



24 November 2020

U.S. Environmental Protection Agency
Oceans and Coastal Management Branch (4504T)
1200 Pennsylvania Avenue NW
Washington, DC 20460

RE: Comments on the US EPA's Proposed Rule - Vessel Incidental Discharge National Standards of Performance, Docket No. EPA-HQ-OW-2019-0482

Submitted VIA: www.regulations.gov

Dear Oceans and Coastal Management Branch,

The Ballastwater Equipment Manufacturers' Association (BEMA) respectfully submits the enclosed comments regarding the U.S. Environmental Protection Agency's (EPA) proposed rule, Vessel Incidental Discharge National Standards of Performance.

The significant efforts made by the EPA to draft the proposed rule are appreciated by BEMA. The EPA's consideration of the technical information submitted by BEMA during the proposed rule drafting phase, as listed under EPA-HQ-OW-2019-0482-0577, is highly appreciated. Key to our mission, BEMA strives to be a resource for all stakeholders in the ballast water sector and appreciates the opportunity to participate in the regulatory process. As the only international ballast water industry association whose Members represent approximately 90% of the installed ballast water management systems (BWMS) worldwide, BEMA and its Members have the relevant expertise to provide supporting information.

Enclosed is a table containing BEMA's detailed comments on the proposed rule for consideration.

Should you have any questions or need clarification on the submitted comments, or should the EPA require additional technical input from BEMA, please feel free to contact me using the information below. Thank you for your consideration.

Sincerely,
Dr. Efi Tsolaki
President, BEMA
president@bwema.org
+ 30 6973212037

Proposed Rule Bookmark / Link	Clause/ Subclause (e.g. 3.1)	Paragraph	Comments	Request / Proposed change	References
https://www.federalregister.gov/d/2020-22385/p-224 https://www.federalregister.gov/d/2020-22385/p-232	VIII.B.1.iv.H	p-224 and p-232	<p>The Best Management Practices (BMPs) that are currently included in the VGP and USCG regulations for ballast water uptake should remain as part of the proposed regulations (i.e., minimize / avoid uptake in areas with known infestations, near sewage outfalls and dredging operations, areas of poor tidal flushing, etc.). While BEMA understands the justifications presented in the proposed rule for removal of these BMPs, BEMA views these BMPs as important mitigation factors to prevent / minimize scenarios where water quality conditions can overburden a Type Approved BWMS. When a BWMS is overburdened, it may result in underperformance, creating potential risks to vessel compliance and the receiving environment. Further, industry has become accustomed to implementing the BMPs, at least to some degree, and retention of BMPs should not be a burden, but can serve as effective management measures.</p> <p>The proposed rule relies on the VIDA provisions that allow emergency orders to be issued; however, even if 'emergency', the process for issuance of such order requires concurrence between the Administrator and Secretary, as well as consultation with States. The time required for this process may well exceed the timeframe that the water quality or invasive species risk that such BMPs would be used to mitigate may be present.</p>	<p>BEMA suggests that existing language for ballast water BMPs should be retained in, and disseminated through, the regulations as they can help achieve the best ballast water management outcomes and increase protection of the environment. The BMPs are generally good practices that should be included in the proposed rule.</p> <p>Within the proposed rule, the EPA could incorporate BMPs as guidance for vessels to implement "if practical", rather than as mandatory requirements.</p>	
https://www.federalregister.gov/d/2020-22385/p-240	VIII.B.1.vp. 67835	p-240	<p>The USCG, in coordination with the EPA, is required by the VIDA to issue a final policy letter on type-approval testing protocols that are available for use to quantify nonviable organisms in ballast water (33 U.S.C. 1322(p)(6)(D)(ii)). The letter has yet to be issued nearly one year after the statutory deadline, despite the availability of fully documented VIDA-compliant protocols posted in the Federal Register (USCG-2019-0477-0003 to USCG-2019-0477-0040) in response to the Coast Guard's draft policy letter (USCG-2019-0477-0002). The comment submitted by DNV GL (USCG-2019-0477-0005) is exemplary; it includes a complete protocol for Most Probable Number + motility, supported by a comprehensive scientific documentation package.</p> <p>Lacking the identification of suitable protocols, the proposed rule (VIII)(B)(1)(v)) defers to the 2010 EPA Generic Protocol for the Verification of Ballast Water Treatment Technology for testing compliance with the proposed discharge standard. This protocol relies on a staining method for measuring the concentration of organisms, which does not comply with the instructions of the VIDA that specifically state a staining method shall not be taken into consideration for developing a policy letter 33 U.S.C. 1322(p)(6)(D)(v)(II).</p> <p>The proposed rule indicates that, "Should the USCG identify one or more testing protocols that enumerate nonviable organisms, such methods would be acceptable for demonstrating compliance with the proposed numeric ballast water discharge standard" (VIII)(B)(1)(v)). For clarity, it should be stated that in order to comply with the VIDA, the identification of methods must comply with statutory instructions in 33 U.S.C. 1322(p)(6)(D)(iv).</p> <p>In proposed rule section VIII(B)(1)(v)(A)(1), <i>Types of Ballast Water Management Systems Determined To Represent BAT</i> [best available technology that is economically achievable], the EPA recognizes that disinfection is the effect of a chemical or physical action that "...kills organisms or renders them no longer able to reproduce." Further, the section states, "Disinfection using UV radiation is currently the most common disinfection technology used in BWMS..." The EPA's acknowledgement of UV disinfection as BAT, and UV as the most common disinfection technology used in BWMS, highlights the negative industry impacts caused by the lack of a final policy letter published by the USCG, in coordination with the EPA, per the VIDA requirements. Lack of accepted type-approval testing protocols that quantify nonviable organisms has substantial commercial impacts on UV-based BWMS manufacturers wishing to obtain USCG type approval. Additionally, the shipping industry experiences significant commercial impacts in the form of higher operational costs to operate BWMS at increased power levels to apply a UV dose intended to kill organisms (vs. render nonviable).</p>	<p>1) The EPA is encouraged to coordinate with the USCG to identify VIDA-compliant protocols for testing compliance with the proposed discharge standard, based on instructions in the VIDA that the USCG publish a final policy letter.</p> <p>2) If the USCG's final policy letter is not available, the EPA's regulations should stipulate that any method(s) identified by the USCG must be compliant with instructions in the VIDA (33 U.S.C. 1322(p)(6)(D)(ii) and 33 U.S.C. 1322(p)(6)(D)(iv)).</p>	<p>Comment Submitted by Steven Sawhill, U.S. Government & Public Affairs DNV GL, USA Inc. Regulations.gov. Docket Comment ID: USCG-2019-0477-0005. https://beta.regulations.gov/comment/USCG-2019-0477-0005</p> <p>Cullen, J.J., 2019. The best available science describing type-approval testing methods and protocols for ballast water management systems that render nonviable organisms in ballast water. http://doi.org/10.5281/zenodo.2656597 (This document was included as Attachment C of the above DNV GL submission to Docket ID: USCG-2019-0477-0005, but is missing in the documents available at the Docket)</p> <p>International Maritime Organization (IMO), 2019. Sub-Committee on Pollution Prevention and Response, 7th Session. Revised guidance on methodologies that may be used for enumerating viable organisms; Description of the MPN serial dilution culture method + Motility method (submitted by Norway). PPR 7/INF.10. International Maritime Organization, London, United Kingdom.</p>
https://www.federalregister.gov/d/2020-22385/p-240	VIII.B.1.v	p-240	<p>For consistency with the VIDA, the discussion presented should reference testing protocols and/or methods "...to measure the concentration of organisms in ballast water that are capable of reproduction" (reference the VIDA: 33 U.S.C. 1322(p)(6)(D)(ii)(II)(aa)).</p>	<p>In Section VIII(B)(1)(v). Numeric Ballast Water Discharge Standard, replace "nonviable" with "organisms capable of reproduction" in the following two sentences of that section:</p> <p>"However, it is important to recognize that as of the time of the proposed rule, the USCG has not identified any testing protocols, based on best available science, that are available for use to quantify nonviable organisms capable of reproduction in ballast water."</p> <p>and</p> <p>"Should the USCG identify one or more testing protocols that enumerate nonviable organisms capable of reproduction, such methods would be acceptable for demonstrating compliance with the proposed numeric ballast water discharge standard (U.S. EPA, 2010)."</p>	
https://www.federalregister.gov/d/2020-22385/p-245	VIII.B.1.v	p-245	<p>With respect to setting the standard for living organism concentrations, BEMA encourages the EPA, in coordination with the USCG, to develop clear guidance on how compliance testing and monitoring should be carried out, taking into consideration the procedures and sample size representativeness of the living organisms to be analyzed. Having clear guidance will avoid industry confusion, inconsistency in implementation and incorrect procedures being used.</p>	<p>Comment only.</p>	
https://www.federalregister.gov/d/2020-22385/p-247	VIII.B.1.v.A.1	p-247	<p>The discussion in Section VIII.B.1.v.A.1 of the Supplementary Information included in the proposed rule, states, "The treatment technologies used for ballast water management representing BAT typically have two or more of three processes". While many BWMS do include three processes, there are USCG Type Approved systems that have fewer. This statement can cause confusion by giving readers the impression that BWMS <i>must</i> incorporate three processes.</p>	<p>Consider revising this statement: "The treatment technologies used for ballast water management representing BAT may incorporate more than one process and in various combinations: physical separation, disinfection, and neutralization."</p>	
https://www.federalregister.gov/d/2020-22385/p-249	VIII.B.1.v.A.1	p-249	<p>In Section VIII.B.1.v.A.1 of the Supplementary Information provided with the proposed rule, the EPA mentions that there are two design options for BWMS electrochlorination systems. A third design option, internal circulation, is also available such as that used by in tank treatment technologies that have obtained USCG Type Approval.</p> <p>Current language: "Two design options for electrochlorination systems are used in BWMS: In-line and side-stream treatment."</p>	<p>BEMA kindly requests the EPA acknowledge this information, and consider a revision to the Supplementary Information Section VIII.B.1.v.A.1 of the proposed rule as follows:</p> <p>"Three design options for electrochlorination systems are used in BWMS: In-line, side-stream treatment and internal circulation types."</p>	
https://www.federalregister.gov/d/2020-22385/p-257	VIII.B.1.v.A.1 and §	p-257	<p>In the proposed rule, the discharge standards for <i>Escherichia coli</i> and intestinal enterococci are provided only in colony forming units (cfu). The limits should also include most probable number (MPN) units. The 2013 EPA Vessel General Permit allows the use of newer microbiological methods (e.g., Colilert and Enterolert) for these parameters, and the results of these tests are reported as MPN. These rapid, efficient tests, and their reported MPN results should be allowable during the implementation phase of the VIDA. Currently, the VGP only includes discharge limits for <i>Escherichia coli</i> and intestinal enterococci expressed as 'cfu'. This results in confusion when the results of MPN tests are reported, since there are no MPN values stipulated in the VGP for these parameters.</p>	<p>For ballast water biological monitoring of bacteria, the proposed rule should allow for reporting of results in most probable number (MPN). Add units of "MPN/mL".</p>	

https://www.federalregister.gov/d/2020-22385/p-289	VIII.B.1.v.A.2.iv	p-289	Section VIII.B.1.v.A.2.iv Proposed Standard Provides a High Level of Pollutant Reduction. BEMA would like to acknowledge and concur with the statements and reasoning provided by EPA within this section of the proposed rule.	Comment only.	
https://www.federalregister.gov/d/2020-22385/p-295	various	p-295	The EPA's consideration of the BWMS Type Approval testing data compiled and submitted by BEMA is appreciated (https://beta.regulations.gov/document/EPA-HQ-OW-2019-0482-0577). BEMA fully supports and agrees with the biological discharge standards presented in the proposed rule.	Comment only.	
https://www.federalregister.gov/d/2020-22385/p-300	VIII.B.1.v.A.3.ii, Table 1	p-300	In Section VIII.B.1.v.A.3.ii, Table 1, BEMA would like to acknowledge the presentation of the numeric effectiveness of currently Type Approved BWMS and the relative insignificance stricter discharge standards would provide when the existing numeric standard already represents such high removal efficiency in organism counts.	Comment only.	
https://www.federalregister.gov/d/2020-22385/p-300	VIII.B.1.v.A.3.ii, Table 1	p-300	In Table 1, the concentration of organisms in both size classes are reported per m3; also, the smaller size class is not accurately described.	Please change to "(/m3 or /mL1)" and "≥10 µm and <50 µm"	
https://www.federalregister.gov/d/2020-22385/p-310	§ 139.2	p-310	<p>The discussion in Section VIII.B.1.v.B and the definition of "reception facility" in EPA's proposed rule (§ 139.2) includes shore-based reception facilities or another vessel used for the purpose of storing or treating ballast water (i.e., fixed, floating or mobile facility). BEMA appreciates the modification of the definition of "reception facility" from MEPC.1/Circ.834/Rev.1; however, that definition is specific to MARPOL wastes/residues transferred from ships, which are different than treated ballast water from a floating or mobile treatment technology that meets the discharge standard. Overall, BEMA understands the information regarding reception facilities and the associated practical challenges presented by the EPA. BEMA recognizes that barge and mobile / trailer-mounted (i.e., floating or mobile) treatment technologies may face certain challenges with respect to how they are practically employed and how they fit into the current regulatory framework; however, they are distinctly different from shore-based reception facilities that receive wastes/residues (presumably co-mingled with discharges from more than one source and intended for subsequent shore-based treatment prior to discharge to the environment). Conversely, floating and mobile facilities are treatment technologies specifically developed to receive / treat ballast water from a single vessel and return treated water that meets the discharge standard to that vessel. These technologies are actively being used safely and effectively for ballast water management internationally, and they should be given full consideration in the US.</p> <p>Including floating or mobile facilities in the 'reception facility' definition removes the ability of a sea-going barge or similar niche operation to comply with the proposed rules by using a barge or trailer-mounted BWMS. Barge or mobile / trailer-mounted BWMS can be either company owned or offered by a service provider (as currently practiced by some operators in European ports). In the proposed rule, the EPA acknowledges and accommodates the difficulties faced by inland barges with an industry wide exemption, while leaving unmanned / unpowered seagoing barges in a very difficult position if they are to economically and practically comply with the ballast water discharge standard. No consideration is given to these vessels or operations in the EPA's Regulatory Impact Analysis. These vessels could be serviced by floating or mobile treatment technologies, if allowed by the regulations. Today, and going forward unless the proposed regulations include appropriate provisions, a barge or trailer mounted BWMS can be employed IF the BWMS is picked up from the barge or trailer by a crane and mounted on the vessel. This means of compliance could be made more practical and economical to implement by removing the need to mount the BWMS to the vessel.</p> <p>Floating and mobile options are legitimate treatment technologies that have been developed in response to the regulatory requirements for ballast water treatment and they have proven effective. Further, they offer an economically feasible ballast water management option for certain vessels to employ. By including floating and mobile treatment technologies in the definition of "reception facility", it precludes this industry sector from being a practical and economically feasible solution for ballast water management within the US. The manufacturing industry has developed innovative technologies that can fulfill a need within the shipping industry - if the regulations allow their use. BEMA strongly encourages the EPA, and subsequently the USCG in its forthcoming proposed regulations for the VIDA, to consider how the regulatory framework can allow for more practical use of these technologies within the US.</p>	<p>Request the EPA to include an allowance for: A barge or trailer mounted treatment technology with USCG Type Approved BWMS may be used to treat and return ballast to a vessel, if: - The specific treatment unit(s) is recognised in the vessel's BWMP; - The treatment unit stays in direct hydraulic contact with the target vessels' ballast system, using pipes and/or hoses throughout completion of ballast water treatment; - All ballast must flow from the "target" vessel directly to the floating or mobile BWMS and return directly to the "target" vessel for use as ballast or discharge.</p> <p>If deemed necessary, the length of connecting hose and/or pipes could be specified in the proposed rule (e.g., limited to 600ft each for inlet and outlet).</p> <p>Separate definitions could be developed for "shore-based reception facility" and "floating and/or mobile ballast water reception facility".</p>	
https://www.federalregister.gov/d/2020-22385/p-883	§ 139.10	p-883	Exclusions 1-5 and Exemptions i-vii are provided in § 139.10(b) and § 139.10(d)(3) of the proposed rule, respectively. The preamble provides significant volumes of practical detail and explanation why vessels with specific operating profiles eg.high ballast flow high energy use, and low ANS risk profiles, command exclusions and exemptions. These factors, and more, apply to semi submersible vessels completing their very rapid, often by gravity directly to the tank, in-place ballast tank flood and discharge ballasting operations, which no ballast water management systems have been currently been developed to handle. The proposed rule specifically does not consider the cost of such systems or the impact of ceasing these semi-submersible operations, and the Regulatory Impact Analysis does not consider the impact of essentially outlawing this type of operation. The proposed rule does not harmonize with the IMO's Exception A.3-5 which is intended for these and other similar operational situations. As described by the Netherlands and Singapore MEPC 61, 63 and 64, an internal circulation BWMS can satisfy this IMO Exception, fully managing tanks before an in-place flood and discharge ballasting operation. Internal circulation BWMS are available and can provide these vessels economically viable, practical, safe, compliance.	Add an Exclusion/Exemption to harmonize with the existing IMO Ballast Water Management Conventions's Regulation A-3.5 Exception " the discharge of ballast water and sediments from a ship at the same location where the whole of that ballast water and those sediments originated and provided that no mixing with unmanaged ballast water and sediments from other areas has occurred. If mixing has occurred, the ballast water taken from other areas is subject to ballast water management in accordance with the Annex "MM	

<p>https://www.federalregister.gov/d/2020-22385/p-936</p> <p>https://www.federalregister.gov/d/2020-22385/p-947</p>	<p>§ 139.10(f)</p> <p>§ 139.10(g)</p>	<p>p-936 and p-947</p>	<p>The practicalities of conducting ballast water exchange when a vessel has a type approved BWMS installed requires careful consideration and clear regulatory guidance for industry to follow. For instance, the proposed rule is not clear if vessels are expected to perform ballast exchange plus ballast treatment with the BWMS in all cases. Further, the regulatory text is not clear of this means treatment with the BWMS at the uptake port, followed by mid-ocean exchange, subsequently followed by treatment of the exchanged water with the BWMS. The following aspects related to performing ballast water exchange require consideration: biological efficacy, regulatory compliance, BWMS operation and technology type, crew safety and environmental acceptability, vessel design and safe operations, and cost implications to industry.</p> <p>If the expectation is that the BWMS would be used to treat exchanged water, how (and if) exchange can be conducted depends partly on the BWMS technology installed. As one example, consider an active substance system that treats on both ballast uptake (active substance dosing) and on ballast discharge (neutralization). Many active substance systems have prescribed holding times required to achieve biological efficacy and/or environmental acceptability of treated discharge. Inability to achieve the holding time before or after ballast exchange, could result in regulatory non-compliance (i.e., not meeting the discharge standard, exceeding biocide parameter discharge limits, a need to not operate the BWMS in accordance with the manual, etc.) or the need to delay a voyage to meet a holding time.</p> <p>There is also uncertainty if introducing untreated ambient water into a vessel that is required to comply with the discharge standards is allowed under the US or IMO regulations. Per the current USCG regulations, 33 CFR 151.2025(a)(3), exchange appears to be "...allowed unless the vessel is required to employ an approved BWMS..." The forthcoming USCG proposed rules for the VIDA would have to address this aspect to ensure a vessel that is required to conduct exchange is not placed into a position of non-compliance. Vessels that must also comply with the IMO regulations would have additional considerations with respect to introducing ambient water into ballast tanks to ensure compliance with their International Ballast Water Management Certificate.</p> <p>It is also noteworthy that ballast exchange plus treatment would increase crew member workload, as well as fuel consumption, and thereby increase operational cost for vessel owners and increased exhaust emissions from vessels.</p> <p>BEMA also notes the submission by the Institute of Marine Science, Engineering and Technology (IMarEST) to the IMO in paper MEPC.74/INF.22, which presents technical information regarding the practical implementation of exchange plus treatment. The EPA is also encouraged to consider the technical information presented in that paper.</p>	<p>The EPA's proposed regulation should clearly define and specify any ballast water exchange requirements to avoid industry confusion on how to implement, and also avoid scenarios where a vessel is non-compliant with other regulatory requirements (both under the VIDA and IMO) for vessels that operate internationally.</p>	<p>International Maritime Organization (IMO), 2019. Marine Environment Protection Committee, 74th Session. Harmful aquatic organisms in ballast water; Practicality and safety of ballast water exchange plus treatment (BWE+BWT) (submitted by IMarEST). MEPC 74/INF.22. International Maritime Organization, London, United Kingdom.</p>
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