ORAL ARGUMENT NOT SCHEDULED

No. 25-1027
(Consolidated with Case Nos. 25-1049 and 25-1052)

IN THE UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT

LAKE CARRIERS' ASSOCIATION,

Petitioner,

v.

U.S. ENVIRONMENTAL PROTECTION AGENCY AND LEE ZELDIN, ADMINISTRATOR, U.S. ENVIRONMENTAL PROTECTION AGENCY,

Respondents,

On Petition for Review of Final Agency Action from the United States Environmental Protection Agency 89 Fed. Reg. 82074 (Oct. 9, 2024)

ENVIRONMENTAL PETITIONERS' OPENING BRIEF

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CERTIFICATE AS TO PARTIES, RULINGS, AND RELATED CASES

Pursuant to D.C. Circuit Rule 28(a)(1), I certify that the parties, rulings, and related cases to this case are set forth below.

A. Parties:

Petitioners: Petitioner in Case No. 25-1027 is Lake Carriers' Association. Petitioner in Case No. 25-1049 is California State Lands Commission. Petitioners in Case No. 25-1052 are Alliance for the Great Lakes, Environmental Law & Policy Center, Minnesota Environmental Partnership, and National Wildlife Federation ("Environmental Petitioners").

Respondents: In each of the actions, Respondents are the United States Environmental Protection Agency ("EPA") and Lee Zeldin, Administrator of the EPA.

Intervenors: Petitioner Lake Carriers' Association is an intervenor in Environmental Petitioners' Petition for Review in Case No. 25-1052. Environmental Petitioners are intervenors in Lake Carriers' Association's Petition for Review in Case No. 25-1027. *See* Order, Doc. No. 2132301 (Aug. 27, 2025). There are no other intervenors in any of the consolidated actions.

Amici Curiae: There are no amici curiae in any of the consolidated actions at the time of this filing.

B. Ruling Under Review:

Petitioners in each of the consolidated proceedings seek this Court's review of EPA's final agency action, promulgation of the *Vessel Incidental Discharge National Standards of Performance*, 89 Fed. Reg. 82074 (Oct. 9, 2024).

C. Related Cases:

The final agency action at issue in this proceeding has not been reviewed previously in this Court nor in any other court. There are no related cases within the meaning of D.C. Circuit Rule 28(a)(1)(C).

DATED: December 19, 2025

Respectfully submitted,

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RULE 26.1 DISCLOSURE STATEMENT

Pursuant to Federal Rule of Appellate Procedure 26.1 and D.C. Circuit Rule 26.1, Environmental Petitioners state that they are all not-for-profit organizations with missions that include protecting the health of the Great Lakes ecosystem. There are no stock or partnership shares or any ownership interests in any of the Environmental Petitioners' organizations, so there are no parent companies or any publicly held companies with any ownership interest in the Environmental Petitioners' organizations.

DATED: December 19, 2025

Respectfully submitted,

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2013 VGP	*Final National Pollutant Discharge Elimination System (NPDES) General Permit for Discharges Incidental to the Normal Operation of a Vessel*, 78 Fed. Reg. 21938 (Apr. 12, 2013)
2013 VGP Response to Comments	2013 VGP: EPA's Response to Public Comments (2013), EPA-HQ-OW-2019-0482-0405
ABS Report	American Bureau of Shipping, Best Practices for Operations of Ballast Water Management Systems Report (2019), EPA-HQ-OW-2019-0482-0535
Bailey Study	Bailey *et al.*, Efficacy of Ballast Water Management Systems Operating within the Great Lakes and St. Lawrence River (2017 – 2022) (2023), EPA-HQ-OW-2019-0482-0891
BAT	Best available technology economically achievable
BMP	Best Management Practice
BWMS	Ballast Water Management System
Canadian Study	STX Canada Marine, Assessing the Feasibility of Ballast Water Treatment System Installation and Operation by Existing Vessels on the Great Lakes and St. Lawrence Seaway System (2015), EPA-HQ-OW-2019-0482-0452
DFO 2020	Canada Department of Fisheries and Oceans, Additional analyses of BW management scenarios (2020), EPA-HQ-OW-2019-0482-0934-08

Environmental Petitioners' Comment	Comment submitted by AGL, NWF, *et al.* (2023), EPA-HQ-OW-2019-0482-0913
EPA	United States Environmental Protection Agency
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GLLCISP	Great Lakes and Lake Champlain Invasive Species Program
GSI 2011 Study	Great Ships Initiative, Final Report of the Land-Based Freshwater Testing of the Alfawall AB PureBallast Ballast Water Treatment System (2011), EPA-HQ-OW-2019-0482-0371
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GSI 2015 Study	Great Ships Initiative, Land-based Status Test of the JFE BallastAce Ballast Water Management System and Components at the GSI Testing Facility (2015), EPA-HQ-OW-2019-0482-0436
GWRC Monitoring Project	Great Waters Research Collaborative: Great Lakes Ship Ballast Monitoring Project (2018), EPA-HQ-OW-2019-0482-0865

IMO	International Maritime Organization
IMO Convention	IMO, International Convention for the Control and Management of Ships' Ballast Water and Sediments (2004), EPA-HQ-OW-2019-0482-0290
Industry Study	Choice Ballast, Technical Engineering Analysis & Economic Feasibility Study for Ballast Water Management System (BWMS) Installation and Operation on board U.S. Flag Great Lakes Fleet (Lakers) (2017), EPA-HQ-OW-2019-0482-0868
Lakers	Vessels operating exclusively on the Great Lakes and St. Lawrence River
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USCG Type-Approval List	USCG, Marine Safety Center BWMS Type Approval Status (2024), EPA-HQ-OW-2019-0482-0994
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VIDA	Vessel Incidental Discharge Act
Wisconsin 2020 Comment	Wisconsin Comment (2020), EPA-HQ-OW-2019-0482-0705
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JURISDICTIONAL STATEMENT

This Petition for Review, timely filed on February 6, 2025, challenges Respondents' rulemaking action, *Vessel Incidental Discharge National Standards of Performance*, 89 Fed. Reg. 82074 (Oct. 9, 2024) ("Final Standards"), issued pursuant to the Vessel Incidental Discharge Act ("VIDA"), 33 U.S.C. § 1322(p). This Court has jurisdiction under 33 U.S.C. § 1369(b)(4)(B).

INTRODUCTION

Aquatic nuisance species, such as zebra mussels and round gobies, cause tremendous damage to the Great Lakes. Vessels operating exclusively on the Great Lakes and St. Lawrence River ("Lakers") spread these species throughout the Great Lakes by taking up lake water into their ballast tanks at one port and discharging the water and any living organisms it contains at another port. VIDA requires EPA to issue standards of performance for ballast water discharges by Lakers and other vessels that must (1) adhere to the technology-forcing "best available technology economically achievable" ("BAT") standard, 33 U.S.C. § 1322(p)(4)(B)(i)(III), and (2) be at least as strong as standards in EPA's previous regulations, the *Final National Pollutant Discharge Elimination System (NPDES) General Permit for Discharges Incidental to the Normal Operation of a Vessel*, 78 Fed. Reg. 21938 (Apr. 12, 2013) ("2013 VGP"), 33 U.S.C. § 1322(p)(4)(D)(ii). EPA's Final Standards for Lakers violate both these VIDA requirements.

First, EPA fails to adhere to VIDA's BAT standard. EPA requires new Lakers to install Ballast Water Management Systems ("BWMS") equipment that kills living organisms in ballast water before discharging; the Final Standards, however, exempt existing Lakers from installing BWMS and do not require them to treat their ballast water at all. EPA's action is arbitrary and capricious and contrary to law because it is not technology-forcing and ignores record evidence showing that a BWMS equipment standard Best Management Practice ("BMP") is feasible and effective for existing Lakers. At a minimum, EPA's BAT analysis is faulty for failing to analyze whether a less rigorous equipment standard BMP requiring existing Lakers to install and operate just the filtration portion of a BWMS is BAT.

Second, EPA fails to comply with VIDA's stringency provision, 33 U.S.C. § 1322(p)(4)(D)(ii). Because the 2013 VGP requires Lakers built after January 1, 2009 to comply with a numeric ballast water discharge standard for living organisms set to the standard established by the International Maritime Organization ("IMO"), 2013 VGP § 2.2.3.5.3.3 at 39, EPA's failure to include this same requirement in the Final Standards violates VIDA. Likewise, because the 2013 VGP includes a BMP requiring vessels to avoid taking up ballast water in areas with known infestations or populations of harmful organisms or pathogens ("Uptake BMP"), 2013 VGP § 2.2.3.3 at 27–28, EPA's failure to include the Uptake BMP in the Final Standards violates VIDA. EPA's unlawful backsliding is also arbitrary and capricious.

Therefore, this Court should remand the Final Standards directing Respondents to conduct a proper BAT analysis to adopt an equipment standard BMP requiring a BWMS or, alternatively, a filtration-only system, for all existing Lakers. Otherwise, existing Lakers will continue discharging untreated ballast water into the Great Lakes, spreading invasive species for decades to come. Also, the Court should direct Respondents to revise the Final Standards to require Lakers built after January 1, 2009 to comply with a numeric ballast water discharge standard for living organisms set to the IMO standard and to include the Uptake BMP.

STATEMENT OF ISSUES

1. Whether the Final Standards are arbitrary and capricious, an abuse of discretion, or otherwise not in accordance with VIDA's BAT standard, 33 U.S.C. § 1322(p)(4)(B)(i)(III), because EPA failed to properly analyze and adopt an equipment standard BMP requiring existing Lakers to install and operate United States Coast Guard ("USCG") type-approved BWMS, ignoring evidence that BWMS are the best available technology, failing to properly determine whether BWMS are economically achievable, and improperly considering other factors.

2. Whether the Final Standards are arbitrary and capricious, an abuse of discretion, or otherwise not in accordance with VIDA's BAT standard, 33 U.S.C. § 1322(p)(4)(B)(i)(III), because EPA failed to properly analyze and adopt, as an

alternative, a less stringent equipment standard BMP requiring installation and operation of only the filtration system of a BWMS as BAT for existing Lakers.

3. Whether EPA acted contrary to VIDA's express text and arbitrarily and capriciously by failing to require Lakers built after January 1, 2009 to meet a numeric ballast water discharge standard for living organisms set to the 2013 VGP standard, 2013 VGP § 2.2.3.5.3.3 at 39, because VIDA requires the Final Standards be as stringent as the 2013 VGP, 33 U.S.C. § 1322(p)(4)(D)(ii).

4. Whether EPA acted contrary to VIDA's express text and arbitrarily and capriciously by failing to include the Uptake BMP, 2013 VGP § 2.2.3.3 at 27–28, in the Final Standards. 33 U.S.C. § 1322(p)(4)(D)(ii).

STATUTES AND REGULATIONS

All applicable statutes and regulations are in California State Lands Commission's Opening Brief.

STATEMENT OF THE CASE

I. Factual Background

A. Aquatic Nuisance Species Severely Damage the Great Lakes.

"Ballast water discharge is particularly problematic in the Great Lakes." *Nat. Res. Def. Council v. U.S. Env't Prot. Agency* (*NRDC II*), 808 F.3d 556, 562 (2d Cir. 2015). Each of 63 U.S. Lakers makes 50 to 140 trips annually across the Great Lakes taking up ballast water in one port and discharging it in another to manage its vessel

weight and maintain stability. Industry Study at 6–7, JA_. A Laker holds up to 16.4 million gallons of Great Lakes water in its ballast tanks, equal to almost 25 Olympic-sized swimming pools. *Id.* Lakers pose a "relatively high risk of spreading [aquatic nuisance species]" because they carry large quantities of ballast, "have a high frequency of ballast water discharge events, and short voyages." EPA New Lakers Economic Analysis at 20, JA_. A recent monitoring project proved that aquatic nuisance species are transported among the Great Lakes by Laker ballast water. GWRC Monitoring Project at 55, JA_.

Aquatic nuisance species are "nonindigenous species that threaten[] the diversity or abundance of a native species; the ecological stability of the waters of the United States" or "a commercial, agricultural, aquacultural, or recreational activity that is dependent on the waters of the United States," as defined in VIDA. 33 U.S.C. § 1322(p)(1)(A). They harm the Great Lakes by "damaging habitats, changing food webs, and altering the chemical and physical environment." EPA Economic Analysis at 9, JA_. The U.S. spends about $9 billion annually to control for such species. *Id.* at 81–82, JA_.

National focus on aquatic nuisance species dates to the 1980s zebra mussel invasion brought into the Great Lakes from ballast water in oceangoing vessels coming from Europe; these mussels continue to wreak havoc, damaging infrastructure, disrupting recreational and commercial fishing, and reducing water-

based recreation and tourism. *Id.* at 9, 80, 82 JA_, _, _. Aquatic nuisance species cause well over $100 million in economic harm to the Great Lakes region annually. State of the Great Lakes Report at 602, JA_. "To date, 188 aquatic non-native species have been reported as established in the Great Lakes, of which 64 are considered invasive and have known negative environmental and/or socioeconomic impacts." EPA New Lakers Economic Analysis at 19, JA_. Between 2011–2020, "new non-indigenous species have become established in all five Great Lakes due to secondary invasions from spread from the other Great Lakes." *Id.*

While large oceangoing vessels entering the Great Lakes are subject to the IMO or 2013 VGP numeric ballast water discharge standard, that standard does not require killing 100% of living organisms, leaving the risk that new species will be introduced. IMO Convention, Regulation D-2 at 22, JA_; 2013 VGP § 2.2.3.5 at 29. In addition, aquatic nuisance species are introduced into the Great Lakes from sources such as deliberate introductions, aquarium releases, and bait. State of the Great Lakes Report at 576–77. Recreational vessels unregulated by VIDA are another source. 33 U.S.C. § 1322(p)(2)(B)(i)(II). Regardless of the source, aquatic nuisance species are spread throughout the Great Lakes by Lakers.

II. BWMS Are Feasible and Effective on the Great Lakes.

BWMS are devices installed in vessels which reduce the number of living organisms and microorganisms in the vessels' ballast water discharges to decrease

the risk of aquatic nuisance species spreading. BWMS typically contain two treatment components: a filtration system, which physically prevents discharge of organisms, plus a disinfection system, which uses a chemical or physical action, like ultraviolet ("UV") radiation, to kill organisms. 85 Fed. Reg. 67836, 67847. Both land-based and shipboard studies of BWMS operating with Great Lakes water or on the Great Lakes demonstrate that BWMS can operate without significant operational challenges and substantially reduce the concentration of living organisms in ballast water. Bailey Study, JA_; GSI 2015 Study, JA_; GSI 2014 Study, JA_; GSI 2011 Study, JA_. Filtration systems used alone without a disinfection system reduced the concentration of living organisms by 99.9% in on-land tests using Duluth-Superior Harbor water. GSI 2014 Study at 47, JA_.

Engineering studies demonstrate that all types of Lakers can be modified to install BWMS. Industry Study, JA_; Canadian Study, JA_; USCG Study, JA_. One U.S. Laker already operates with a BWMS installed. *See* Response to Comments at 125, JA_. These studies estimate the cost to install BWMS on Lakers. The USCG and Canadian studies estimate it will cost substantially less to retrofit the U.S. Laker fleet than the Industry Study. USCG Study, JA_; Canadian Study, JA_; Industry Study, JA_.

In 2021, Canada adopted an equipment standard requiring all Lakers that discharge ballast water in Canadian Great Lakes ports to install and operate BWMS

by either 2024 or 2030, depending on vessel age. Ballast Water Regulations, Regulation B-3 of the Annex, SOR/2021-120 (Can.). If all Lakers install and operate BWMS, the number of nonindigenous species established annually in the Great Lakes will decrease by 83% if treatment is only 50% effective and by 99% if treatment meets the numeric ballast water discharge standard 100% of the time. DFO 2020 at 11, JA_.

III. Legal Background

A. VIDA Requires a Technology-Forcing Approach for EPA Regulation of Laker Ballast Water Discharges.

EPA began regulating vessel ballast water discharges as point sources of pollution under the Clean Water Act after the Ninth Circuit held that EPA's 1978 rule exempting such discharges from regulation was *ultra vires*. *See Nw. Env't Advocs. v. U.S. Env't Prot. Agency*, 537 F.3d 1006 (9th Cir. 2008). In 2008 and 2013, EPA issued ballast water discharge permits, referred to as Vessel General Permits ("VGPs"). *See Final National Pollutant Discharge Elimination System (NPDES) General Permit for Discharges Incidental to the Normal Operation of a Vessel*, 73 Fed. Reg. 79473 (Dec. 29, 2008) ("2008 VGP"); 2013 VGP.

The Second Circuit remanded the 2013 VGP holding, "EPA acted arbitrarily and capriciously in issuing parts of the 2013 VGP," including for (1) failing to apply BAT by choosing the IMO standard as the numeric ballast water discharge standard without explaining why higher standards should not be used and (2) exempting

Lakers built before 2009 from that standard noting "the purpose of BAT is to force technology to keep pace with need." *NRDC II*, 808 F.3d at 562, 570–71, 576–77.

The USCG also has regulated ballast water discharges since 1990, when Congress passed the Nonindigenous Aquatic Nuisance Species Prevention and Control Act, 16 U.S.C. § 4701 *et seq.*, responding to the national concern over invasive zebra mussels in the Great Lakes. One of USCG's ballast water regulatory responsibilities is approving BWMS that meet performance and safety standards under the USCG type-approval program. 46 C.F.R. § 162.060. Many states also regulate ballast water discharges. Errata to S. Rep. No. 115–89 (2019) at 5.

In 2018, Congress passed VIDA, creating a new Clean Water Act section, 33 U.S.C. § 1322(p). VIDA's legislative history identifies that zebra mussels "drastically altered ecosystems in the Great Lakes" as an impetus for legislation. Errata to S. Rep. No. 115–89 (2019) at 1–2.

VIDA establishes a new regulatory scheme directing EPA to promulgate national standards of performance for vessel incidental discharges, 33 U.S.C. § 1322(p)(4), and USCG to issue implementation, compliance, and enforcement regulations thereafter. 33 U.S.C. § 1322(p)(5). VIDA preempts states' ballast water regulations once EPA's Final Standards become enforceable. 33 U.S.C. § 1322(p)(9)(A)(i).

VIDA is drafted to "promote stronger standards over time." Errata to S. Rep. No. 115–89 (2019) at 11. It does so by (1) adopting the BAT standard, a "well-established technology-forcing regime" permeating the Clean Water Act, and (2) preventing EPA from "revis[ing] a Standard of Performance … to be less stringent than" the 2013 VGP unless two "very limited" exceptions apply, 33 U.S.C. § 1322(p)(4)(D)(ii). *Id.* at 11–12.

B. EPA Failed to Take a Technology-Forcing Approach to Regulating Laker Ballast Water Discharges.

EPA promulgated the Final Standards belatedly, missing VIDA's December 4, 2020 deadline. 33 U.S.C. § 1322(p)(4)(A)(i). EPA's Notice of Proposed Rulemaking issued October 26, 2020. *Vessel Incidental Discharge National Standards of Performance*, 85 Fed. Reg. 67818 (Oct. 26, 2020). EPA's Supplemental Notice of Proposed Rulemaking issued October 18, 2023. *Vessel Incidental Discharge National Standards of Performance*, 88 Fed. Reg. 71788 (Oct. 18, 2023). EPA's Final Standards issued October 9, 2024.

The Final Standards disregard VIDA's requisite technology-forcing approach to regulating ballast water discharges by Lakers. EPA found that "BAT for control of ballast water discharges is the use of a USCG type-approved BWMS" and set a numeric ballast water discharge standard for living organisms at the same level as the IMO and 2013 VGP Standards. 89 Fed. Reg. 82095–96. But, EPA exempted all Lakers from this numeric ballast water discharge standard, claiming it was

"infeasible." 40 C.F.R. § 139.10(d)(3)(vi); 89 Fed. Reg. 82101. Instead, EPA adopted an "equipment standard" BMP for "***new*** Lakers" only, requiring them to "install, operate, and maintain" a USCG type-approved BWMS, 40 C.F.R. § 139.10(c)(2), as BAT, but did "not establish an equipment standard for ***existing*** Lakers as BAT." 89 Fed. Reg. 82095 (emphasis added).

A vessel meets the numeric ballast water discharge standard by installing, operating, and maintaining a USCG type-approved BWMS to ensure that the concentration of living organisms and microorganisms in the vessel's treated ballast water discharges remains below the standard. *See, e.g.*, 89 Fed. Reg. 82095–97. An equipment standard BMP also requires the vessel to install, operate, and maintain a USCG type-approved BWMS, but the vessel does not need to meet the numeric ballast water discharge standard to be in compliance. 89 Fed. Reg. 82094–95.

EPA's exemption of existing Lakers from any requirement to treat their ballast water discharges is contrary to VIDA's technology-forcing BAT standard. Senator Carper, one of VIDA's principal authors, states, "the concept of exempting Lakers was considered and … expressly rejected on a bipartisan basis." Sen. Carper Comment at 3. Lakers operate for decades, and new Lakers are rarely built or converted. *See* EPA New Lakers Economic Analysis at 5–8, JA_ (only 10 of the 63 U.S. Lakers were built or converted in the past 25 years; an unconverted Laker built in 1949 still operates). Thus, EPA's existing Laker exemption means most Lakers

will traverse the Great Lakes with unregulated ballast water discharges for decades to come.

Also, EPA's Final Standards are less stringent than the 2013 VGP. First, although the 2013 VGP excludes only pre-2009 Lakers from the numeric ballast water discharge standard, 2013 VGP § 2.2.3.5.3.3 at 39, the Final Standards exempt all Lakers from this standard. 40 C.F.R. § 139.10(d)(3)(vi). Second, while the 2013 VGP includes the Uptake BMP, directing all vessels, including Lakers, to "minimize or avoid uptake of ballast water in … areas known to have infestations or populations of harmful organisms and pathogens (e.g., toxic algal blooms)," 2013 VGP at § 2.2.3.3 at 27–28, the Final Standards remove the Uptake BMP. 89 Fed. Reg. 82093.

STANDARD OF REVIEW

The Court reviews EPA's interpretation of VIDA *de novo*, and the agency is not entitled to deference on whether its statutory interpretation is contrary to law. *Loper Bright Enters. v. Raimondo*, 603 U.S. 369, 391–92, 412–13 (2024). The Court reviews EPA's action to determine if it is "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." 5 U.S.C. § 706(2)(A). EPA acts arbitrarily and capriciously if it

> [1] has relied on factors which Congress has not intended it to consider, [2] entirely failed to consider an important aspect of the problem, [3] offered an explanation for its decision that runs counter to the evidence

> before the agency, or [4] is so implausible that it could not be ascribed to a difference in view or the product of agency expertise.

Motor Vehicle Mfrs. Ass'n of U.S., Inc. v. State Farm Mut. Auto. Ins. Co., 463 U.S. 29, 43 (1983). If the Court finds that EPA's action was "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law" it must "hold unlawful and set aside [the] agency action." 5 U.S.C. § 706(2).

SUMMARY OF ARGUMENT

First, EPA acts "arbitrarily and capriciously … or otherwise not in accordance with law" by failing to include any equipment standard BMP as BAT for existing Lakers in the Final Standards, improperly relying on factors which Congress did not intend EPA to consider and offering an explanation counter to the evidence before it. 5 U.S.C. § 706(2)(A). The Final Standards must include an equipment standard BMP for existing Lakers, requiring them to install USCG type-approved BWMS as BAT, or, alternatively, filtration-only equipment as BAT.

Second, EPA violates VIDA and acts arbitrarily and capriciously because the Final Standards are less stringent than the 2013 VGP, yet neither exception to VIDA's stringency provision applies. 33 U.S.C. § 1322(p)(4)(D)(ii). Respondents must revise the Final Standards to require post-2009 Lakers to comply with the numeric ballast water discharge standard and to include the Uptake BMP.

STANDING

Environmental Petitioners have standing to sue on behalf of their members. *Hearth, Patio & Barbecue Ass'n v. Env't Prot. Agency*, 11 F.4th 791, 802 (D.C. Cir. 2021). Each is a non-profit with "a priority of ensuring that invasive species do not continue to be introduced into or spread throughout the Great Lakes and St. Lawrence River, which [they] believe would have an adverse impact on their ecosystems, dependent communities, and economies," Environmental Petitioners' Comment at 1, JA_, making this Petition "germane to the organization's purpose;" also, their members' participation in this lawsuit is not required. *Hearth, Patio & Barbecue Ass'n*, 11 F.4th at 802. As explained in declarations, Environmental Petitioners' members would have standing in their own right because they reside near, recreate on, and operate businesses depending on the Great Lakes, and are harmed by Respondents' unlawful failure in the Final Standards to regulate existing Lakers to prevent the spread of aquatic nuisance species throughout the Great Lakes. *See* Addendum to Environmental Petitioners' Opening Brief.

ARGUMENT

I. EPA's BAT Analysis Rejecting any Equipment Standard BMP for Existing Lakers Is Flawed.

EPA's rejection of any equipment standard BMP requiring existing Lakers to install and operate equipment to treat their ballast water discharges violates VIDA's BAT standard. Under VIDA, EPA must promulgate standards of performance for

aquatic nuisance species that require "the application of the best available technology economically achievable [BAT] for categories and classes of vessels, which shall result in reasonable progress toward the national goal of eliminating discharges of all pollutants." 33 U.S.C. § 1322(p)(4)(B)(i)(III); *see also* 33 U.S.C. § 1322(p)(1)(F) (defining BAT by reference to the same term in 33 U.S.C. §§ 1311(b)(2)(A), 33 U.S.C. § 1314(b)(2)(B)).

The "most salient characteristic" of the BAT standard "articulated time and again by its architects and embedded in the statutory language, is that it is technology-forcing. … This policy is expressed as a statutory mandate, not simply as a goal." *Nat. Res. Def. Council, Inc. v. U.S. Env't Prot. Agency* (*NRDC I*), 822 F.2d 104, 123 (D.C. Cir. 1987) (citing S. Rep. No. 92-414, at 42 (1971); 117 Cong. Rec. 38,808 (1971) (Sen. Montoya); 118 Cong. Rec. 33,693, 33,696 (1972) (Sen. Muskie)). The BAT standard requires a "commitment of the maximum resources economically possible to the ultimate goal of eliminating all polluting discharges." *Env't Prot. Agency v. Nat'l Crushed Stone Ass'n*, 449 U.S. 64, 74 (1980). If "existing [pollution control] performance [in an industry subcategory] is uniformly inadequate, BAT may reflect a higher level of performance than is currently being achieved within a subcategory based on technology transferred from a different subcategory or category." 85 Fed. Reg. 67828 (citing *Am. Paper Inst. v.*

Train, 543 F.2d 328, 353 (D.C. Cir. 1976); *Am. Frozen Food Inst. v. Train*, 539 F.2d 107, 132 (D.C. Cir. 1976)).

VIDA's BAT requirement demands more than the exemption from any equipment standard BMP that EPA gave to existing Lakers. Under VIDA, if EPA finds it infeasible to set a numeric standard of performance, as EPA found to be the case for a ballast water discharge standard for all Lakers, *see* 89 Fed. Reg. 82101, then EPA "***shall*** require the use of best management practices to control or abate any discharge incidental to the normal operation of a vessel." 33 U.S.C. § 1322(p)(4)(B)(ii) (emphasis added). BMPs are also promulgated based on application of the BAT standard. 33 U.S.C. § 1322(p)(4)(B)(i); *see also* Response to Comments at 136. EPA engaged in a faulty BAT analysis, first, by rejecting a BWMS equipment standard BMP for existing Lakers and limiting that BMP to new Lakers, and by failing to consider whether, at minimum, a filtration-only equipment standard BMP is BAT for existing Lakers.

A. EPA's Rejection of a BWMS Equipment Standard BMP as BAT for Existing Lakers Is Impermissible.

EPA's rejection of an equipment standard BMP requiring existing Lakers to install, operate, and maintain a USCG type-approved BWMS as BAT violates VIDA and is arbitrary and capricious because EPA (1) ignores record evidence demonstrating that BWMS are the "best available technology" for existing Lakers,

(2) fails to conduct a proper "economic achievability" analysis, and (3) improperly relies on "other factors." *State Farm*, 463 U.S. at 43.

1. BWMS Are the "Best Available Technology" for Existing Lakers.

EPA's BAT analysis is arbitrary and capricious because it ignores record evidence demonstrating that all Lakers can be retrofitted to install BWMS, as well as evidence that BWMS on existing Lakers can effectively reduce the presence of living organisms in ballast water discharge. *Id.* (agency action arbitrary and capricious if it "offer[s] an explanation for its decision that runs counter to the evidence before the agency."). By the time EPA issued the Final Standards, USCG had type-approved 54 BWMS, including many different types with a broad range of ballast water discharge capacities. 89 Fed. Reg. 82096; *see also* USCG Type-Approval List.

Engineering reports, including one by USCG, demonstrate that any type of Laker can install and operate BWMS. *See* Canadian Study at iii (concluding "it is technically feasible to install any of these systems in all of the specific ships that have been examined in detail, and that a technically feasible approach can be found for all of the vessel categories considered"); Industry Study, JA_ (estimating cost and practicability of retrofitting six representative categories of Lakers to install UV and chemical addition BWMS); USCG Study, JA_ (estimating cost and

practicability of retrofitting four representative categories of Lakers to install UV and ozone BWMS).

Thus, BWMS are an "available technology" for existing Lakers, as VIDA's BAT provision requires, 33 U.S.C. § 1322(p)(4)(B)(i)(III), because "the technology has been adequately demonstrated," and is not required to be in "actual routine use somewhere." *Am. Frozen Food Inst.*, 539 F.2d at 132 (interpreting term "best available technology" as used in 33 U.S.C. § 1311(b)(2)(A)). Further, ballast water discharge by existing Lakers is not currently regulated because USCG issued a compliance date extension for the 2013 VGP's requirement that post-2009 Lakers meet the numeric ballast water discharge standard, 89 Fed. Reg. 82101, and the 2013 VGP excludes pre-2009 Lakers from that standard, 2013 VGP § 2.2.3.5.3.3 at 39. Therefore, existing Lakers' pollution control performance is "uniformly inadequate," so EPA can set the BAT standard to "reflect a higher level of performance than is currently being achieved within a subcategory based on technology transferred from a different subcategory or category." 85 Fed. Reg. 67828 (citing *Am. Paper Inst.*, 543 F.2d at 353; *Am. Frozen Food Inst.*, 539 F.2d at 132).

Not only are BWMS an "available technology" for existing Lakers, they are the "best" available technology. Shipboard testing of BWMS on Canadian vessels in the Great Lakes, including one Canadian Laker, shows BWMS can operate using

Great Lakes water and reduce living organism discharge by 99%. *See* Bailey Study at 6, JA_; *see also Am. Paper Inst.*, 543 F.2d at 348 (upholding BAT standard based on pilot programs showing technology could be used even though it was not widely adopted). Despite acknowledging that BWMS in the study "demonstrated a substantial reduction in the number of living organisms," EPA rejected BWMS as BAT for existing Lakers. 88 Fed. Reg. 71797–98. EPA's disregard for these study results on Canadian vessels is misplaced because

> the statutory term[] … 'best available technology' [cannot] appropriately be interpreted to exclude consideration of technology available in plants in the same industry across a national boundary separating the United States from a friendly neighbor. Technology in the modern world knows few boundaries the United States-Canadian boundary perhaps least of all.

Am. Frozen Food Inst., 539 F.2d at 132.

Further, land-based testing of BWMS using Great Lakes water shows they can reduce the concentration of both the large and medium size classes of living organisms by up to 99%. GSI 2015 Study at 107–08, JA_ (99.9% reduction in large size class; meets numeric ballast water discharge standard for medium size class), GSI 2011 Study at 40–42, JA_ (96% reduction in large size class; 78% reduction in medium size class). This shows that a BWMS equipment standard BMP for existing Lakers will fulfill the purpose of VIDA's BAT standard by "result[ing] in reasonable progress towards the national goal of eliminating discharges of all pollutants." 33 U.S.C. § 1322(p)(4)(B)(i)(III). Importantly, reducing the number of organisms

discharged decreases the likelihood an aquatic nuisance species will become established. *See* EPA New Lakers Economic Analysis at 21, JA_; *see also* DFO 2020 at 11, JA_ (invasive species establishment in the Great Lakes will decrease 83% if all U.S. and Canadian Lakers install BWMS).

Lastly, like with EPA's 2013 VGP, EPA again arbitrarily and capriciously used compliance with the IMO standard as a basis to reject available ballast water treatment technology as BAT. *See, e.g.*, 85 Fed. Reg. 67849–50 (EPA rejects BWMS equipment standard BMP for existing Lakers claiming most owners will choose UV BWMS, which did not meet the IMO standard in prior testing). EPA's supposition as to whether the BWMS that existing Laker owners choose to install will meet the IMO standard is irrelevant. VIDA requires EPA to set standards based upon the "best available technology," not based upon whether that technology when installed on existing Lakers can meet the IMO standard. *See NRDC II*, 808 F.3d at 570 (holding EPA's BAT analysis arbitrary and capricious because it set the 2013 VGP numeric ballast water discharge standard at the IMO standard first, then worked backward to determine which BWMS could achieve that standard). EPA's determination that a BWMS equipment standard BMP is not BAT for existing Lakers is arbitrary and capricious because it "runs counter to the evidence before the agency" which shows that existing Lakers can install BWMS which can operate effectively in the Great Lakes, and EPA "relie[s] on factors which Congress has not

intended it to consider" by improperly basing its BAT determination on compliance with the IMO Standard. *State Farm*, 463 U.S. at 43.

2. EPA's Economic Achievability Analysis Improperly Relies on an Industry-Backed Study and Fails to Account for Laker Industry Revenue.

Because BWMS are the "best available technology" for existing Lakers, VIDA's BAT standard requires EPA to determine if the technology is "economically achievable," but EPA failed to properly conduct such an analysis. 33 U.S.C. § 1322(p)(4)(B)(i)(III). EPA's economic achievability analysis is arbitrary and capricious and violates VIDA because it (1) "entirely fail[s] to consider" the Laker industry revenue which is an "important aspect of the problem," *State Farm*, 463 U.S. at 43, and (2) relies on "highly speculative industry-reported numbers when the industry had an incentive to estimate on the high end." *Sw. Airlines Co. v. Transp. Sec. Admin.*, 650 F.3d 752, 757 (D.C. Cir. 2011).

First, EPA did not even attempt to determine whether the estimated cost for Lakers to install BWMS can be "reasonably borne by industry," which is how EPA must determine whether an available technology is "economically achievable." 88 Fed. Reg. 71800 (citing *Chem. Mfrs. Ass'n v. Env't Prot. Agency*, 870 F.2d 177, 262 (5th Cir. 1989); *Nat'l Wildlife Fed'n v. Env't Prot. Agency*, 286 F.3d 554, 570 (D.C. Cir. 2002), *supplemented sub nom. In re Kagan*, 351 F.3d 1157 (D.C. Cir. 2003)). Instead, EPA only cites an industry-generated cost estimate to retrofit the entire

Laker fleet without analyzing that cost's impact on industry. *Id*. EPA has no reasonable basis to conclude that a BWMS equipment standard BMP for existing Lakers cannot be "reasonably borne" by the Laker industry without considering revenue or some other proxy for impact to industry.

EPA claims it did not consider Laker industry revenue because that information "is not available." Response to Comments at 142, JA_. But, Section 308(a) of the Clean Water Act gives EPA the power to "require the owner or operator of any point source to … provide such other information as he may reasonably require," "to develop[] … standard[s] of performance under [the Clean Water Act.]" 33 U.S.C. § 1318(a). EPA's failure to obtain and consider Laker revenue data, or any other relevant industry data, renders its economic achievability analysis arbitrary and capricious because EPA "entirely failed to consider an important aspect of the problem." *State Farm*, 463 U.S. at 43; *see also NRDC II*, 808 F.3d at 573–74 (holding EPA's BAT analysis in the 2013 VGP was arbitrarily and capriciously based on an incomplete record because EPA "turned a blind eye" to significant information).

Second, EPA improperly relies on a skewed, industry-backed study, which estimates the cost to retrofit existing Lakers with BWMS to be much higher than the other two cost estimate studies in the record. EPA's estimate that it will cost $649 million to retrofit the entire U.S. Laker fleet is based solely on one study

commissioned by Petitioner-Intervenor Lake Carriers' Association. *See* 88 Fed. Reg. 71800 (citing Industry Study, JA_). The Industry Study estimates it will cost $31.6–36.3 million to install BWMS on each 1000' Laker, for a total of $485 million to retrofit the fourteen 1000' U.S. Lakers. Industry Study at 25, 36, JA_, _. Yet USCG and Canada estimate the cost to retrofit a 1000' U.S. Laker will be much less, only $6.5–15.6 million. Canadian Study at 41, JA_; USCG Study at 35, 39, JA_, _.

The Industry Study estimates are so much higher because it assumes that 1000' Laker owners will choose chemical addition BWMS instead of UV BWMS even though using chemical addition BWMS requires coating the Laker's ballast tanks, a cost the study estimates to be $15–18 million. Industry Study at 25, 36, JA_, _. The Industry Study defends that assumption by claiming there is "insufficient electrical power to use UV radiation" which would require additional generators and that UV BWMS use a high cargo volume. *Id.* at 21, 31, JA_, _. But the Industry Study does not explain why any rational existing Laker owner would pay $15–18 million to coat ballast tanks rather than $2 million to install a new generator. *See* LCA-Fincantieri Notes at 4, JA_ (correspondence between Lake Carriers' Association and shipbuilder estimating cost is $2–2.5 million to upgrade a Laker's electrical system to accommodate a UV BWMS). Also, the Industry Study's cargo volume argument is false: The Industry Study clearly states that chemical addition BWMS will take up more volumetric area and cargo hold space than UV BWMS.

Industry Study at 31, JA_ (chemical addition BWMS require 16,000 ft^3 of space, 28,500 ft^3 of cargo hold volume vs. UV BWMS require only 5,100 ft^3 of space, 23,400 ft^3 of cargo hold volume).

The Lake Carriers' Association is incentivized to overestimate the cost to retrofit existing Lakers with BWMS to make it less likely EPA will find that this best available technology is "economically achievable" as required by VIDA's BAT standard. 33 U.S.C. § 1322(p)(4)(B)(i)(III). The assumptions in the Industry Study are false, defy logic, and drastically inflate the estimated cost to retrofit Lakers with BWMS. EPA acts arbitrarily and capriciously by failing to acknowledge these flaws and adopting the industry-backed study wholesale instead of the two government-funded studies in the record. *Cf. Sw. Airlines Co.*, 650 F.3d at 757 (holding Department of Transportation did not act arbitrarily or capriciously by rejecting a report that "simply regurgitated highly speculative industry-reported numbers when the industry had an incentive to estimate on the high end.").

3. Ongoing Research and VIDA's BWMS Legacy Clause Provide No Basis for EPA to Exclude Existing Lakers from the BWMS Equipment Standard BMP.

VIDA's BAT standard permits EPA to consider "other factors as the Administrator deems appropriate." 33 U.S.C. § 1314(b)(2)(B); *see also* 33 U.S.C. § 1322(p)(1)(F) (defining BAT under VIDA by reference to 33 U.S.C. § 1314(b)(2)(B)). EPA cites ongoing research by VIDA's Great Lakes and Lake

Champlain Invasive Species Program ("GLLCISP") and VIDA's BWMS Legacy Clause, 33 U.S.C. § 1322(p)(6)(C), as "other factors" weighing against requiring a BWMS equipment standard BMP for existing Lakers. 89 Fed. Reg. 82095; 88 Fed. Reg. 71802–03. But, EPA cannot take an "expansive view of the 'other factors' clause [that] would allow it, in every case, to justify a less stringent BAT … and undermine the concept of BAT altogether." *Sw. Elec. Power Co. v. United States Env't Prot. Agency*, 920 F.3d 999, 1028 (5th Cir. 2019). And, EPA's reliance on these two "other factors" is arbitrary and capricious because EPA (1) fails to show "a rational connection between the facts found and the choice made," *State Farm*, 463 U.S. at 43, and (2) bases its exclusion of existing Lakers "not on the agency's own judgment but on an erroneous view of the law." *Sea-Land Serv., Inc. v. Dep't of Transp.*, 137 F.3d 640, 646 (D.C. Cir. 1998).

First, EPA's reliance on the ongoing research of GLLCISP's seven-year Great Lakes Ballast Water Research and Development Plan as an "other factor" is misplaced because the Plan does not prioritize the type of research that will result in new BWMS being developed and type-approved. *See* 89 Fed. Reg. 82095, 88 Fed. Reg. 71802; Research and Development Plan at 53–95, JA_. The Great Lakes Panel on Aquatic Nuisance Species explains that GLLCISP spread its resources too thin and fails to prioritize testing more BWMS on more vessels and assisting with installation fees. Research and Development Plan at 75–76, JA_. Transport Canada

explains that GLLCISP's Plan only samples from newly installed BWMS, which can result in skewed data due to the steep learning curve for vessels operating BWMS. *Id.* at 92, JA_.

The BAT standard requires EPA to set standards based on the best ***available*** technology. Allowing EPA to find that there is no best available technology for existing Lakers because there may be a better available technology in the future would always allow EPA to issue a less stringent BAT standard and completely "undermine the concept of BAT," *Sw. Elec. Power Co.*, 920 F.3d at 1028, especially when current BWMS can achieve a 99% reduction in living organisms in their ballast water discharges. *See* Bailey Study at 6, JA_; GSI 2015 Study at 107, JA_. EPA acts irrationally to conclude that untargeted ongoing research supports delaying existing Laker regulation when effective "best available technology" exists. *See State Farm*, 463 U.S. at 43.

Second, EPA misinterprets VIDA's BWMS Legacy Clause which states if a vessel continues to meet the ballast water discharge standard applicable to it when it installed a USCG type-approved BWMS, it will be deemed in compliance with the ballast water discharge standard for the lifetime of the BWMS, even if EPA makes the standard more stringent thereafter. 33 U.S.C. § 1322(p)(6)(C). Contrary to EPA's claim, the Legacy Clause would not apply to most existing Lakers if EPA required a BWMS equipment standard BMP for them, and, therefore, would not

prevent EPA from promulgating and enforcing a more-stringent standard of performance for most existing Lakers in the future. 88 Fed. Reg. 71802. The Legacy Clause only applies if the vessel "continues to meet the ballast water discharge standard ***applicable to the vessel*** at the time of installation," 33 U.S.C. § 1322(p)(6)(C)(i)(III) (emphasis added), and the Final Standards expressly exempt existing Lakers from the ballast water discharge standard. 40 C.F.R. § 139.10(d)(3)(vi). EPA's adoption of an equipment standard BMP for existing Lakers would not cause the Legacy Clause to apply because an equipment standard BMP is not a ballast water discharge standard. *Compare* 40 C.F.R. § 139.10(c)(2) (listing the New Laker Equipment Standard in the section on ballast water BMPs) *with* 40 C.F.R. § 139.10(d) (establishing a numeric "ballast water discharge standard").

VIDA requires EPA to revise the Final Standards to require Lakers built after January 1, 2009 to comply with the numeric ballast water discharge standard, *see* Argument Section II.A, *infra* p. 32, which would require them to install USCG type-approved BWMS and subject them to the Legacy Clause. But the fact that the Legacy Clause would prevent the ***five*** post-2009 Lakers from being subject to a stricter ballast water discharge standard EPA may theoretically issue in the 20-to-25 year lifetime of the BWMS provides no basis for EPA to disregard VIDA's BAT requirement and fail to regulate the ***other 57 Lakers*** to which the Legacy Clause, by

its own terms, cannot apply. EPA New Lakers Economic Analysis at 5–8, JA_ (only five of the 63 U.S. Lakers were constructed or underwent a major conversion since January 1, 2009).

Also, VIDA exempts the Legacy Clause from applying when USCG determines:

> there are other type-approved [BWMS] for the vessel or category of vessels, with respect to the use of which the environmental, health, and economic benefits would exceed the costs.

33 U.S.C. § 1322(p)(6)(C)(ii)(III). So, if ongoing research results in breakthrough BWMS technology as EPA improbably claims, then this exemption would certainly apply and allow EPA to require Lakers to update their BWMS, given the massive environmental and economic harm to the Great Lakes posed by aquatic nuisance species. State of the Great Lakes Report at 602, JA_ (aquatic nuisance species cause well over $100 million in economic harm to Great Lakes region annually). EPA's conclusion that a BWMS equipment standard BMP is not BAT for existing Lakers should not stand because it was based, in part, on its misinterpretation of VIDA. *Sea-Land Serv., Inc.*, 137 F.3d at 646 ("An agency action, however permissible as an exercise of discretion, cannot be sustained where it is based not on the agency's own judgment but on an erroneous view of the law.").

B. EPA Improperly Fails to Consider Whether, at Minimum, a Filtration-Only Equipment Standard BMP Is BAT for Existing Lakers.

EPA's rejection of a filtration-only equipment standard BMP from further consideration as BAT for existing Lakers violates VIDA and is arbitrary and capricious because EPA relies on an irrelevant factor—compliance with the IMO numeric ballast water discharge standard and disregards the statutorily required factors. *See State Farm*, 463 U.S. at 43 (agency action arbitrary and capricious if it "relie[s] on factors which Congress has not intended it to consider [or] entirely fail[s] to consider an important aspect of the problem."). EPA proposed this less rigorous alternative equipment standard BMP of requiring existing Lakers to install just a filtration-only system, rather than a full BWMS, but rejected it without determining whether it was an "available technology" and "economically achievable" on the basis that "filtration alone is not sufficient to meet the numeric discharge standard." 85 Fed. Reg. 67850.

Again, EPA improperly "chose the IMO standard first, and then worked 'backwards' to determine which systems could achieve that standard," in violation of VIDA's BAT requirement. *NRDC II*, 808 F.3d at 570; *see also NRDC I*, 822 F.2d at 124 ("In the course of establishing effluent limitations, EPA is instructed to specify the factors to be considered in evaluating available technologies; utilize them to identify the best control technologies, measures, and practices available; and

determine the degree of effluent reduction attainable using the best technology."). Here, EPA chose the degree of effluent reduction it wished to set the standard at—the same numeric standard as the IMO standard, then eliminated a filtration-only equipment standard BMP from further consideration for failing to meet that standard. That is the exact opposite of how EPA must apply BAT. As this Court already explained, EPA must utilize its pre-determined factors to identify available technologies and ***then*** determine what degree of effluent reduction is attainable using the best technology. *NRDC I*, 822 F.2d at 124. And, under VIDA, if EPA finds that a numeric standard is infeasible, it "***shall*** require the use of best management practices to control or abate any discharge." 33 U.S.C. § 1322(p)(4)(B)(ii) (emphasis added).

EPA ignores record evidence showing that a filtration-only equipment standard BMP is an effective and available technology. *See*, *e.g.*, GSI 2014 Study at 42, 47, JA_, _ (demonstrating that filtration-only systems can reduce living organism concentrations in Duluth-Superior Harbor water by up to 99.9% and operated without mechanical failure). Further, installing filtration-only systems is less costly than installing full BWMS because they do not use any chemicals that require Lakers to coat their ballast tanks, the primary driver of the cost to retrofit Lakers. *See* Section I.A.2, *supra* p. 21. EPA's rejection of a filtration-only equipment standard BMP as BAT for existing Lakers is arbitrary and capricious

because EPA "relied on other factors which Congress has not intended it to consider," and failed to consider the statutorily required BAT factors. *State Farm*, 463 U.S. at 43.

II. EPA's Promulgation of Final Standards Weaker than the 2013 VGP Violates VIDA's Stringency Provision.

Under VIDA, Respondents must revise the Final Standards to require Lakers built after January 1, 2009 ("post-2009 Lakers") to comply with the numeric ballast water discharge standard and add the Uptake BMP. VIDA expressly directs that EPA "shall not revise a Standard of Performance … to be less stringent than" the 2013 VGP, unless either of two exceptions apply:

> (1) information becomes available that was not reasonably available when the Administer promulgated the [2013 VGP] and … would have justified the application of a less-stringent Standard of Performance at the time of promulgation; or (2) if the Administrator determines that a material technical mistake or misinterpretation of law occurred when promulgating the [2013 VGP].

33 U.S.C. § 1322(p)(4)(D)(ii). The 2013 VGP requires that (1) all post-2009 Lakers comply with the numeric ballast water discharge standard, 2013 VGP § 2.2.3.5.3.3 at 39, and (2) all vessels adhere to the Uptake BMP. *Id.* § 2.2.3.3 at 27–28. The Final Standards' failure to include either requirement violates VIDA and is arbitrary and capricious. *See State Farm*, 463 U.S. at 43.

A. EPA's Failure to Require Post-2009 Lakers to Comply with the Numeric Ballast Water Discharge Standard Violates VIDA.

EPA's Final Standards adopt the same numeric ballast water discharge standard as in the 2013 VGP for oceangoing vessels. 40 C.F.R. § 139.10(d). But, EPA's Final Standards violate VIDA by departing from the 2013 VGP to exempt post-2009 Lakers from this standard. 89 Fed. Reg. 82101–82102. One of VIDA's principal authors describes this exemption as "an affront to the clear language" of VIDA. Sen. Carper Comment at 3. EPA's free pass to the five[1] post-2009 Lakers is unlawful, for neither of the two narrow exceptions to VIDA's stringency provision pertain.

First, EPA invokes the "material technical mistake" exception to VIDA's stringency requirement, 89 Fed. Reg. 82101, but misinterprets that exception and does not identify any actual technical mistake. Second, if EPA invokes the "new information" exception, it does not apply either, for there is no such new information. Third, EPA's assumption regarding Lakers' ability to meet the numeric ballast water discharge standard is unsupported by the record.

[1] EPA New Lakers Economic Analysis at 5–8, JA_.

1. EPA Identifies No Actual "Material Technical Mistake" It Made When Requiring Post-2009 Lakers to Meet the Numeric Ballast Water Discharge Standard in the 2013 VGP.

Although EPA raises VIDA's "material technical mistake" exception, it does not identify any actual technical mistake it made when promulgating the 2013 VGP requirement for post-2009 Lakers to adhere to the numeric ballast water discharge standard: no mathematical error, no computer glitch, nothing of that sort. Instead, EPA impermissibly seeks to recast its entire 2013 VGP assessment process for Lakers as the "material technical mistake." Specifically, EPA claims it made a "material technical mistake" in the 2013 VGP "when it determined that the environmental conditions and operational limitations identified as the basis for excluding Lakers constructed prior to 2009 from the numeric ballast water discharge standard would not be a limiting factor for those constructed after 2009." 89 Fed. Reg. 82101. Such an expansive interpretation of "material technical mistake" would read VIDA's exception to swallow its stringency rule. *See Pac. Gas & Elec. Co. v. FERC*, 113 F.4th 943, 949 (D.C. Cir. 2024) (citing *Diaz v. United States*, 602 U.S. 526, 537 (2024) ("We cannot read an exception to swallow the rule.")).

While VIDA does not define "material technical mistake," this provision is "modeled off comparable anti-backsliding requirements in [33 U.S.C. § 1342(o)(B)(2)(ii)]," Errata to S. Rep. No. 115–89 (2019) at 12, which, like VIDA's provision, preclude EPA from issuing a new permit less stringent than the prior one

unless a "technical mistake" occurred. 33 U.S.C. § 1342(o)(2)(B)(ii). Both an EPA implementing regulation, 40 C.F.R. § 122.62(a)(15), and a Fifth Circuit opinion interpreting that regulation, describe what "technical mistake" means: EPA provides the example of "errors in calculation," and the Fifth Circuit explains it means "only errors in mathematical calculations, computer errors, clerical mistakes and the like," rather than mistakes in "findings of 'technical'—as opposed to unsophisticated—fact." *Texas Mun. Power Agency v. Adm'r of U.S. E.P.A.*, 836 F.2d 1482, 1491 (5th Cir. 1988). Clearly, Congress had in mind this same limited scope for VIDA's "material technical mistake" exception. *See* Errata to S. Rep. No. 115–89 (2019) at 12 (VIDA's stringency exceptions are "very limited.").

Moreover, EPA expressly considered and refuted the very issues of "environmental conditions" and purported "operational limitations" of applying the numeric ballast water discharge standard to post-2009 Lakers during the 2013 VGP comment process. So, EPA did not make a mistake, technical or otherwise, of failing to acknowledge these issues during the 2013 VGP process. 2013 VGP Response to Comments at 508–10, 526–27, 558, 613–16, 671–78, 695–98, 719–20, JA_, _, _, _, _, _, _ (EPA affirming the post-2009 Lakers numeric ballast water discharge standard requirement and refuting comments that argued all Lakers, not just pre-2009 Lakers will experience operational limitations if required to install and operate USCG type-approved BWMS); *see State Farm*, 463 U.S. at 43 (agency action

arbitrary and capricious if it "offered an explanation for its decision that runs counter to the evidence before the agency."). For example, Petitioner-Intervenor Lake Carriers' Association raised purported operational challenges to all Lakers and advocated that the numeric ballast water discharge standard apply only to Lakers constructed after January 1, 2012, claiming vessels built thereafter would "have significantly greater opportunity to incorporate" equipment needed to comply with the standard. Response to Comments at 719, JA_. EPA specifically refuted the Association's argument about the feasibility of installing BWMS on post-2009 Lakers, even noting that the primary company constructing Lakers had been leaving room for BWMS to be installed. *Id.* EPA also pointed out Laker owners were aware the agency was considering applying the numeric ballast water discharge standard to post-2009 Lakers, so "prudent members of the shipping industry would be expected to have their new vessels built to accommodate treatment." *Id.* at 720, JA_.

2. EPA Identifies No "New Information" About Post-2009 Lakers Unavailable When It Issued the 2013 VGP.

EPA's Final Standards do not raise the "new information" exception to VIDA's stringency provision, 89 Fed. Reg. 82101–02, but fail to disavow EPA's prior Notice of Proposed Rulemaking claim that it "evaluated post-2009 Lakers and concluded that they too are unable to meet the [2013] VGP discharge requirements, which is new information not reasonably available to the Administrator when EPA issued the VGP." 85 Fed. Reg. 67854. If EPA's "new information" claim remains,

the Court must reject it, for EPA provides no evidence that it evaluated new information about post-2009 Lakers' capabilities to install and operate BWMS during the Final Standards rulemaking and such information was reasonably available to EPA when it promulgated the 2013 VGP. 33 U.S.C. § 1322(p)(4)(D)(ii)(II)(aa)(AA).

Nowhere in the record does EPA identify a new scientific study or new data to justify its about-face excusal of post-2009 Lakers from the numeric ballast water discharge standard as it must do if VIDA's "new information" exception is to apply. *See Mingo Logan Coal Co. v. Env't Prot. Agency*, 829 F.3d 710, 727 (D.C. Cir. 2016) (holding post-permit site data paired with new site studies about effluent impact constituted "sufficient new information" to satisfy regulation—40 C.F.R. § 231.3, 44 Fed. Reg. 58077 (Oct. 9, 1979)—allowing EPA to withdraw a permit based upon new information). To the contrary, record facts here dispel any "new information" claim, making EPA's action arbitrary and capricious. *State Farm*, 463 U.S. at 43 (agency action arbitrary and capricious if it "offered an explanation for its decision that runs counter to the evidence before the agency.").

Industry has built or majorly reconstructed only five U.S. Lakers since January 1, 2009. *See* EPA New Lakers Economic Analysis at 5–8, JA_. Two were built before EPA's 2013 VGP, so their ability to meet the numeric ballast water discharge standard was information reasonably available to EPA when issuing the

2013 VGP. *See id.* at 5, 8, JA_, _ (Endeavour built in 2009; Erie Trader built in 2012).

Regarding the three Lakers built after the 2013 VGP, one has a BWMS installed already, *see* Response to Comments at 125, JA_ (Michigan Trader, built in 2020, has a BWMS); another has "coated ballast tanks to accommodate the use of a chemical-addition BWMS." EPA New Lakers Economic Analysis at 10, JA_ (discussing Mark W. Barker). This leaves, at most, one post-2009 Laker, not addressed in EPA's Final Standards record.

VIDA is designed to force industry to adopt new, more stringent technology and its "new information" exception is "very limited." *See* Errata to S. Rep. No. 115–89 (2019) at 11, 12. It is impermissible for EPA to consider the Laker Industry's failure to act as "prudent members of the shipping industry"[2] by not installing BWMS on post-2009 Lakers[3] as "new information" justifying a less stringent standard. Doing so would create "perverse incentive[s]" for industry to drag their feet rather than comply with regulations, the opposite of VIDA's technology-forcing and anti-backsliding regime. *Orton Motor, Inc. v. United States Dep't of Health & Hum. Servs.*, 884 F.3d 1205, 1213 (D.C. Cir. 2018) (rejects interpretation of a regulation which would cause "the incentive for retailers to

[2] 2013 VGP Response to Comments at 720, JA_.
[3] As stated in Section I.A.1, three separate engineering reports show this is feasible, Canadian Cost Study at iii, JA _; Industry Cost Study, JA_; USCG Cost Study, JA_.

comply with each of the regulations [to] diminish."); *see also Blackman v. D.C.*, 633 F.3d 1088, 1092 (D.C. Cir. 2011) (rejects statutory interpretation that would create "a perverse incentive.").

3. Record Evidence Contradicts EPA's Claims About Post-2009 Lakers' Abilities to Meet the Numeric Ballast Water Discharge Standard.

EPA's decision in the Final Standards to restrict the numeric ballast water discharge standard to oceangoing vessels, 40 C.F.R. § 139.10(d), is premised on an invalid assumption that Lakers are less capable of meeting that standard than oceangoing vessels. *See* 89 Fed. Reg. 82101; 85 Fed. Reg. 67854. Record evidence shows that Lakers could meet that standard at a similar rate to oceangoing vessels. Thus, EPA's exclusion of post-2009 Lakers from the standard is arbitrary and capricious because its rationale "runs counter to the evidence before the agency." *State Farm*, 463 U.S. at 43.

Scientific studies show that BWMS operating in the Great Lakes meet the numeric ballast water discharge standard the majority of the time and at rates similar to oceangoing vessels. *See* Bailey Study at 6, JA_ (ships operating BWMS on the Great Lakes meet numeric ballast water discharge standard 100% of the time for medium organisms and 57% of the time for large organisms); GSI 2015 Study at 78–79, 107–08, 128–29, JA_, _, _ (land-based tests of BWMS using Great Lakes water meet numeric ballast water discharge standard for medium organisms in 7/8

trials and for large organisms in 2/8 trials and achieve a 99% reduction of organisms). This success rate is on-par with the success rate for oceangoing vessels whose BWMS only operate successfully 35% of the time. 85 Fed. Reg. 67843; *see also* ABS Report at 11, JA_ (65% of oceangoing vessels report their BWMS were inoperable or operations were problematic, and, presumably, were unable to meet the numeric ballast water discharge standard).

While EPA decided that oceangoing vessels' low compliance rates with the numeric ballast water discharge standard meant that EPA should "assist the vessel community in tackling installation and operational challenges with the existing BWMS," it impermissibly points to similar compliance rates in the Great Lakes to conclude that it should weaken the Final Standards for post-2009 Lakers. 85 Fed. Reg. 67843; *see also* 89 Fed. Reg. 82101; 85 Fed. Reg. 67854. The ability of BWMS in the Great Lakes to meet the numeric ballast water discharge standard the majority of the time—and at similar rates as oceangoing vessels—is not a viable basis for EPA to weaken the Final Standards for post-2009 Lakers. Rather, EPA must similarly work with Laker operators to develop strategies and best practices to successfully operate BWMS once installed. *See* Bailey Study at 8, JA_ ("greater rates of compliance [on Great Lakes vessels] may be achieved as shipowners and crews move beyond the steep learning curve associated with operation and maintenance of these new and complex technologies.").

B. EPA's Failure to Include the Uptake BMP in the Final Standards Violates VIDA.

EPA must include the Uptake BMP in the Final Standards because the "new information" exception to VIDA's stringency requirement on which it relies does not apply. 33 U.S.C. § 1322(p)(4)(D)(ii)(II)(aa). EPA fails to identify any "new information" and instead impermissibly shifts the burden to states to provide information to justify retaining the 2013 VGP's Uptake BMP. Also, EPA points to irrelevant, inaccurate information to support its unlawful removal of the Uptake BMP, making its action "arbitrary and capricious … or otherwise contrary to law." 5 U.S.C. § 706(2)(A).

1. VIDA's "New Information" Exception Is Inapplicable.

EPA's "new information" claim is backed only by conclusory assertions, not tangible evidence. *Cf. Mingo Logan Coal Co.*, 829 F.3d at 727. EPA asserts it conducted "extensive conversations with the USCG," during which "new information" since the 2013 VGP "became available indicating that these conditions [discussed in the Uptake BMP] are not well-defined and are typically beyond the control of the vessel operator during the uptake and discharge of ballast water." 89 Fed. Reg. 82093. But, the only record evidence of conversations between USCG and EPA is an email on compliance violations USCG issued over an eight-year period, which does not demonstrate that the conditions are not well-defined or unenforceable, only that none of their 10 enforcement actions during this time

involved this BMP. USCG-EPA Email. EPA also justifies removing the Uptake BMP by stating it "was not able to identify any information demonstrating that states or other regulatory agencies have adequately monitored and enforced compliance with this requirement." Response to Comments at 40, JA_. Additionally, EPA claims it "requested monitoring and enforcement information from the states and USCG and determined that the lack of any information documenting implementation, compliance assessments, or enforcement of this measure supported removal of this requirement from the regulatory language." *Id.*

EPA's rationale is unlawful both because it impermissibly shifts the burden of VIDA's "new information" exception and is factually incorrect. First, VIDA is clear, the Final Standards ***must*** be as stringent as the 2013 VGP ***unless*** there is new information. 33 U.S.C. § 1322(p)(4)(D)(ii). EPA instead asserts that the Final Standards can be as stringent as the 2013 VGP's Uptake BMP ***only*** if states provide new monitoring and enforcement information. Response to Comments at 40, JA_. EPA's interpretation flips VIDA's stringency requirement on its head in clear violation of the statutory text. EPA cannot require states to provide information as a requirement for retaining the Uptake BMP because VIDA requires the Uptake BMP to be retained by default. 33 U.S.C. § 1322(p)(4)(D)(ii).

Second, despite EPA's claim to the contrary, multiple states provided Uptake BMP compliance assessments, none of which support rescinding the Uptake BMP.

See, e.g., Michigan Letter, JA_; Wisconsin 2023 Comment at 2, JA_. Further, fifteen states urge EPA to retain the Uptake BMP. *See, e.g.*, Michigan Comment at 5–6, JA_; Wisconsin 2023 Comment at 2, JA_. Once the Final Standards are enforceable, VIDA preempts states from issuing and enforcing their own ballast water regulations, which include the Uptake BMP in some states. 33 U.S.C. § 1322(p)(9)(A)(i); *see, e.g.*, Mich. Comp. Laws Ann. § 324.3103a(2); Wisconsin Ballast Water General Permit, WPDES Permit No. WI-0063835-04 at 4.6. Given this, EPA's attempt to use the states as a justification for removing the Uptake BMP is arbitrary and capricious. *State Farm*, 463 U.S. at 43 (agency action arbitrary and capricious if it "offered an explanation for its decision that runs counter to the evidence before the agency.").

2. EPA Improperly Relies on Irrelevant Information About Ineffective Potential Alternatives.

EPA offers an irrelevant and inaccurate argument—that there are adequate substitutes to the Uptake BMP—to justify excluding it from the Final Standards. 89 Fed. Reg. 82093. EPA claims that "similar BMPs may be established" through 33 U.S.C. § 1322(p)(4)(E)(i), which allows EPA to issue an emergency BMP on its own, or 33 U.S.C. § 1322(p)(7)(A)(i), which allows states to petition EPA to issue an emergency BMP. 89 Fed. Reg. 82093. EPA also asserts it "expects that appropriate vessel-specific ballast water BMPs will be incorporated into the ballast water management plans" which vessels must create under the Final Standards, 40

C.F.R. § 139.10(c)(1)(i). *Id.* However, there are just two exceptions to VIDA's stringency provision; the adequacy of substitute measures is not one. 33 U.S.C. § 1322(p)(4)(D)(ii); *see also State Farm*, 463 U.S. at 43 (agency action arbitrary and capricious if it "has relied on factors which Congress has not intended it to consider.").

And, as multiple states detail, EPA's proposed alternatives, which would take weeks or months, are unfit mechanisms to address urgent issues of invasive species which require a response within hours or days to be effective. *See* Michigan Comment at 6,JA__; Minnesota Comment at 3–4, JA_; Ohio Comment at 2, JA_; Wisconsin 2020 Comment at 3–4, JA_.

EPA's rescission of the Uptake BMP over the objection of multiple states violates VIDA's stringency provision in favor of ineffective alternatives. The Court must reject EPA's attempt to do so.

CONCLUSION

Environmental Petitioners respectfully request that the Court set aside the aspects of the Final Standards addressed herein and remand to Respondents to conduct a proper BAT analysis and adopt an equipment standard BMP for existing Lakers and to issue Final Standards at least as stringent as the 2013 VGP.

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Respectfully submitted,

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CERTIFICATE OF COMPLIANCE

Pursuant to Federal Rule of Appellate Procedure 32(g)(1), I hereby certify that the foregoing Environmental Petitioners' Opening Brief contains 9,986 words excluding the parts of the brief exempted by Federal Rule of Appellate Procedure 32(f) and D.C. Circuit Rule 32(e)(1), in compliance with the word limit for this Brief established by this Court's order Doc. No. 2135817. As permitted by Federal Rule of Appellate Procedure 32(g)(1), I have relied upon the word count feature of Microsoft Word in preparing this certificate. The foregoing motion was composed in Times New Roman font, 14-point. This Brief complies with the applicable typeface and type style requirements of Federal Rule of Appellate Procedure 32(a)(5)-(6).

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CERTIFICATE OF SERVICE

I hereby certify that on December 19, 2025, the foregoing brief was electronically filed with the Clerk of the Court for the United States Court of Appeals for the D.C. Circuit using the CM/ECF system, which will provide electronic notice to counsel of record for all parties in the consolidated action.

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