discharge streams and the small volume of effluent produced by barges, AWO sees no environmentally protective purpose served by subjecting barge operators to the more complex, administratively burdensome, and costly permit requirements contained in the VGP rather than the more streamlined approach proposed in the sVGP. The sVGP addresses each of the discharges described above with best management practices to reduce their impacts on the marine environment. In many cases, these practices simplify but largely restate the requirements of the VGP. If these best practices are considered adequate for the management of greater volumes of discharges, with greater potential for environmental harm, from other small

[37] United States Environmental Protection Agency (U.S. EPA). 2010. *Report to Congress: Study of Discharges Incidental to Normal Operation of Commercial Fishing Vessels and Other Non-Recreational Vessels Less than 79 Feet.* Office of Water, U.S. EPA, Washington, DC. p. 145.

[38] Ibid, p. 25-26.

[39] Ibid, p. 145.

[40] Ibid, p. xix.

[41] U.S. EPA 2011b, Part 4.4.3.5.6.2.

vessels, then there is no reason why barge operators should not be allowed to implement them to manage their discharges, too, by obtaining coverage under the sVGP.

There are other significant operational reasons why the sVGP is a better fit for unmanned, non-self-propelled barges. Particularly in the inland barge industry, a single company may own hundreds or even thousands of barges, which may be chartered to multiple operators (such as towers and fleeters) over relatively short spans of time. The VGP requirements for weekly visual inspections and extensive recordkeeping and reporting impose significant administrative and financial burdens on barge owners and custodians with little or no corresponding environmental benefit. AWO appreciates EPA's efforts to ameliorate these burdens in its proposed VGP by introducing limited visual inspections, extended unmanned period inspections, and combined annual reports for barges. However, the best management practices required under the sVGP are much simpler for barge owners to communicate to custodians, and the sVGP's quarterly visual inspection and documentation requirements are far easier for a barge's multiple operators to facilitate. EPA could further reduce the economic impact and paperwork burdens associated with the proposed permits, without undermining their environmental objectives, by allowing unmanned barges to obtain coverage under the sVGP rather than the VGP.

If Congress extends the moratorium on NPDES permits for incidental discharges from vessels less than 79 feet, or if EPA decides not to proceed with the sVGP for any other reason, AWO urges EPA to incorporate Parts 2 and 3 of the proposed sVGP – the best management practice, monitoring, and recordkeeping requirements – into the VGP as vessel class-specific requirements for barges and exempt barges from the general requirements for authorized discharges of VGP Parts 1 through 4.

Further Reduce Unnecessary Paperwork Burdens on Vessel Operators

AWO appreciates EPA's efforts to simplify the inspection, recordkeeping, and reporting requirements of the VGP, which for many vessel operators are the most costly and burdensome aspects of permit compliance. However, we believe that more can and must be done to reduce unnecessary burdens on vessel operators, without undermining the environmental objectives of the permit in any way.

Eliminate the Annual Report Requirement for Fully Compliant Vessels

AWO urges EPA to eliminate the proposed requirement for vessels that have had no instances of noncompliance and are not required to perform analytical monitoring to submit an annual report. AWO understands the agency's need to gather permit data, and supports the desire to both consolidate and provide templates for reporting. However, the proposed annual report requirement will significantly increase the reporting burden on compliant permittees, without any corresponding environmental or enforcement benefit to EPA. Furthermore, a vessel operator's answers to many of the questions on the annual report form are unlikely to change meaningfully from year to year, making the data collection redundant. AWO recommends that EPA continue to require a one-time permit report, which permittees may choose to combine with their annual

noncompliance report using the form provided, and that EPA create a separate annual noncompliance report form for use by vessel operators in reporting violations of the permit.

Improve Electronic Recordkeeping and Reporting

AWO thanks EPA for explicitly allowing electronic recordkeeping in the proposed VGP. As a practical matter, paper records are impracticable for vessel operators to maintain – in particular, the operators of unmanned barges, as barges frequently change custody over short spans, and tows can range in size from one to 40 barges or more. Transferring the written records of each barge from custodian to custodian as a barge is transferred from a tow to a fleet to another tow is simply infeasible. As vessel operators increasingly make use of electronic means of keeping records required by the U.S. Coast Guard or as part of their safety management system, we appreciate EPA's clear recognition that electronic recordkeeping is permissible to satisfy the requirements of the VGP as well.

However, there are several ways that EPA can improve its technical requirements for electronic recordkeeping to improve practicability and facilitate compliance. For instance, EPA writes that in order to ensure legal dependability, it expects an electronic recordkeeping system to "automatically identif[y] any person who creates, certifies, or modifies an electronic record using electronic signatures that meet the same signature, authentication, and identity-proofing standards set forth at 40 CFR § 3.2000(b) for electronic reports (including robust second-factor authentication)."[42] While 40 CFR § 3.2000(b) outlines the security requirements for electronic documentation systems, it does not prescribe specific methods of second-factor authentication that are consistent with these requirements, which creates ambiguity for vessel operators. AWO believes that onboard a vessel, a practical approach to second-factor authentication includes options such as requiring a username and password to create an electronic record and the use of a security question to which only the signer knows the answer to authenticate the signature (a copy of which would be kept on file by the vessel operator). In order to give vessel operators clarity, AWO urges EPA to affirm in the permit that such measures are sufficient to meet its legal dependability standards. Options such as tokens and smart cards are not practical in a vessel environment and should not be required by EPA.

The Fact Sheet also states that in order to meet its definition of accessibility, vessel operators must be able to, immediately, upon request, provide "electronic access, using hardware and software available on the vessel or tug, to required VGP records via electronic storage on the vessel or tug, or via direct access to an electronic system of records stored elsewhere, provided that the location of the original record is within the United States."[43] Because not all towing vessels, and no barges, have computers on board, AWO believes EPA should expressly allow vessel operators to satisfy this requirement by sending the required records via email to the EPA inspector, or his or her designee, on his or her laptop or mobile device as an email attachment in an easily readable format (e.g., Microsoft Excel spreadsheet, Adobe Acrobat PDF, etc.) or via a link to a Website where the inspector could access the requested records.

[42] U.S. EPA 2011b, Part 6.3.1.

[43] Ibid.

In addition, AWO strongly urges EPA to improve its electronic reporting systems before increasing the amount of electronic reporting required. AWO member companies have experienced significant delays and technical problems, and incurred substantial costs, associated with the implementation of both the eNOI system and the electronic system for filing the required one-time report. These difficulties have not only failed to make electronic reporting more convenient than paper reporting, but have in some cases endangered members' compliance with the permit. We urge EPA not to expand requirements for electronic reporting until the agency has corrected these deficiencies and can ensure that electronic reporting systems decrease, rather than increase, burdens on permittees.

Allow the PARI Form to Be Maintained Electronically

AWO recommends that EPA allow the operators of vessels that need not submit Notices of Intent to maintain the Permit Authorization and Record of Inspection Form electronically if they choose, as long as it is in kept in compliance with Part 4.2.1 of the proposed VGP – that is, in a format that can be read in a similar manner as a paper record, legally dependable with no less evidentiary value than its paper equivalent, and accessible to the inspector during an inspection to the same extent as a paper copy stored on the vessel would be.

Clarify Recordkeeping and Reporting Requirements and Forms

In order to eliminate confusion on the part of vessel owners and operators, AWO urges EPA to clarify all recordkeeping and reporting requirements by explicitly stating that only information applicable to a given vessel is required to be maintained or reported (i.e., barges need not record their call signs under 1.h of Part 4.2 of the proposed permit, nor must non-passenger vessels report compliance with passenger training requirements, as in the current one-time report form). In addition, electronic forms with multiple-choice fields that must be completed in order to successfully submit the form must have a "Not Applicable" option when necessary.

Other Comments and Concerns

Other Ballast Water Requirements (Section 2.2.3)

AWO recommends that EPA revise its requirement for ballast water management training under Part 2.2.3.1 of the proposed VGP to more closely reflect the general training requirement in Part 2.1.6. The changes should clarify that the master, operator, person-in-charge, and crew members who actively take part in the management of the discharge or who may affect the discharge need only to be trained on the implementation of ballast water and sediment management and treatment procedures required by the terms of this permit and applicable to the vessel on which they work. The amendment should also clarify that this training need not be formal or accredited courses, but that it is the vessel operator's responsibility to ensure that trainees are given the necessary information to conduct ballast water and sediment management and treatment procedures in accordance with the permit terms.

In response to EPA's request for comment on whether ballast water management plans should be made available to the public, discussed in Part 4.4.3.2 of the Fact Sheet, AWO would strongly object to such a requirement. AWO members' ballast water management plans are often a component of their vessel management plan or safety management system, and as such, contain proprietary information. No public benefit could be derived from the publication of hundreds of thousands of ballast water management plans that would outweigh the costs to vessel operators of redacting and reporting each plan individually, to say nothing of the costs to the federal government to maintain and make available plan records.

Graywater Requirements (Section 2.2.15)

AWO believes that the proposed graywater monitoring requirements at section 2.2.15.2 should be amended to apply to vessels that provide overnight accommodation to at least 14 crew members, as opposed to a maximum of 10 crew members. Many large towing vessels have the capability to accommodate 10 or more crew members overnight, but only rarely, if ever, do so. For these vessels, the amount of graywater effluent regularly produced is very small relative to larger commercial vessels, but the costs imposed by the proposed requirement to conduct and analyze biannual sampling, as well as the attendant recordkeeping and reporting rules, would be highly burdensome.

Although graywater is generated at varying rates, a 2000 report analyzing graywater discharges prepared for the International Council of Cruise Lines estimated that approximately 0.20 cubic meters of graywater is generated per person per day. Using this estimation, a towing vessel with a crew of up to 10 would generate a maximum of only 2 cubic meters of graywater a day.[44] The report found that a typical cruise ship traveling at a conservative four knots (4.5 miles per hour) and discharging 600 cubic meters of graywater over a four-hour period would experience a dilution factor of 2.25×10^{-5}, reducing the concentration of constituent pollutants by many orders of magnitude. While the dilution zone for towing vessels may not be as large as that used in the calculations for an oceangoing cruise ship, towing vessels average speeds of 4 to 10 knots and, with graywater discharge volumes 300 times less than the typical cruise ship, it is logical to assume that the amount of constituent pollutants discharged in graywater by towing vessels is far less, and that their concentrations are also significantly diluted.

AWO does not believe that there is any environmental benefit in requiring overburdened towing vessel crews, which are already performing best management practices to reduce the environmental impacts of graywater, to monitor and sample such small volumes of graywater discharge. Raising the trigger for graywater monitoring to 14 or more crew members would help ensure that the vessels subject to the requirement have sufficient resources to conduct routine sampling and can provide EPA with consistent, reliable data.

[44] Kim, Don K., P.E. 2000. *Report on the Analysis of Graywater Discharge.* M. Rosenblatt & Son, Arlington, VA.

Oil-to-Sea Interface Requirements (Part 2.2.9)

AWO encourages EPA to revise its proposals to require vessels constructed on or after the effective date of the 2013 VGP to use an environmentally acceptable lubricant in all oil-to-sea interfaces, and to require existing vessels to use such lubricants "unless technically infeasible."[45] AWO members have raised serious concerns about the safety of these requirements. Tow wires, which are used by tugboats to tow barges and other vessels, are very large, heavy cables greater than two inches in diameter that are controlled by a winch fitted with one or more drums measuring several feet in diameter. Especially in the extremely dynamic and corrosive saltwater environment, towing vessel operators must lubricate their tow wires with products that provide the highest adherent properties and protections against deterioration possible, as their failure can be catastrophic. Members that have explored the use of biodegradable or nontoxic lubricants report they do not stand up to the hydraulic action of seawater and have poor adherent qualities, allowing saltwater to stream between the strands of the tow wire into the steel core of the rope, where it is carried onto the drum layers to form corrosion cells. Our coastal members believe that using currently available environmentally acceptable lubricants would significantly diminish the strength retention, and consequently the safety and service life, of their tow wires. In its Fact Sheet, AWO recommends that EPA eliminate this requirement altogether, or revise Part 2.2.9 of the proposed permit to allow both newly constructed and existing vessels to decline to use environmentally acceptable lubricants due to technical infeasibility. EPA's Fact Sheet currently notes "the use of [environmentally acceptable lubricants would not be feasible if those lubricants significantly degrade the performance of the propulsion or navigation systems;"[46] therefore, if EPA pursues the latter course, its definition of technical infeasibility should be expanded to cases where the use of such lubricants would compromise the safe operation of the equipment.

Other Administrative Changes

- AWO recommends that EPA delete its proposed changes to the Permit Reopener Clause, Part 1.9.1, relating to new information with respect to ballast water discharges. We do not believe that the revised language is necessary to give EPA the authority to modify the permit in accordance with existing regulations. Furthermore, AWO requests that EPA add a provision to Part 1.9.1 providing that, if the VGP is reopened and modified, vessel operators will not be required to replace ballast water treatment systems or other equipment that was installed to comply with VGP requirements in effect at the time of their installation until the end of their useful life.

- AWO urges EPA to restore the permit term to five years. Although the Clean Water Act contemplates NPDES permits of less than five years' duration, five years is the standard length of the majority of NPDES permits. Under existing regulations, EPA has the authority to reopen and modify the permit before its expiration. There is no justification (other than a possible political motivation) to abbreviate the term of the next VGP. It

[45] U.S. EPA 2011a, Part 2.2.9.

[46] U.S. EPA 2011b, Part 4.4.9.

takes significant time for vessel owners, operators, and crew members to be educated and trained on the requirements of a new permit. It is unfair to these members of the regulated community for EPA to agree to shorten the permit term for reasons that do not serve the interests of the permittees or the permitting agency. A five-year permit term will promote clarity and consistency among permit holders and allow EPA personnel to focus on improving the administration and enforcement of the permit.

- AWO urges EPA to revise its definition of "major conversion" in Appendix A to clarify that the definition is meant to capture changes that are so substantial as to render a vessel "substantially a new vessel," and not routine events such as engine repowering, hull replating, etc., which may have the effect of substantially prolonging the life of the vessel. We believe this clarification is essential so as to avoid overly restrictive interpretations that have the negative effect of discouraging proper vessel maintenance or environmentally beneficial equipment upgrades.

- AWO requests that EPA add to Appendix A a definition of "unmanned, unpowered barges" to clarify that the term refers to a barge that does not have accommodations for crew and is not self-propelled.

- AWO urges EPA to make explicit in the permit that the requirements pertaining to drydockings – in particular, those in Part 2.2.3, Part 2.2.4, and Part 4 – refer to scheduled drydockings, and that unscheduled drydockings for the performance of repairs do not automatically trigger these requirements. As EPA writes in Part 4.4.3.5 of its Fact Sheet, "vessels drydock on a three to five year cycle and vessels typically arrange for drydocking many months to years in advance." However, there are frequently instances in which unscheduled maintenance must be performed on drydock. For example, it is not unusual for inland towing vessels to be drydocked as often as once a year to investigate emergent operational conditions and address mechanical or performance problems, such as a fouled propeller caused by drift or debris. Under these circumstances, vessel operators may not have the time or the resources to install ballast water treatment equipment, apply hull coatings, or undergo a drydock inspection. EPA should clarify that unscheduled or emergency drydockings do not activate the drydocking-related requirements of the VGP, so long as the vessel undergoes its scheduled drydocking according to its regular cycle.

Conclusion

Thank you again for the opportunity to comment on the draft VGP. We would be pleased to answer any questions or provide further information as EPA sees fit. We would also welcome the opportunity to identify AWO member companies willing to host EPA personnel aboard their vessels to gain a better understanding of tugboat, towboat, and barge operations and facilitate the development of an environmentally sound and operationally practicable VGP.

Sincerely,

Jennifer A. Carpenter