



## LAKE CARRIERS' ASSOCIATION



December 18, 2023

Mr. Jack Faulk  
Oceans, Wetlands, and Communities Division  
Office of Water (4504T)  
U.S. Environmental Protection Agency  
1200 Pennsylvania Avenue NW  
Washington, DC 20460

**Subject:** Supplemental notice of proposed rulemaking for Vessel Incidental Discharge  
National Standards of Performance, Docket ID No. EPA-HQ-OW-2019-0482

The Lake Carriers' Association is submitting these comments in response to the supplemental notice of proposed rulemaking for Vessel Incidental Discharge National Standards of Performance published on October 18, 2023, U.S. Environmental Protection Agency, Docket ID No. EPA-HQ-OW-2019-0482.

On behalf of our 13 members operating 44 U.S. flag Great Lakes vessels, we thank you for the opportunity to provide these comments.

The LCA also asks to be considered a "valued stakeholder" by EPA to the same extent as non-vessel operators with regard to advance notice of pending EPA VIDA actions and related discussions to enhance our relationship and work towards the same goal – a healthy Great Lakes.

Sincerely,

James. H.I. Weakley

# LCA MEMBERS AND VESSELS (WITH TONNAGE)

**American Steamship Company (ASC)**  
Williamsville, NY

AMERICAN CENTURY (35,923)  
AMERICAN INTEGRITY (35,652)  
AMERICAN SPIRIT (34,569)  
BURNS HARBOR (35,652)  
INDIANA HARBOR (35,923)

**Andrie LLC**  
Muskegon, MI

G. L. OSTRANDER (tug)/INTEGRITY (barge) (7,755)  
SAMUEL DE CHAMPLAIN (tug)/INNOVATION (barge) (7,609)

**Armstrong Steamship Company**  
Williamsville, NY

WALTER J. MCCARTHY, JR. (35,923)

**Central Marine Logistics, Inc.**  
Griffith, IN

EDWARD L. RYERSON (12,170)  
JOSEPH L. BLOCK (14,955)  
WILFRED SYKES (11,701)

**Great Lakes Fleet**  
Duluth, MN

ARTHUR M. ANDERSON (12,341)  
CASON J. CALLAWAY (12,309)  
EDGAR B. SPEER (34,620)  
EDWIN H. GOTT (35,592)  
GREAT REPUBLIC (12,158)  
JOHN G. MUNSON (15,179)  
PHILIP R. CLARKE (12,341)  
PRESQUE ISLE (tug/barge) (24,199)

**Inland Lakes Management, Inc.**  
Muskegon, MI

ALPENA (8,018)

**Interlake Logistics Solutions**  
Ludington, MI

UNDAUNTED (tug)/PERE MARQUETTE 41 (barge) (3,982)

**Lake Michigan Carferry Service, Inc.**  
Ludington, MI

BADGER (4,244)

**Port City Marine Services, Inc.**  
Muskegon, MI

BRADSHAW McKEE (tug)/ST. MARYS CONQUEST (barge) (5,827)  
CAROLINE McKEE (tug)/COMMANDER (barge) (6,719)  
PRENTISS BROWN (tug)/ST. MARYS CHALLENGER (barge) (5,333)

**Soo Marine Supply, Inc.**  
Sault Sainte Marie, MI

OJIBWAY (53)

**Soo Maritime Services**  
Sault Sainte Marie, MI

BIDE-A-WEE (90)  
HIAWATHA (90)  
HOLIDAY (90)

**The Interlake Steamship Company**  
Middleburg Heights, OH

DOROTHY ANN (tug)/PATHFINDER (barge) (11,810)  
HERBERT C. JACKSON (12,292)  
HON. JAMES L. OBERSTAR (16,284)  
JAMES R. BARKER (34,728)  
JOHN SHERWIN (15,995)  
KAYE E. BARKER (11,949)  
LEE A. TREGURTHA (14,671)  
MARK W. BARKER (15,507)  
MESABI MINER (34,728)  
PAUL R. TREGURTHA (36,360)  
STEWART J. CORT (32,930)

**VanEnkevort Tug & Barge, Inc.**  
Escanaba, MI

CLYDE S. VANENKEVORT (tug)/ERIE TRADER (barge) (17,772)  
DIRK S. VANENKEOVRT (tug)/MICHIGAN TRADER (barge) (16,664)  
JOYCE VANENKEVORT (tug)/GREAT LAKES TRADER (barge) (17,002)  
LAURA L. VANENKEVORT (tug) (189)



## Comments on EPA Supplemental Notice for VIDA Regulations

### Overview

The Lake Carriers' Association (LCA) appreciates the U.S. Environmental Protection Agency (EPA) providing the October 2023 supplemental notice ("supplemental notice") and opportunity to provide comments and address considerations for U.S. flagged Lakers. The LCA agrees with EPA's continued "exemption of all Lakers (including post-2009 Lakers) in the proposed rule, but the EPA fails to properly address many important items when determining options for ballast water management (BWM) in the Great Lakes.

In general, the LCA disagrees with EPA's:

- proposal to impose an equipment standard (i.e., a requirement to install and operate type-approved technology without the vessel needing to meet a specific effluent limit for the regulated pollutant) for New Lakers as Best Available Technology Economically Achievable (BAT) because no statutory authority or legal precedent exist for such action,
- proposal to incorporate binational consistency as another factor to be considered by EPA because it is unprecedented and contrary to the supplemental notice's assertion, the regulated community for which the proposed New Laker requirement applies (i.e., Laker operators) did not request that it be considered,
- assumption that ballast water management systems (BWMS) compatible with Laker operations will be available by the time that the U.S. Coast Guard Vessel Incidental Discharge Act (Title IX of the Frank LoBiondo Coast Guard Authorization Act of 2018)(VIDA) implementation, compliance, and enforcement requirements ("USCG VIDA implementation regulations) takes effect despite the ongoing BWMS operational issues on Lakers and in the Great Lakes environment and the USCG type-approval timeline essentially requiring new Lakers built shortly after that effective date having to use current BWMS technology that would be starting type approval testing now, and
- claimed ability or authority to predict the future state of BWMS technology for New Lakers, given the historical interpretation of BAT as applying to current, not future, technology capabilities, especially considering that VIDA's recurring 5-year regulation review cycle provides the EPA with an opportunity to establish the New Laker definition and requirements after future technology has demonstrated its compatibility with Lakers.

The LCA agrees with establishing a new subcategory for New Lakers but disagrees with the proposed definition and requirements as well as how and when it would be implemented.

Further information on these items and other pertinent comments are provided in the following sections.

Lakers have been proactive with improvements to minimize the transfer risk of aquatic invasive species (AIS) in the Great Lakes. Many Laker standard practices were included in the 2008 and 2013 Vessel General Permits (VGP). These include, and are limited to:

- Movement of ballast water intake from vessel bottom to higher areas,
- Run ballast pumps to stop gravity loading or discharging of ballast tanks,
- Install screens on ballast water intakes,
- Periodic inspection of screens on ballast water intakes, and
- Institute mandatory Ballast Water Management Practices (BMPs) that were later included in the 2013 VGP 2.3.3.3 for all vessels and Lakers specific items in 2013 VGP 2.3.3.4, as well as Minnesota and New York requirements.

Laker actions illustrate our industry’s commitment to protecting the Great Lakes, home to our member companies and their sailors. The LCA and its members have and continue to participate in ballast water research and the Great Lakes and State AIS panels.

## Comments to Specific Sections of the Supplemental Notice

The following are the LCA’s comments on specific sections of the supplemental notice.

### III.C. Ballast Water Type-Approval Data Acquired Since the Proposed Rule

The LCA appreciates that the EPA received and assessed USCG data from their type-approval of BWMS. We agree with the EPA assessment that “The complexity of these statistical results did not point to any clear identification of system(s) that stood out at representing BAT”.

The LCA finds that EPA analysis of the USCG BWMS type-approval data was insufficient because “EPA determined that it was unnecessary to obtain data from the USCG regarding ... the system operating parameters such as flow rates, disinfectant dosages, and turbidity”. The LCA believes the flow rate and turbidity data are essential to understanding the issues with BWMS on Lakers. EPA provided no reason for excluding such data and thus their decision seems to be arbitrary.

The LCA previously provided the EPA with an analysis of BWMS type-approval testing data according to the International Maritime Organization’s (IMO) BWMS Code that the LCA submitted in our required BWMS Treatability Study reporting to the State of Minnesota for their Ballast Water Permit Program. While information from the testing for USCG type-approval is not

available to the public, the testing to meet the BWMS Code, which has requirements similar to the USCG requirements, is publicly available. The BWMS Code type-approval data showed that:

- Only two UV-based BWMS were tested in freshwater,
- Testing water temperatures did not go below 6.9 °C,
- Testing sediment loads were below the average and maximum levels frequently occurring at Great Lakes ports, and
- Measured flow rates at which the ballast water discharge standard was achieved were between 21 percent to 80 percent of the reported Treatment Rated Capacity (TRC) of the BWMS, which illustrates that the type-approval certificate’s TRC does not appropriately define actual BWMS capabilities under operating conditions.

This information further highlights that BWMS capabilities are not being properly defined by the Federal government, which misleads shipowners when they need to choose a BWMS for a particular vessel’s operating parameters. BWMS manufacturers are decreasing flow rates below the TRC to achieve the BWDS in type-approval testing. The USCG type-approval listed BWMS TRC needs to be redefined to correctly identify the operational flow rates of BWMS under specified conditions that meet the BWDS.

The LCA also requests that the EPA provide information that should be available from the USCG that illustrates that BWMS are not operating according to their design and are not able to achieve the reported TRC listed in USCG type-approval certificates, which are used by vessel operators to select BWMS to incorporate into their vessels.

The EPA and USCG are doing a general disservice to the shipping community when BWMS performance problems are not disclosed to vessel operators and the public before or during regulatory proceedings involving those systems. In the USCG Commercial Vessel Ballast Water Management (2020-2021) Report to Congress (July 7, 2023) regarding the USCG’s experience with vessels inspected by the USCG, the USCG found that the “majority of the deficiencies (42 percent) resulted from vessels arriving with inoperable BWMSs”. The USCG report did not provide further details on those inoperable BWMSs.

Sec. 903(a)(4)(D)(ii)(II)(aa)(BB) of the VIDA provides an exception for a less-stringent standard of performance than is included in the 2013 VGP in cases where information becomes available that was not available when the 2013 VGP was issued. The EPA has reviewed BWMS performance data, the USCG has been tracking BWMS operational issues, and both have been made aware of BWMS operational challenges. Therefore, the proposed notice’s discussion of BWMS performance standards requires that relevant, non-Confidential Business Information on BWMS performance during type-approval testing and in the Great Lakes operations be publicly disclosed to comply with the Administrative Procedure Act (5 U.S.C. 551–559)(APA). It also creates a good

starting point to openly disclose the issues and rectify problems with BWM in the United States (U.S.), update previous EPA statements on this topic, and move forward with standards and requirements that can be achieved by the shipping industry – especially in the Great Lakes.

In the supplemental notice, EPA also chose not to show the variability factors (VFs) from their analysis of USCG type-approval data. The VFs could have illustrated the variability of that data. VFs of untreated waste can also demonstrate general variability of operations and waste treatment.

#### IV. Supplemental Regulatory Options

##### A. BW tanks –Ballast Tanks – Best Management Practices for Ballast Water Uptake

###### *1. Summary of Proposed Rule and Relevant Comments Received on Ballast Water Uptake*

The LCA concurs with EPA’s decision in the 2020 proposed rule (85 FR 67818) (“proposed rule”) to exclude the 2013 VGP and current USCG requirement (33 CFR 151.2050(b)) for vessel operators to minimize or avoid uptake of ballast water in the listed areas and situations because, as EPA stated “such measures are not practical to implement and enforce as individual standards because these conditions are usually beyond the control of the vessel operator during the uptake and discharge of ballast water”. The LCA commented on the proposed rule’s VIDA National Standards of Performance that “Operationally, these would be difficult, at best, with which to comply.”

###### *2. Supplemental Regulatory Option for BW Uptake.*

The LCA disagrees with the supplemental notice’s proposal to “require vessel operators to address and identify their specific uptake practices as part of the ballast water management plans” and the statement that “EPA does not expect this option would result in a change to the compliance cost estimated in the Regulatory Impact Analysis...”

The LCA disagrees with the EPA assessment of the current requirements of the 2013 VGP and USCG BWM regulations. In the supplemental notice, EPA states “that EPA is considering a supplemental regulatory option to require vessel operators to address and identify their uptake practices as part of the ballast water management plans, a requirement of the 2013 VGP and USCG regulation that was continued under the Agency’s proposed rule.”

None of the 2013 VGP requirements, current USCG regulations, or the proposed rule state that vessels need to “identify their uptake practices as part of the BWMP”. Each vessel must have its own vessel-specific BWMP, but none of the requirements in 2013 VGP Sections 2.2.3.2 and 2.2.3.3 or 33 CFR 151.2050(g) state that the vessel needs to “identify their uptake practices”. The additional requirements in 2013 VGP Sections 2.2.3.2 and 2.2.3.3 and 33 CFR 151.2050(b) only identify items that are to be minimized or avoided but do not require identifying uptake practices.

The LCA strongly disagrees with the statement that “EPA does not expect this option would result in a change to the compliance cost estimated in the Regulatory Impact Analysis...”.

While BWMPs are “vessel-specific”, BWMPs are not currently required to “address and identify their uptake practices”. The supplemental notice would potentially require each vessel’s BWMPs to list areas where the vessel operates, require vessel operators to contact all possible areas of operation frequently (i.e., at a minimum weekly) to identify dredging operations, address tidal shifts, and search for possible areas of infestations. The LCA estimates that researching this information and updating each vessel’s BWMP would require 8 manhours each week and that an additional 8 manhours each week would be required to update each vessel’s BWMP. This estimate excludes the additional time for the vessel operators’ management to review and maintain copies of the modified BWMPs.

The LCA recommends that EPA remove any requirement that the vessel operators address and identify their specific uptake practices as part of BWMPs because it is too burdensome on vessel operators. The current revised text for 33 CFR §139.10 (c)(4) does not include the specific uptake practices. If the EPA does not remove the requirement, a new economic assessment of the cost is needed. The new economic assessment would also need to address how an increase in vessel manhours impacts applicable manning requirements per 46 Code of Federal Regulations Part 15. If the EPA does not intend that vessel BWMPs incorporate this level of detail, the EPA should clarify that vessel BWMPs should only include generic options for addressing a variety of potential uptake issues so that frequent detailed BWMP revisions are not required.

## B. Ballast Tanks – Equipment Standard for New Lakers

### *1. Summary of Proposed Rule and Relevant Standard...*

The LCA agrees with EPA’s “exemption of all Lakers (including post-2009 Lakers) in the proposed rule as it was based on lack of data demonstrating that any available technology was economically achievable that could consistently meet a numeric discharge standard...”.

In the proposed rule, EPA explained that it had considered an equipment standard because “some reduction in the discharge of ANS would likely occur”, but that “EPA is not proposing this approach because such a requirement to install a current BWMS without addressing the incompatibility with the environment conditions of the Great Lakes or the technical equipment considerations does not reflect BAT.” The LCA contends that “would likely” does not meet the CWA level for demonstrated reduction for BAT.

EPA also stated in the proposed rule that “There is significant uncertainty as to the operational functionality of BWMS in the Great Lakes, particularly when operating conditions extend outside the design parameters of any available treatment systems”.

The proposed rule also referenced several studies illustrating the issues faced by many BWMS in waters of the Great Lakes. In the proposed rule, EPA evaluated many BWMS for a potential carriage requirement and the existing BWMS operational challenge and found that “Clogged filters in turbid ports and under icing conditions could significantly impact vessel operations, even halt operations, if the BWMS ceased working.”

In section VI.B.1 of the supplement supplemental notice, EPA also discusses some commenter statements that disagree with the proposed Laker exemption and that the proposed rule was “inconsistent with the VIDA requirement that the discharge standards be no less stringent...”. The LCA disagrees with these commenters’ statements.

The proposed rule also considered three alternative regulatory options for Lakers (i.e., filtration only, open lake exchange of highly turbid water taken up in river ports, and exemption on the use of a BWMS in specific cases) and stated that these three alternatives “would not reliably meet the numeric discharge standard, and there was insufficient data at that time to establish an alternative standard or requirement for Lakers that would reduce discharges of organisms at a known effectiveness level”. The EPA stated that “additional research is needed to explore these options”. By establishing an equipment standard for New Lakers, the supplemental notice ignores the proposed rule’s interpretation of BAT as requiring that the effectiveness of BWMS on New Lakers first being known before establishing a requirement that such Lakers install and operate them.

The VIDA included provisions that established the Great Lakes and Lake Champlain Invasive Species Program (GLLCISP) to encourage research and develop solutions for Laker BWM. The LCA recommends that EPA use the established framework to develop a regulatory option that meets the requirements of the VIDA for New Lakers. The supplementary notice’s proposed equipment standard for New Lakers seems to have been arbitrarily determined without EPA providing a thorough description of their rationale for this proposal.

The EPA has not provided any additional information in the supplemental notice that provides evidence that type-approved BWMS may be able to be operated more consistently by the date that the New Laker equipment standard would take effect. EPA also has not provided any reports of introduction or spread of AIS in the Great Lakes due to US-flagged Laker ballast water operations. Some research is being conducted by the GLLCISP, but no new information supports the development of an equipment standard for New Lakers or a conclusion that BWMS can consistently operate on Lakers under Great Lakes conditions.

Instead, the EPA appears to assume that in the near future (i.e., after the USCG VIDA implementation regulations take effect) BWMS technology will have evolved enough so that Lakers built after that date can be designed to function economically while incorporating and operating that technology. For such BWMS technology to be commercially available to Laker operators at that time, the technology would have to initiate its USCG type-approval testing now.



This means that it would not be future technology, but current technology approved at a future date.

LCA is not aware of any ongoing testing of BWMS technology that has been developed to be compatible with Laker operations in Great Lakes conditions and the supplemental notice does not provide any such information. In the USCG Marine Safety Center BWMS Type Approval Status website, no new technologies are listed as under review. Most of the BWMS under review are revisions of existing USCG type-approved technologies. In the past year, three new BWMS models received USCG-type approval, but 24 revisions of the existing USCG type-approvals also occurred. The three new BWMS models used similar technology (i.e., filtration + ultraviolet disinfection and electrolysis) as existing BWMS.

As LCA previously mentioned, Sec. 903(a)(4)(D)(ii)(II)(aa)(BB) of VIDA allows a less-stringent standard of performance at the time of promulgation in cases where new information becomes available that meets the requirements of that statute justifying the lower performance standard. The EPA and USCG have information on the operational problems with BWMS, including in the Great Lakes. The LCA requests that this information be disclosed to the public and that the GLLCISP continue to research and develop new BWMS options for future Lakers.

## *2. Equipment Standard Authority and Rationale*

The LCA agrees with the EPA in establishing a new subcategory for New Lakers but disagrees with defining that subcategory based on the effective date of the USCG VIDA implementation regulations. The LCA also disagrees with establishing an equipment standard requiring New Lakers to install and operate BWMS that have not been proven to operate consistently at Laker flow rates, may not “reliably achieve the numeric ballast water discharge standard”, and have not yet been determined to reduce AIS concentrations in treated Laker ballast water to any consistent level.

The following EPA statements in the proposed rule remain valid and should be sufficient to determine that an “equipment standard”- is not acceptable in the Great Lakes and does not meet the requirements of BAT:

“In addition, EPA determined that such an equipment requirement does not meet the “economically achievable” portion of the BAT requirement for this proposed rule. An equipment standard may require a costly installation and maintenance of a system only to be faced with an imperative for the vessel owner to modify the system to be able to operate the vessel as necessary or even to replace the system with newer technology in the near future. Vessels that operate exclusively in the Great Lakes have a significant lifespan as compared to seagoing vessels due to the freshwater conditions of the Great Lakes. (85 FR 67850)

“There are insufficient data at this time to establish an alternative equipment standard for Great Lakes vessels that is technically available and economically achievable. EPA has determined that implementing a carriage standard may be short-sighted and costly to the vessel community with an unknown level of effectiveness to reduce ANS discharges in the Great Lakes. Additional research is needed before EPA could identify a standard that reasonably satisfies the statutory BAT requirements consistent with Section 903(g)(2)(B)(viii) of the VIDA which establishes a program for EPA, in collaboration with other federal agencies, to research and develop BWMS for use by vessels operating on the Great Lakes.” (85 FR 67850)

In the supplemental notice, the EPA describes its authority to impose an equipment standard on New Lakers by explaining the statutory factors the EPA considers in applying BAT and citing some court cases on the BAT authority of the Clean Water Act (CWA), such as “BAT reflects the highest performance in the industry and may reflect a higher level of performance than is currently being achieved based on technology transferred from a different subcategory or category, bench scale or pilot facility studies, or foreign facilities” (88 FR 71797). The LCA agrees that BAT is the highest performing treatment technology in an industrial category or subcategory, as required by the VIDA, and the VIDA specifically defined BAT by citing the current CWA definition of the term, meaning that VIDA does not provide any direction to or authority for the EPA to create a new, novel interpretation of BAT.

In the supplemental notice, EPA “acknowledges that a numeric standard ... would better ensure ... pollution reduction” but states that absent technology that can reliably achieve a discharge standard an equipment standard is consistent with the “technology-forcing” nature of BAT. However, the cited court cases (i.e., (NRDC v. EPA, 822 F.2d 104, 123 (D.C. Cir. 1987), Southwestern Elec. Power Co., 920 F.3d at 1003) did not involve an equipment standard. Both cases discuss “technology-forcing” with regard to BAT and New Source Performance Standards, but neither case involves an equipment standard nor cites an applicable authority that would allow the EPA to impose an equipment standard on New Lakers under BAT.

We also have not found any example of the CWA BAT standard resulting in the imposition of an equipment standard. Vessel marine sanitation device (MSD) requirements are an example of an equipment standard, but the applicable portion of the CWA does not include a requirement for the vessel MSD performance standard to be based on BAT.

The CWA history of BAT resides in the development of Effluent Guidelines for the various point source industrial discharges by the EPA Office of Water, Office of Science and Technology, Engineering and Analysis Division. Effluent Guidelines is the only EPA program to develop regulations using BAT. In the approximately 40-year history of BAT levels of control for the Office of Water, no equipment standard has been used to define BAT by the EPA Office of Water. The supplemental notice does not provide any information as to why requirements for New Lakers

should establish a regulatory precedent regarding BAT when VIDA specifically defines BAT as the existing CWA interpretation of that term.

The EPA may transfer technology from another industry as the basis for BAT, but BAT discharge standards have not been developed as an equipment standard. Also, when developing discharge standards or transferring technology from another industry, the technology used as the basis for BAT must have been shown to be fully operational at the intended flow rate for the new application. This is not the case for BWMS and Lakers. Neither the EPA nor the USCG have data illustrating that any BWMS operates consistently at Laker flow rates in Great Lakes conditions.

On March 7, 2023, the USCG issued Marine Safety Information Bulletin (MSIB) 001-23 “Ballast Water Management System Incompatibility Issues in the Great Lakes” to provide guidance for BWMS that are not functioning as required. Due to input from the regulated community, the USCG re-evaluated the issue to address special risk issues and limitations in the Great Lakes. So far this year, six international vessels reported BWMS inoperability issues in the Great Lakes. According to the National Ballast Information Clearinghouse (NBIC), approximately 30 international vessels operating in the Great Lakes are using their installed BWMS. The USCG had to re-evaluate MSIB 001-23 because some statements were incorrect, and the policy was impacting U.S. ports. International companies were reportedly moving cargo from U.S. ports to Canadian ports because the non-operational BWMS were not an issue being monitored in Canadian ports. We are aware of one incident where an international vessel with an inoperable BWMS simply departed a U.S. port, was allowed to discharge its ballast water in Canadian waters, and then load an outbound cargo in Canada.

The supplemental notice’s analysis fails to address the simple fact that no BWMS has yet been shown to operate on Lakers without a significant negative impact on vessel operations. The EPA also fails to discuss the operational problems reported by many ships operating BWMS in the Great Lakes and in U.S. coastal waters. The EPA assumes that these problems will be solved in time for installation on New Lakers or that New Lakers can be designed to operate economically while operating BWMS despite the continuation of these problems, so that justifies imposing an equipment standard. The LCA finds no evidence presented by the EPA or other reputable sources that these technological and operational challenges will be resolved within the timeframe allotted by the EPA, especially considering the USCG type-approval timeline of approximately 5-years from initiating type-approval testing to receiving type approval. The LCA also has seen no evidence that a New Laker can be designed to operate economically if required to continuously operate current BWMS technology. The LCA does not believe that the supplemental notice’s equipment standard approach for New Lakers meets the VIDA required BAT standard.

Based on the information presented by the EPA in the proposed rule and the absence of new information on BWMS technology development in the supplemental notice, the LCA recommends that EPA develop a subcategory of Lakers as “New Lakers” and “reserve” the definition of and requirements for the New Lakers subcategory to be determined after a technology option is

determined to be BAT, found to be capable of operating consistently on Lakers, and has obtained USCG type-approval.

The goal of achieving the BWDS is ancillary in comparison to identifying a BWMS that is capable of operating consistently on Lakers. EPA was tasked by VIDA to develop requirements based on BAT. Technology identified as BAT historically has been capable of operating consistently at the required flow rate and operating environment for the required application and has demonstrated a measured performance level that becomes the performance standard for that application.

At this time, no new technologies are being tested or under review by the EPA or the USCG that could specifically meet the requirements of Laker operations in Great Lakes conditions. The current wording of the supplemental notice would require the first New Lakers to install and operate what is essentially current BWMS technology that would become type-approved by the time that USCG VIDA implementation regulations become effective, but does not address the problem of current BWMS technology significantly slowing Laker loading and unloading operations due to BWMS inability to handle Great Lakes environmental conditions, regardless of whether that technology reduces AIS concentration in treated ballast water.

The amount of ballast water discharged is proportional to the amount of cargo carried. Only three UV-based BWMS have been tested at flow rates above 300 m<sup>3</sup>/h. The five categories of Lakers have ballast water flow rates from 2,728 m<sup>3</sup>/h to 14,719 m<sup>3</sup>/h. Laker BWMS experience from Great Waters Research Collaborative (GWRC) projects illustrates flow reductions averaging 50 percent of the type-approved rating. Similar reductions in ballast water flow and cargo handling would be devastating to the US-flagged Laker fleet economic viability and possibly the U.S. economy, resulting in significant increase in product loading times (and corresponding reduction in annual cargo carrying capacity) as well as increased greenhouse gas (GHG) emissions per ton of cargo carried.

Research conducted by the GWRC for the GLLCISP has not identified any new technology that will successfully operate in Lakers. Most of the research projects continue to evaluate filtration and UV-disinfection. The LCA believes it is time for researchers and universities to think outside the box to identify a possible solution to treatment of ballast water or reduction of AIS in the Great Lakes.

By identifying the New Laker definition and requirements as “reserved”, EPA would be proactive and assert that a requirement will be established when technology meets Laker operational requirements. The five-year “review and revision” cycle for the standards of performance required in VIDA Section 903(a)(4)(D) should be used to identify and solicit comments on newly identified technologies to ensure that New Lakers will be defined, and their requirements developed, in a timely manner. An appropriate implementation date for a technology determined to be BAT for New Lakers should also be addressed during this “review and revision” process. The New Laker subcategory should also be further subcategorized to address the five different types

of Lakers previously supplied to EPA by the LCA because different technologies may qualify as BAT at different times for the different types of Lakers.

#### c. Equipment Standard versus Numeric Standard ...

In supplemental notice subsection IV.B.2.c, the EPA provides the arguments about the environmental challenges for “consistent compliance with a ballast water numeric standard for organisms using a type-approved BWMS is infeasible for Lakers”. While compliance with the numeric standards is important, the main issue is that BWMS are mechanically unreliable, cannot be operated at their designed flow rates, and significantly impact Laker ballasting operations under Great Lakes conditions.

Operational information from 2022 GWRC sampling showed that:

- Installed BWMS was operational about 60 percent of the time due to system faults, waiting for maintenance, decrease in flow rates, or time constraints set by the cargo operations,
- BWMS flow rates were routinely operated less than 50 percent of the TRC, impacting vessel loading and agreements with clients,
- When operable, the BWMS were in “downgrade mode” (i.e., flow drops below 50 percent TRC) about 14 percent of operational time,
- Vessels frequently waited extended periods (i.e., weeks or months) for servicing, parts and maintenance, and
- Increased demand on crew for operation of the BWMS due to the need to focus on starting cargo operations.

These attempts at BWMS operation illustrate the inability of current BWMS technology to conform to the operation of a U.S.-flagged Laker, the potential safety impacts to Laker crewmembers, and BWMS incompatibility with ship systems. Information from the GWRC’s GLLCISP research and industry reporting to the USCG further supports these statements.

The available BWMS equipment applicable to Lakers cannot be defined as BAT, as required by the VIDA. BAT is not the mere act of installing and operating equipment. BAT is finding equipment that has been determined to be the best at reducing pollution while enabling the regulated facility to continue normal operations.

As previously stated, the EPA may transfer technology from another industry as the basis for BAT, but we have not found any example of BAT resulting in an equipment standard. Also, when developing discharge standards or transferring technology from another industry, the technology

used as the basis for BAT must be shown to be fully operational at the intended flow rate for use. Historically, CWA Effluent Guidelines do not significantly reduce the output capacity of the regulated industry, but that is what the supplemental notice is proposing to do with New Lakers. Neither the EPA nor the USCG have provided any data illustrating that any BWMS operates consistently or at the required flow rate on Lakers. Since BWMS negative impacts on Laker operations have not yet been resolved, the currently available USCG type-approved BWMS should be not considered BAT for Lakers, including New Lakers as proposed in the supplemental notice and no new BWMS technology should be required to be installed and operated on New Lakers until those problems have been resolved.

In the supplemental notice, EPA states that “An equipment standard could allow vessels flexibility to operate BWMSs in challenging water conditions through use of operational contingency measures, however, these implementation details would be determined in the USCG regulations.”

The LCA disagrees with the above statement for the following reasons:

1. An equipment standard does not allow flexibility because the equipment is required to be operated even if the BWMS significantly impacts ballasting flow rates.
2. Operational contingency measures should not be determined by the USCG VIDA implementation regulations. Contingency measures should be developed by the EPA in the national standards of performance because this is the only means through which the impacts on vessel operations can be assessed while the standards are being developed. Contingency measures are similar to BMPs because they are practices that reduce discharges.
3. Requiring New Lakers to install and operate BWMS that do not operate consistently in the Great Lakes would actually delay the development and implementation of future BWMS technology that may be operable in the Great Lakes because, under the VIDA, New Lakers would not have to replace their original BWMS until the end of that equipment’s service life.

The EPA also states ““However, absent the availability of ballast water management technology for new vessels operating solely within the Great Lakes that can reliably achieve such a numeric standard, EPA is considering an equipment standard as an option to best align with the “technology-forcing” nature of the BAT statutory standard.” While BAT may force technology, it has not been used when the technology is incapable of consistent operation or making the industry significantly reduce production (i.e., flow). This is the main issue in the Great Lakes – BWMS do not operate consistently and reliably in the Great Lakes, including on the few Lakers testing them. Frequent equipment shutdowns, flow reductions, and breakdowns are not consistent with BAT technology. We have not found any reporting of frequently inoperable equipment in EPA documentation of treatment equipment determined to be BAT for other industrial discharges.

New Laker operators should not be required to expend substantial funds for installing and operating a BWMS that struggles with operation in the Great Lakes, lacks vendor support, and greatly impacts vessel operations. Vessels in the Great Lakes often wait weeks or months for servicing BWMS. The EPA is aware of these issues through their research efforts. One LCA member vessel recently waited over one month for a BWMS service technician to visit a vessel, an additional month for parts, and then additional time for a software upgrade. The purpose of the VIDA-authorized GLLCISP is to develop BWMS that will adequately operate on Lakers, but to date this program has not produced any results that would support the supplemental notice’s projection that such BWMS will be type-approved and available by the time that the USCG VIDA implementation regulations take effect. The supplemental notice does not include any evidence of this.

BAT technology for Lakers must align with:

- vessel loading requirements,
- vessel unloading requirements,
- Great Lakes St. Lawrence Seaway customer agreements that permit Great Lakes commodities to be delivered reliably in their weather-limited navigation season,
- Available technology service networks, and
- Vessel manning and labor requirements.

#### [d. U.S. Land-Based Testing in the Great Lakes](#)

In the supplemental notice’s Great Lakes land-based testing section, EPA does not accurately reflect results from the Great Ships Initiative (GSI) land-based testing. None of the BWMS listed in the section used GSI data for their USCG type-approval. It is our understanding that both the Alfa Laval PureBallast® and JFE BallastAce® BWMS had issues during GSI testing and subsequently stopped testing at GSI. Their BWMS were substantially modified after their GSI testing and before their USCG type-approval testing was conducted by another USCG approved independent laboratory. The PureBallast® Version 3 BWMS noted in the Federal Register notice is not equivalent to the PureBallast® BWMS models that have received USCG type-approval. The BWMS mentioned were actually early prototypes prior to Alfa Laval applying model numbers to the current BWMS names.

The noted JFE BallastAce BWMS is also not accurately depicted. This BWMS underwent significant modifications to achieve USCG type-approval and the active substance dosages required to meet the BWDS are above National Association of Corrosion Engineers (NACE)

recommendations for application of chlorine substance to steel. The dosage is actually above what is permitted in the IMO type-approval regime (i.e., 10 mg/l of Total Residual Oxidant (TRO)).

Even if the neutralization units are operating properly, the TRO levels discharged from all active substance chemical addition-based BWMS are above all of the Great Lakes States Water Quality Standards. It is important to note that most neutralization units have significant operational issues and TRO levels frequently exceed the EPA VGP discharge limitations. The State of Michigan has an extensive program for approval of active substance based BWMS to discharge in Michigan waters. At this time, no chemical addition-based BWMS is permitted to discharge in Michigan waters.

With this information in mind, the active substance concentrations discharged by active substance chemical addition-based BWMS should not be permitted in the freshwater system of the Great Lakes and should not be the basis for imposing an equipment standard on New Lakers.

### *3. Operational, Technical, and Economic...*

The LCA agrees with the EPA proposal to include a subcategory for New Lakers but disagrees with the proposed definition related to the build date “after the effective date of the USCG rulemaking”. EPA’s proposed compliance date seems to have been arbitrarily defined because it assumes a future advancement of technology instead of being based on an already demonstrated performance of technology.

The supplemental notice assumes that BWMS compatible with Laker operations will be type-approved and available before the USCG VIDA enforcement regulations take effect so that design, planning, and construction of New Lakers that could take place before that effective date can incorporate such BWMS. If the EPA produces its final VIDA regulations by September 2024 (as indicated by EPA’s regulatory agenda), the VIDA requires the USCG to issue its VIDA implementation regulations within two years (i.e., September 2026). Assuming some USCG delays, the effective date for the USCG VIDA enforcement regulations is estimated to be September 2028, which is less than five years from now. This would require that applicable BWMS are already starting their type-approval testing to be type-approved and available within the first potential New Laker design timeframe, meaning that EPA is proposing to rely on existing BWMS technology for New Lakers. No data available are available to support the supplemental notice’s expectation that such BWMS will operate adequately on New Lakers, even without expecting these BWMS to meet the BWDS. New Lakers cannot be economically viable if they have to operate BWMS that significantly reduce their ballast water flow rates to a small fraction of current Laker ballast water flow rates or have to install and operate a large number of BWMS simultaneously through a manifold ballast water system to increase total flow rates, especially given the poor records of reliability of BWMS technology.

As described in submissions to the EPA, the LCA represents operators of approximately five different categories of Lakers. The new or converted Lakers described in the supplemental notice



only include two of those five categories. The design of a vessel is based on the type and amount of cargo expected to be hauled. The EPA should consider that all five categories of Lakers may need to be built as New Lakers. Self-unloading Lakers have unloading systems that are rated at approximately 10,000 tons of cargo per hour, which requires a ballast water pumping system capable of moving ballast water at the same rate. Ballast water systems must be sized to match the unloading rates of cargo systems. A new large, self-unloader, with separate ballast pumps may be required for a particular cargo type and customer. EPA assumes that all future New Lakers will be similar and that none of the large Lakers will be constructed. The EPA's cost assessment for a New Laker does not take into account the potential for construction of the other three categories of Lakers. Given the flow rate limitations of BWMS, it may be a reasonable alternative to use a manifold ballast system with multiple BWMS for smaller New Lakers, but this significantly limits the economic viability of larger Lakers as described above.

The LCA requests that EPA revise the cost estimate to include all five categories of Lakers previously disclosed to EPA and delay the determination of the build date definition for New Lakers until BWMS technology exists that can adequately operate on Lakers in Great Lakes conditions per the GLLCISP.

#### 4. Other Factors

##### a. Non-Water Quality

As previously reported, UV-based BWMS are the only type of BWMS applicable to operation in the Great Lakes due to water quality issues associated with chemical-addition based BWMS. Currently available UV-based BWMS will substantially reduce Laker ballasting. Based on information from BWMS testing on board LCA member vessels, ballasting flow rates would decrease from 30 percent to 75 percent. This decrease in flow would directly result in an increase in total ballasting pump operating hours and the subsequent increase in air emissions from the installed diesel engines providing power to those pumps and BWMS during the vessel loading and offloading process.

According to the International Council on Clean Transportation emission studies, a Great Lakes bulk carrier generates 1.26 tonnes CO<sub>2eq</sub> per hour. The additional operating time will result in a significant increase in GHG emissions. For example, a normal 10-hour loading of product could increase from 13 to 17.5 hours, thus increasing emissions from 16 to 22 tonnes CO<sub>2eq</sub> for a single port operation. LCA member vessels had between 24 and 171 port operations in 2022. This would equate to GHG emissions between 13K to 550K tonnes CO<sub>2eq</sub> per year from the LCA fleet attributed to the reduction in ballasting/cargo loading.

##### b. Binational Consistency

The LCA objects to the supplemental notice's proposal to incorporate "binational consistency" as a factor in determining New Laker requirements.

The LCA notes that “binational consistency” with Canada is not an element referred to in the CWA, and the LCA has not found it mentioned in any prior CWA regulatory proceeding, especially not as a reason to impose an equipment standard, also a new precedent for the CWA.

Transport Canada has claimed for years that it is unable to negotiate with the U.S. on BWM regulations because Canada is a Party to the BWM Convention, and the U.S. is not. Now that Canada has chosen to apply the BWM Convention requirements (subject to the deemed compliance flexibility) to its domestic fleet, it demands that the EPA follow its lead by implementing an equipment standard in the name of binational consistency. It is important to note that the BWM Convention is not required to be applied to a Party’s domestic fleet operating in domestic waters.

The LCA also notes that the Canadian equipment standard applies to vessels that trade beyond the Great Lakes. It includes their “domestic” vessels that trade to the Arctic and the East Coasts of the Canada and the U.S., which enables their vessels to use saltwater as ballast, which allows for more treatment options. Some of the Canadian vessels will even reflag and trade in the Caribbean and other parts of the world when the Seaway closes, only to have their “domestic” status restored when they reflag Canadian once the Seaway opens for the season. Since many Canadian vessels trade internationally outside the Great Lakes, they are already required to install and operate BWMS to call on those ports. As U.S.-flagged Lakers do not trade outside the Great Lakes, they would not otherwise be required to install and operate BWMS.

Canadian vessel operators claimed this difference puts them at a competitive disadvantage, but since they carry approximately 90 percent of the U.S./Canada Great Lakes trade, this claim is hollow. LCA believes that the proposed rule’s rationale for justifying a New Laker equipment standard to be more consistent with Canadian regulations appears to be more concerned with satisfying Canada’s desire to increase their domination of that trade than on science or U.S. law.

To satisfy the Canadian vessel operators’ claimed disadvantage, Transport Canada designed a regulatory system that benefits their vessels and ports. The EPA should not go along with the Canadian equipment standard approach for the Great Lakes in the name of binational consistency when that approach was specifically designed to be detrimental of U.S.-flagged Lakers and it has no historical or statutory basis under the CWA. LCA believes that it is easier to change a Canadian regulation than change a U.S. federal regulation, so the Canadian government could adjust their regulations to match the U.S. regulation in the name of binational consistency. The BWM Convention allows flexibility to treat domestic vessels different from those operating in international voyages. Canada takes advantage of that clause to allow deemed compliance but still claims that it must apply the BWM Convention to its domestic vessels and U.S.-flagged Lakers calling on Canadian ports – regardless of whether ballast water is discharged in Canadian waters. Canada has chosen an equipment standard to capture U.S.-flagged Lakers in its regulations while acknowledging that BWMS on Lakers and Canadian-flagged domestic vessels cannot meet the IMO BWDS.

The supplemental notice states “EPA has heard from the regulated community that such consistency is important for vessel companies engaged in binational trade and allows them to better protect the shared Great Lakes waters.” The quoted statement is misleading. The docket does not include any comment from a U.S.-flagged vessel operator requesting that EPA impose an equipment standard on Lakers or duplicate in part or in whole the Canadian ballast water regulatory regime. The Chamber of Shipping of America’s (CSA) comments on the proposed rule requested a consistent set of U.S. and Canadian regulatory requirements for the Great Lakes but did not express a preference for an equipment standard for Lakers. The CSA primarily represents operators of vessels in international trade, while LCA represents only operators of Lakers.

The LCA’s comments on the proposed rule opposed using the Canadian approach in U.S. Great Lakes waters and instead recommended the U.S. and Canadian governments enter into discussions using existing binational frameworks (the U.S.-Canada Regulatory Cooperation Council, the Great Lakes Water Quality Agreement and the Boundary Waters Treaty of 1909) to develop a common regulatory framework for Great Lakes BWM regulation. The supplemental notice’s proposed equipment standard for New Lakers is not the result of negotiations through the existing binational agreements and does not result in consistent regulation of ballast water in the Great Lakes, so it does not satisfy any of the commenters on the proposed rule.

The proposed approach benefits Canadian ports and Canadian-flagged vessels at the expense of U.S. ports and U.S.-flagged New Lakers, given the current and expected future enforcement approach of the Canadian Government compared to the current and expected enforcement approaches of the USCG. The USCG has an active and well-documented inspection regime for ballast water through regulations and Navigation and Vessel Inspection Circulars (NVICs). This is expected to increase when the USCG publishes their proposed VIDA implementation regulations. Transport Canada has yet to define any aspect of their enforcement regime – even though LCA has submitted frequent requests for this information.

For this reason, and all of the reasons described earlier, the EPA should not include the New Laker equipment standard in the final rule and instead should allow the VIDA-authorized GLLCISP to develop suitable, proven BWMS technology for Lakers before defining New Lakers and requiring them to install and operate BWMS. This approach would best conform to the letter and spirit of VIDA.

## *5. New Lakers*

### *a. Subcategorization*

As previously stated, the LCA agrees with the EPA in establishing a new subcategory for New Lakers, but the LCA disagrees with the proposed build date definition for New Lakers and disagrees with the proposed equipment standard for New Lakers.

Based on the information presented by the EPA in the proposed rule and lack of information on new technologies in the supplemental notice, the LCA recommends the EPA develop a subcategory of Lakers as “New Lakers” and “reserve” the definition of and requirements for the New Lakers subcategory until new BWMS technology for Lakers is determined to be BAT (under the traditional interpretation of BAT per VIDA) for Lakers, is found to be operational in Great Lakes conditions, and has obtained USCG type-approval.

At this time, no new technologies are being developed, tested, or under review by the USCG for a BWMS that could adequately operate on Lakers in Great Lakes conditions. Based on the history of BWMS development and testing, the USCG VIDA implementation regulations effective date would be too soon for any new BWMS technology to be developed, tested, type-approved, and available to Laker operators by the proposed New Laker build date. Also, EPA has admitted that current BWMS technology is not adequate for this application. The current wording of the supplemental notice would require the first New Lakers to install, at best, current BWMS technology that is undergoing type-approval testing but does not address the issues of operability on Lakers in Great Lakes conditions.

By identifying New Lakers as “reserved” and withholding the definition and requirements until suitable technology is proven and available, EPA would be proactive by giving notice that a New Laker requirement will be established in the future when technology meets VIDA’s requirements. VIDA’s 5-year review cycle for EPA and USCG VIDA requirements ensures that revised regulations on the New Laker definition and requirements will be issued in a timely manner after the required technology has been demonstrated to be BAT.

The supplemental notice’s proposed New Laker equipment standard would require the first New Lakers to install current BWMS technology, which would undercut the incentive for Laker operators to participate in GLLCISP’s efforts to develop new ballast water technologies that are suitable for Lakers because the first New Lakers would not need to install the BWMS technology resulting from that research program until after the service life of the initial New Laker BWMS. The approach proposed by the LCA is more consistent with the goals and implementation of the VIDA-authorized GLLCISP.

Ballast water treatment is not the only remedial action that should be pursued to stop the introduction and spread of new AIS in the Great Lakes. Many other vectors have been confirmed as introducing or spreading AIS in the Great Lakes with greater confidence than Laker ballast water. The LCA requests that EPA pursue remedial actions for as many of these other vectors as its authority allows before prematurely imposing a non-BAT compliant equipment standard on New Lakers before suitable BWMS technology exists for these vessels and their Great Lakes operating conditions.

## b. Definition of a New Laker

As previously stated, the LCA agrees with the EPA in establishing a new subcategory for New Lakers. The LCA disagrees with effective date being defined by the build date after the effective date of the USCG VIDA implementation regulations. The LCA disagrees with basing the requirements on an equipment standard that requires a USCG type-approved BWMS. The LCA recommends the EPA develop a subcategory of Lakers as “New Lakers” and “reserve” the requirements for New Lakers subcategory to be defined when a new technology option is deemed BAT, found to be operational in the Great Lakes, and can obtain USCG type-approval. The effective date should be determined during the required “review and revisions” cycles in VIDA.

The New Laker subcategory should also be further subcategorized to address the five different types of Lakers previously supplied to EPA to ensure that the appropriate build date would apply to each of the identified five vessel subcategories as suitable technology becomes available to address each of the particular needs for the Laker types.

## C. Hulls and Associated Niche Areas

### *1. Biofouling as a Discharge Incidental*

LCA concurs that the intent of the Proposed Rule was to cover passive and active discharges of biofouling. Creating separate definitions and allowing the States to separately cover “passive biofouling” would go against the purpose of VIDA to create uniform national standards.

### *2. Application of requirements to cleaning of macro and microfouling*

“EPA is considering defining and using the terms “macrofouling” and “microfouling” and dispensing with use of the U.S. Navy’s FR scale as a tool for assigning level and extent of vessel biofouling.

The LCA agrees with dispensing of the U.S. Navy’s Foul Release (FR) scale as it is overly complex and not well defined for commercial shipping. The proposed definitions of “macrofouling” and “microfouling” are sufficient, but the LCA recommends that inspection and cleaning be based on out of water inspection dates for vessel’s hulls. This would implement a more consistent policy that is well understood by vessel operators and can be easily accommodated, especially in the Great Lakes where cold water temperatures and ice conditions limit the season for in-water inspections. Vessel operators could be significantly impacted if cargo operations were halted to conduct such in-water inspections.

The EPA also needs to assess the cost for regular hull inspections for macrofouling and microfouling because this has not been previously done. Lakers are not in drydocks for their winter lay-up. Out of water hull cleaning and inspection typically occur during every vessel out-of-water drydocking (i.e., 5 years). The LCA recommends that the out of water drydocking is used

to assess and respond to hull fouling because this would limit the cost impacts of out of water inspections and cleanings. In-water inspections during the operating year for macrofouling and microfouling would be an entirely new cost. Table 1 provides estimated costs for additional out of water drydockings for biofouling related hull inspections.

Table 1. Estimated Costs for Additional Drydocking Costs for Hull Inspections.

Cost Item	Additional per Additional Drydocking (2023\$)	
	~600 ft Vessel	~1000 ft Vessel
Towing to/from Drydocking	\$40 K	
Drydocking and Cleaning costs <sup>a</sup>	\$160 K	\$400K - \$700K
Repainting <sup>b</sup>	\$200 K	
Total	\$640K - \$940K	

Notes:

<sup>a</sup> 5-day drydocking with pressure washing. Costs based on information from shipowners, DONJON Shipbuilding & Repair, and Fincantieri Bay Shipbuilding. Costs exclude additional vessel loss in commercial season operating time and possible drydocking availability issues due to limited resources within the Great Lakes.

<sup>b</sup>Lakers normally only have coating applied every 10 years. More frequently cleaning would necessitate more frequent coating application. The coatings applied are epoxy coatings, not antifouling coatings.

The EPA needs to take this information into account when determining the requirements. At present, the proposal and the standard are not clear on the frequency and location of inspections.

### 3. Applicability of Regulations to IWCC

The LCA agrees with excluding discharges from In-Water Cleaning and Capture (IWCC) Systems from the regulation if the equipment is owned and operated by a third party, but the LCA disagrees with excluding these discharges if the equipment is owned and operated by the vessel owner or operator. If the IWCC systems are owned and operated by the vessel owner or operator, the IWCC systems would be similar to BWMS, oil-water separators, or any piece of equipment required for management of a discharge. If the equipment is maintained on board the ship for use, the EPA should develop standards or “reserve” that standards are to be developed. Requirements for third party cleaning of the ship should be excluded. This would be similar to any waste that is transferred to shore for treatment and disposal.

### 4. Discharges for IWCC systems

In general, the LCA agrees with the EPA position except for IWCC that may be owned, maintained, and operated by a vessel owner or operator. Even if no systems meet this criterion, it would be good for EPA to “reserve” this for future regulation in the event that the practice is developed.

## D. Graywater Systems

### 2. Supplemental Regulatory Option

The LCA agrees with the EPA demarcation of 15 persons.

## VI. Statutory and Executive Order Reviews

### H. Executive Order 13211: Actions That Concern Regulations That Significantly Affect Energy Supply, Distribution, and Use

The supplemental notice includes the following statement: “This action is not a “significant energy action” because it is not likely to have a significant adverse effect on the supply, distribution or use of energy. EPA believes that any additional energy usage would be insignificant compared to the total energy usage of vessels and the total annual U.S. energy consumption.”

The LCA disagrees with the assessment that the proposed action would not have any additional energy impacts. Future Lakers would incur significant energy impacts to operate BWMS capable of processing typical Laker ballast water flows. While estimating the amount of energy impacts would require EPA to evaluate the energy impacts for different subcategories of New Lakers, the LCA urges the EPA to estimate these increased GHG emissions.

## EPA New Laker Economic Analysis

The LCA disagrees with the information presented in the EPA *Economic Analysis of New Lakers for the Supplemental Notice of Proposed Rulemaking for the Vessel Incidental National Standards of Performance* (“Economic Analysis”). The identified issues are:

- Limitation of New Laker costs estimate to the smallest sizes of Lakers that currently exist,
- Costs estimations are significantly below industry estimations, and
- Insufficient analysis of small businesses.

In the Economic Analysis, the EPA estimates that only one size of new Laker may be built. The EPA uses the MARK W. BARKER and ERIE TRADER as the basis for their analysis. The listed vessels are of similar size and carry similar cargos, but Lakers have varying sizes and ballasting designs. Lakers are designed according to the type of commodity that is to be carried. The LCA has previously shared with the EPA information on the categories of Lakers. The EPA analysis and cost estimation arbitrarily excludes estimations for other categories of Lakers.

In terms of ballast water and operational performance requirements, the U.S.-flagged Great Lakes fleet can be generally categorized into five groups:

1. 1,000-foot long vessel with large capacity manifolded ballasting system
2. 1,000-foot long vessel with large capacity independent ballasting system
3. 690-foot to 806-foot converted bulkers to self-unloaders with a manifolded ballasting system
4. 500-foot to 800-foot newer build self-unloading ships and barges with a manifolded ballasting system
5. Purpose-built barges with a manifolded ballasting system

Table 2 provides details of the five U.S.-flagged vessel categories. EPA estimated only the cost of a New Laker to be for the two smaller categories of U.S.-flagged Lakers. EPA does not provide any reasons as to why larger vessels will not be constructed in the future. The EPA analysis needs to estimate costs for the construction of a New Laker for each of the five categories.

The LCA disagrees with the estimated annualized BWMS costs for new build vessels. One LCA member stated that BWMS costs were closer to 8 percent of the annualized new build cost after considering the upsizing of electrical systems, space requirements, piping arrangements, pump sizing, and the BWMS unit cost. The 8 percent does not include the engineering and other associated back-office expenses with system installation. These additional costs were close to an additional 0.5 percent. This would result in BWMS annualized costs being close to 9 percent for new vessels, not the 1.1 percent to 1.7 percent in the Economic Analysis.



Table 2. Categories of U.S.-flagged Lakers.

Design Specification	Vessel Category (typical) <sup>1</sup>				
	1,000' Manifold Ballast System	1,000' Independent Ballast System	609' to 806' Converted Vessels Manifold Ballast System	500' to 800' Newer Build Manifold Ballast System	Purpose-Built Barges Manifold Ballast System
Overall Length	1,000 feet	1,004 feet	767 feet	704 Feet	460 feet
Beam, Molded	105 feet	105 feet	70 feet	78 feet	70 feet
Depth, Molded	56 feet	50 feet	36 feet	45 feet	37 feet
Draft, Maximum	34 feet, 1 inch	29 feet, 1 inch	27 feet	30 feet	26 feet, 6 inches
Gross Tonnage	35,923	34,728	12,341	14,499	7,310
Net Tonnage	33,534	29,629	9,372	10,348	7,310
Cargo Type	Iron ore, coal, stone	Iron ore, coal, stone	Iron ore, coal, stone	Iron ore, coal, stone	Cement
Number of Cargo Holds	7	7	7	6	8
Capacity at Mid-summer Draft Marks	80,900 Short Tons (ST)	63,300 ST	25,000 ST	35,400 ST	19,450 ST
Number of Ballast Tanks	17	19	20	16	12
Ballast Tank Capacity	62,179 m <sup>3</sup>	44,592 m <sup>3</sup>	17,247 m <sup>3</sup>	21,982 m <sup>3</sup>	7,632 m <sup>3</sup>
Number of Ballast Pumps	4	18	2	2	4
Ballast Pumping Capacity	11,812 m <sup>3</sup> /hour	14,719 m <sup>3</sup> /hour	4,770 m <sup>3</sup> /hour	6,356 m <sup>3</sup> /hour	2,728 m <sup>3</sup> /hour
Electrical Plant	2x2,500 kW 2x600 kW	4x800 kW	2x400kW 2x800 kW	1x1,700 kW 2x600 kW 1x150 kW	2x1,285 kW 2x280 kW
Year Built/Modified	1979	1977	1952 1975 (lengthened) 1982 (converted to self-unloader)	1974	2006
Number of Vessels in Category	5	9	18	18	9
Typical Voyages per Year	53	53	140	85	140

<sup>1</sup> Category based upon vessel design, layout, and ballast water system configuration (Choice Ballast Solutions, Technical Engineering Analysis and Economic Feasibility Study for Ballast Water Management System Installation and Operation on board U.S.-flag Great Lakes Fleet, Cleveland, Ohio, April 13, 2017)

The EPA estimate for conversion of vessels is also significantly underestimated. Not all conversions are the same. An LCA member experienced major conversions of two vessels for which the estimated cost of the BWMS and percentage of the cost of the major conversion were significantly different. Table 3 provides a comparison of BWMS costs to the percent of the major conversion cost for two different types of vessel conversions. The percentages shown are significantly greater than estimated by the EPA.

Table 3. BWMS and Percent Major Conversion Estimations.

<b>Estimated BWMS Cost and Installation</b>	<b>Percentage of Major Conversion A</b>	<b>Percentage of Major Conversion B</b>	<b>Average Percent of Major Conversion</b>
\$2,000,000	14%	4%	9%
\$2,500,000	18%	6%	12%
\$3,000,000	21%	7%	14%
\$3,500,000	25%	8%	16%
\$4,000,000	29%	9%	19%

The LCA also believes that EPA and USCG costs for BWMS are significantly underestimated and that the life expectancy of BWMS is underestimated as well. As BWMS are new technology, the life expectancy is not exactly known. Many existing BWMS installations have been removed from vessels due to equipment construction issues within five years of installation, and component failures are more frequent than manufacturer estimated replacement frequencies. A lifetime of 10-years may better approximate the life expectancy of BWMS. New cost and life expectancy estimates are needed if and when future requirements are proposed. The EPA has not contacted BWMS manufacturers for updated costs.

The LCA also finds that the Economic Analysis did not take into account impacts on small business. While the document identifies the small businesses, no small business set aside was discussed for regulatory options. Many rulemakings have a different level of performance for small businesses. The LCA disagrees that the small business entities will not be economically impacted. EPA’s decision on this seems to be arbitrary as older costs were used and no detailed economic impact analysis was completed.

The LCA requests that a new economic analysis with updated data is conducted for any future proposed requirements and that impacts to small businesses be taken into account. The LCA is able to provide estimates that align with our statements upon request by EPA.

### Addressing Recent Submittals to EPA

The LCA reviewed recent documents in the docket for EPA stakeholder meetings and those submitted by U.S. States and Tribal Communities and found many misstatements. The following is a correction of the statements made in those submittals.

- The LCA could not identify any Lakers that have used ballast water exchange in the Great Lakes.
- Not all new Canadian-flagged ships (i.e., post-2008) will be in compliance with the Transport Canada September 8, 2024, deadline for installation of a BWMS.

- Based on our discussions with Canadian ship operators, LCA believes that BWMS are not being continuously operated by Canadian ships. Some Canadian vessels operate BWMS, and some do not, and some Canadian vessel operators with BWMS have reported similar issues in the Great Lakes as we have discussed in these LCA comments.

The LCA can provide more details on the statements made above if wanted.

The LCA is also addressing public comments and reports that cite the *Great Waters Research Collaborative: Great Lakes Ship Ballast Water Monitoring Project Technical Report* by Allegra Cangelosi *et al* dated May 31, 2018 (2018 Ballast Water Monitoring Report) as the basis for concern of new species spreading in the Great Lakes due to Laker ballast water. The 2018 Ballast Water Monitoring Report reported on the presence of *Hemimysis anomala* (i.e., the “bloody red shrimp”) in a Laker ballast tank. The LCA requested the study that delivered the 2018 Ballast Water Monitoring Report, but the LCA was not contacted before the draft report was shared with other groups and the media. Besides being publicly released without a peer review, the 2018 Ballast Water Monitoring Report has many issues that include:

- Release of report without review by parties involved in the study,
- Lack of peer review of the report,
- Inconsistent details in the press release,
- Use of eDNA as “proof” to identify species presence but not to determine if the bloody red shrimp was dead or alive – the presence of an organism alone does not constitute a threat of infestation, and
- Sample sizes markedly increased for the samples in which the bloody red shrimp was identified without any reason for the increased volume or deviation from the test plan.

The report specifically stated that the risk of spreading invasives from the lower lakes to Lake Superior was not to be assessed, but the conclusions specially stated that the study proved Lakers spread AIS to Lake Superior. The report “targeted” the bloody red shrimp and then skewed the research and results to conclude that Lakers transferred a new species to western Lake Superior.

According to Minnesota DNR’s website on the bloody red shrimp, “The first confirmation in Minnesota was in Lake Superior’s Duluth harbor in 2018. The discovery was a single specimen at a single sampling point and is the only discovery so far in Minnesota waters” (<https://www.dnr.state.mn.us/invasives/aquaticanimals/bloody-red-shrimp/index.html>).

The National Oceanic Atmospheric Administration Great Lakes Aquatic Nuisance Species Information System (GLANSIS) website states “There is little or no evidence to support that *Hemimysis anomala* has significant socio-economic impacts in the Great Lakes”. GLANSIS also

summarizes the U.S. Geological Survey first and last observation of species. Table 4 lists the first and last years of observations for the species.

Table 4. *Bloody Red Shrimp Observations.*

State/Province	First Observed	Last Observed
IL	2006	2016
IN	2016	2016
MI	2006	2020
MN	2018	2019
NY	2006	2023
OH	2009	2011
PA	2019	2019
WI	2007	2019

Notes:

Source: GLANSIS, last updated 12/15/2023

According to GLANSIS, “transoceanic ballast water” is the source for introduction of the species. The bloody red shrimp was first observed in 2006 in Lake Erie, Lake Huron, Lake Michigan, and Lake Ontario but has failed to be established in the Lake Superior. The AIS discovered in ballast water had been in the Lakes for many years. Even now, the bloody red shrimp is not established in Lake Superior, despite, the report’s “proof” that lakers were spreading AIS to Lake Superior.

The LCA is submitting this information to correct statements made by previous commenters.

## Summary

The LCA comment submittal for the supplemental notice covers all of the five areas solicited by the EPA, statements in the supplemental notice, the Economic Analysis, and statements in the docket post-2020 from States and other entities.

The LCA agrees with the EPA not requiring the existing fleet of U.S.-flagged Lakers to install and operate BWMS equipment that does not meet BAT due to the flow reduction and operational issues and the cost of retrofitting these vessels. The LCA also agrees with establishing a new subcategory of New Laker but disagrees with the requirements and the proposed compliance timetable as no new BWMS technology will receive USCG type-approval by the proposed effective date.

The LCA also disagrees with EPA:

- imposing an equipment standard for New Lakers as BAT because no statutory requirement or regulatory precedent exist for such action;

- incorporating binational consistency as another factor considered by EPA because:
  - no regulatory precedent exists for such action,
  - Canada could adopt the U.S. regulatory approach in the name of binational consistency,
  - Other frameworks exist to address regulatory differences (Regulator Cooperation Council, Boundary Waters Treaty and Great Lakes Water Quality Agreement),
  - the EPA misapplies a comment on the proposed rule for which the New Laker subcategory is only pertinent to Laker operators, and
  - binational frameworks for the Great Lakes exist to develop binational consistency but were not used to develop the supplement notice’s proposal.
  
- incorporating specific vessel uptake practices in BWMPs because this would be an extensive burden not adequately estimated by EPA.

The LCA requests that the EPA and USCG publicly disclose the reported issues with BWMS operations in the Great Lakes. EPA is failing the regulated community by not publicly disclosing these ongoing BWMS issues. Sec. 903(a)(4)(D)(ii)(II)(aa)(BB) of VIDA provides an exception for a less-stringent standard of performance at the time of promulgation in cases where information becomes available that was not available when the current standard was developed. All relevant, non-Confidential Business Information on BWMS performance during type-approval testing and in the Great Lakes operations needs to be publicly disclosed to comply with the Administrative Procedure Act if the EPA is going to propose that New Lakers install and operate such equipment.

The LCA will continue to share information and work with the EPA to develop requirements that will not impact vessel operations while enabling increased protection of the Great Lakes. The LCA asks the EPA to engage with researchers and universities through the GLLCISP process to find and develop new BWMS technology options for Lakers. The LCA also asks to be considered a “valued stakeholder” by EPA to the same extent as non-vessel operators with regard to advance notice of pending EPA VIDA actions and related discussions to enhance our relationship and work towards the same goal – a healthy Great Lakes.

The LCA is also providing some early comments to the USCG. The USCG VIDA implementation regulations need to address the deficiency in BWMS type-approval certificates and BWMS type-approval testing with regard to the TRC listed in type-approval certificates. The TRC listed should not be the intended flow rate but rather the lowest flow rate measured during testing.