Lake Carriers' Association

The Greatest Ships on the Great Lakes

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DOCKET ID: EPA-HQ-OW-2011-0141

Via E-Mail: ow-docket@epa.gov
Water Docket
Environmental Protection Agency
1200 Pennsylvania Ave., NW
Washington, DC 20460

Dear Sir or Madam:

**DRAFT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
GENERAL PERMITS FOR DISCHARGES
INCIDENTAL TO THE NORMAL OPERATION OF A VESSEL
Federal Register/Vol. 76, No. 236/
Thursday, December 8, 2011/Notices**

Lake Carriers' Association ("LCA") represents 17 American companies that operate 56 U.S.-flag vessels ("Lakers") on the Great Lakes and carry the raw materials that drive the nation's economy: iron ore and fluxstone for the steel industry, aggregate and cement for the construction industry, coal for power generation.... Collectively, these vessels can transport more than 115 million tons of dry-bulk cargo per year when high water offsets lack of adequate dredging.

LCA members employ more than 1,600 men and women and provide annual wages and benefits of approximately $125 million. In turn, the cargos our members carry generate and sustain more than 103,000 jobs in the United States and have an economic impact of more than $20 billion.

LCA appreciates the opportunity to comment on EPA's draft of the next iteration of the Vessel General Permit ("VGP") and wishes to emphasize that it shares the EPA's desire that discharges incidental to the normal operation of vessels in no way harm the environment. Our members have always taken appropriate steps to minimize vessel discharges, and when an accident happens or a system malfunctions, they implement appropriate corrective measures as quickly as possible.

That said, we do have some concerns about some of the proposed measures and will offer suggestions to improve their applicability in a marine environment. To summarize them concisely, those concerns are:

Continued…./

- For safety reasons, the VGP must allow for washdown of snow and ice from decks.
- While EPA correctly concludes that there are no ballast water treatment systems that can accommodate the operational requirements of Lakers and so imposes different requirements on Lakers that confine their operations to upstream of the Welland Canal, the date of construction for vessels so designated should be advanced to January 1, 2012, and upstream of the Welland Canal should be defined as beginning at its eastern end.
- Given that nothing in the record supports the conclusion that the sediment in Lakers' ballast tanks is potentially harmful to the environment, flushing of tanks should again be permitted in waters covered by this permit.
- The Extended Unmanned Period (which allows for reduced inspections) should commence when a vessel is incapable of navigation or propulsion and end when the vessel is again capable of both.
- Use of "Environmentally Acceptable Lubricants" must be conditioned upon approval by the equipment manufacturer, as not all lubricants are compatible.
- The proposed "reopener" criteria for potentially modifying the ballast water provisions need to recognize that any physical modifications to commercial vessels require lengthy advanced review, approval, and certification by the U.S. Coast Guard, American Bureau of Shipping, and other classification societies. As a result, any proposed changes to the VGP based on potentially new technology must provide for extensive lead time. As a practical matter this means that any changes from currently proposed requirements can only be addressed when the EPA begins to draft the third iteration of the VGP.
- Should systems that can accommodate Lakers' flowrates for volumes of ballast water become available at some point in the future, any requirement to install such systems must be preceded by a careful and thorough analysis of the benefits and costs. Our members' vessels never leave the Great Lakes so have never introduced a non-indigenous invasive species ("NIS"). Their ballast is but one of (at least) 64 vectors for spread. The Great Lakes are interconnected, so invasives migrate independent of any of these vectors. Theoretical models suggest it would cost $485 million to retrofit the U.S.-flag Great Lakes fleet with ballast water treatment systems. Given the lack of causation between the introduction and spread of invasives and Laker activity, there is no basis for imposing these costs on our industry.
- EPA should make the Section 401 certificate of the VGP itself, as it is required to do under the Clean Water Act, and in doing so eliminate the differing and unachievable requirements required by some Great Lakes states.

Before addressing those concerns in detail, as well as the specific questions the EPA has posed, we believe it is important that the role of Great Lakes shipping be reviewed, for it would be a blow to our economy and national defense capabilities if the next iteration of the VGP were to negatively affect our members' ability to move cargo and shift this commerce to other more costly and environmentally harmful modes of transportation.

As previously noted, LCA's 17 member companies collectively operate 56 U.S.-flag vessels on the Great Lakes. For the year just concluded, those companies moved 93.8 million tons of dry-bulk cargo, an increase of 5.75 percent over 2010. The table on pg. 3 records cargo movement for the past six years:

U.S.-FLAG DRY-BULK CARGO CARRIAGE
CALENDAR YEARS 2006-2011 AND 5-YEAR AVERAGE
(net tons)

COMMODITY	2006	2007	2008	2009	2010	2011	AVERAGE 2006-2010
IRON ORE							
Direct Shipments	45,850,298	45,049,721	45,329,607	23,271,702	39,663,547	44,443,975	39,832,975
Transshipments	3,121,814	2,156,662	1,893,887	759,385	2,364,871	2,780,768	2,059,324
	48,972,112	**47,206,383**	**47,223,494**	**24,031,087**	**42,028,418**	**47,224,743**	**41,892,299**
COAL (By Lake of Loading)							
Lake Superior	17,180,114	16,692,347	17,962,580	15,427,708	15,847,574	12,954,188	16,622,065
Lake Michigan	3,161,804	2,718,874	3,253,001	1,996,793	2,017,395	3,166,372	2,624,173
Lake Erie	5,018,195	5,759,408	3,756,042	3,250,387	3,674,897	4,118,767	4,291,786
	25,360,113	**25,170,629**	**24,971,623**	**20,674,888**	**21,539,886**	**20,239,327**	**23,538,024**
LIMESTONE	**29,489,410**	**25,966,057**	**23,632,070**	**17,067,232**	**20,410,266**	**21,434,839**	**23,313,007**
CEMENT	**3,997,703**	**3,602,488**	**3,294,071**	**2,865,323**	**2,782,259**	**2,817,846**	**3,313,769**
SALT	**1,126,862**	**1,241,297**	**1,224,769**	**1,260,901**	**1,391,239**	**1,452,134**	**1,249,014**
SAND	**429,411**	**449,474**	**359,191**	**262,805**	**225,593**	**332,172**	**345,295**
GRAIN	**356,143**	**404,923**	**247,597**	**304,507**	**306,872**	**283,200**	**324,198**
TOTAL	**109,731,754**	**104,041,251**	**100,952,815**	**66,466,743**	**88,684,513**	**93,784,261**	**93,975,605**

Iron ore for the steel industry dominates Great Lakes shipping. Most U.S. iron ore is mined in Minnesota and Michigan and shipped from ports on Lake Superior or Lake Michigan to steel centers in Indiana, Michigan, Ohio, Pennsylvania and other states. It takes 1.5 tons of iron ore (plus 400 pounds of fluxstone and a quantity of other raw materials) to make a ton of steel. The American Iron and Steel Institute estimates the steel industry generates 135,000 direct jobs and another 865,000 in related industries and activities.

Steel is perhaps the most global of industries and being so raw-materials dependent, cost-effective transportation is key to a competitive posture. The anti-trust laws preclude a trade association from having knowledge of freight rates, but we can make a generalization that a vessel can move a ton of iron ore the 800-plus miles from Minnesota to Ohio for about what it costs to have lunch at a restaurant. Little wonder then that half of all American steelmaking capacity is located in the Great Lakes basin.[1]

The other cargos are no less dependent on efficient transportation and just as fundamental to our standard of living. The coal powers the region's utilities. The aggregate and cement are the foundation of the construction industry. The salt de-ices wintry roads and so keeps society and the land-based modes of transportation mobile from December to April.

The totals above also generally represent the majority of these commodities moved on the Great Lakes. In 2011, U.S.-flag Lakers carried 77 percent of the iron ore, 73 percent of the coal, and 76 percent of the limestone. (Year-end totals for the other commodities were unavailable at the time of submission.)

[1] In fact, a steel industry executive has explained that, "As you look at the rationalization of the American steel industry, the likelihood of a primary steel mill being shut down is proportional to its distance from the Lakes." (Daniel J. Cornillie, Manager, Marine & Raw Material Logistics, ArcelorMittal USA – Indiana Harbor, on April 2, 2008, in Washington, D.C.).

The cargos our members carry generate jobs in every Great Lakes state as well as others.[2] More jobs will be created as our economy fully rebounds from the recession.
The table below summarizes jobs tied to U.S.-flag Great Lakes shipping in the eight Great Lakes states. The source for this data is the study "The Economic Impacts of the Great Lakes-St. Lawrence Seaway System" performed by Martin Associates of Lancaster, Pennsylvania and released on October 18, 2011 (attached):

Illinois	Indiana	Michigan	Minnesota	New York	Ohio	Penn.	Wisconsin
5,356	39,903	23,485	4,309	305	23,334	761	5,589

Our society derives another great benefit from shipping on the Great Lakes, and that is that waterborne commerce is the greenest form of transportation. A recent report by the U.S. Army Corp of Engineers found that on average a Great Lakes freighter travels 607 miles on one gallon of fuel per ton of cargo. This compares to 202 miles for a train and 59 miles for a truck.[3]

The amount of carbon dioxide emissions is also significantly lower for vessels. Again citing the Corps, a cargo of 1,000 tons transported by a Laker produces 90 percent less carbon dioxide than the same cargo transported by a truck and 70 percent less than a corresponding rail move.

Lakers move cargo using only 1/3rd to 1/5th of a horsepower per ton. If this ratio held true on our highways, a semi could be powered with a lawnmower engine. Even so, our members continually strive to further reduce their vessels' carbon footprint. In the past few years, three vessels have been repowered and a number of auxiliary engines and generators upgraded. During the winter of 2011/2012, our members will spend more than $75 million maintaining and upgrading their vessels.

The EPA has recognized that moving cargo by vessel is the most energy and environmentally efficient transportation as witnessed by their support for repowering an LCA-registered vessel.

COMMENTS SPECIFIC TO VARIOUS DISCHARGES

Introductory Statement

As EPA is aware, this iteration of the VGP, like its predecessor, is governed by the Clean Water Act, 33 U.S.C. §§ 1251 *et seq*., and the Administrative Procedure Act ("APA"), 5 U.S.C. §§ 551 *et seq*. These laws require that the final permit proposal be supported by the *facts in the record*, and that the final permit proposal not be "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." 5 U.S.C. § 706(2)(A). EPA's decisions must be supported by "substantial evidence" in the record. *Association of Data Processing v. Bd. of Governors*, 745 F.2d 677, 683 (D.C. Cir. 1984). Substantial evidence is such relevant evidence as a reasonable mind might accept as adequate to support a conclusion. *See Richardson v. Perales*, 402 U.S. 389, 401 (1971).

While EPA may be given some deference on its scientific judgments, *New York v. EPA*, 852 F.2d 574, 580 (D.C. Cir. 1988), *cert. denied*, 489 U.S. 1065 (1989), it is nevertheless obligated to ensure that the judgments are well reasoned and based on articulated facts in the record. *See*, *e.g.*, *American Trucking Associations v. EPA*, 175 F.3d 1027, 1054-55 (D.C. Cir. 1999), *reh'g granted in part and denied in part*, 195 F.3d 4 (D.C. Cir. 1999), *aff'd in part and rev'd in part on other grounds*, *Whitman v. Am. Trucking Assn's*, 531 U.S. 457 (2001) (EPA's decision to regulate coarse particulate

[2] Iron ore moved on the Lakes supplies a steel mill in West Virginia. Coal shipped on the Lakes is mined in states as far away as Montana and Wyoming.
[3] Great Lakes Navigation System: Economic Strength to the Nation, U.S. Army Corps of Engineers, February 2009, pgs. 2-3 (attached).

matter (PM) indirectly, using indicator of PM_{10}, was arbitrary and capricious; administrative convenience of using PM_{10} cannot justify using an indicator poorly matched to the relevant pollution agent); *Tex Tin Corp. v. EPA*, 992 F.2d 353, 354-55 (D.C. Cir. 1993) (EPA's reliance upon generic studies in face of conflicting detailed and specific scientific evidence held arbitrary and capricious). A court will carefully "review the record to ascertain that the agency has made a reasoned decision based on 'reasonable extrapolations from some reliable evidence,'" *Natural Resources Defense Council v. EPA*, 902 F.2d 962, 968 (D.C. Cir. 1990), to ensure that the agency has examined "the relevant data and articulate[d] a satisfactory explanation for its action including a 'rational connection between the facts found and the choice made.'" *Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983) (quoting *Burlington Truck Lines, Inc. v. United States*, 371 U.S. 156, 168 (1962)).

It is also crucially important that the EPA provide reasoned and logical explanations for its choices, and not merely conclusory statements. *See, e.g., Chemical Mfrs. Ass'n v. EPA*, 28 F.3d 1259, 1266 (D.C. Cir. 1994) (unsupported and conclusory statement regarding scientific model "added nothing to the agency's defense of its thesis except perhaps the implication that it was committed to its position regardless of any facts to the contrary"). EPA should, likewise, not infer facts not in the record. *See National Gypsum Co. v. EPA,* 968 F.2d 40, 43-44 (D.C. Cir. 1992) (agency cannot infer "facts" not in the record); *Natural Resources Defense Council v. EPA,* 859 F.2d 156, 210 (D.C. Cir. 1988) (agency actions based upon speculation are arbitrary and capricious).

EPA must also adequately respond to relevant and significant public comments that LCA and others are providing. *See Home Box Office, Inc. v. FCC*, 567 F.2d 9, 35 & n.58 (D.C. Cir.), *cert. denied,* 434 U.S. 829 (1977); *United States Satellite Broad. Co. v. FCC*, 740 F.2d 1177, 1188 (D.C. Cir. 1984) (agency must respond in reasoned manner to significant comments received). "For an agency's decisionmaking to be rational, it must respond to significant points raised during the public comment period." *Allied Local & Regional Mfrs. Caucus v. EPA,* 215 F.3d 61, 80 (D.C. Cir. 2000), *cert. denied,* 532 U.S. 1018 (2001); *accord Louisiana Federal Land Bank Ass'n v. Farm Credit Admin.*, 336 F.3d 1075, 1079 (D.C. Cir. 2003) (remanding rule to agency where agency failed to address substantive comments); *National Lime Ass'n v. EPA*, 627 F.2d 416, 433 (D.C. Cir. 1980) (remanding standards based, in part, on EPA's failure to respond to significant comments). "[T]he opportunity to comment is meaningless unless the agency responds to significant points raised by the public. A response is also mandated by *Overton Park,* which requires a reviewing court to assure itself that *all relevant factors* have been considered by the agency." *Home Box Office,* 567 F.2d at 35-36 (emphasis added); *see also State Farm*, 463 U.S. at 43 (an agency decision is arbitrary if the agency "failed to consider an important aspect of the problem").

2.2.1: Deck Washdown and Runoff and Above Water Line Hull Cleaning

Requirements: Vessel owner/operator must minimize the introduction of on-deck debris, garbage, residue, and spill into deck washdown and runoff discharges. Before deck washdowns occur, must broom clean exposed decks or use comparable management measures and remove all existing debris. When required by the class societies (e.g., oil tankers), the flag Administrations, or the U.S. Coast Guard, vessels must be fitted with and use perimeter spill rails and scuppers to collect the runoff for treatment. Where feasible, machinery on deck must have coamings or drip pans where necessary to collect any oily discharge that may leak from machinery and prevent spills. The drip pans must be drained to a waste container for proper disposal and/or periodically wiped and cleaned. The presence of floating solids, visible foam, halogenated phenol compounds, and dispersants, or surfactants in deck washdowns must be minimized. Vessel owners/operators must minimize deck washdowns while in port.

Vessel owners/operators must maintain the topside surface and other above water line portions of the vessel to minimize the discharge of rust (and other corrosion by-products), cleaning compounds, paint chips, non-skid material fragments, and other materials associated with exterior topside surface preservation. Furthermore, vessel owners/operators must minimize residual paint droplets from entering waters subject to this permit whenever they are conducting maintenance painting. Possible minimization techniques include, but are not limited to, avoiding paint spraying in windy conditions or avoiding overapplication of paint. This permit does not authorize the disposal of unused paint into waters subject to this permit.

If deck washdowns or above water line hull cleaning will result in a discharge, they must be conducted with "non-toxic" and "phosphate free" cleaners and detergents as defined in Appendix A of this permit. Furthermore, cleaners and detergents should not be caustic and must be biodegradable.

LCA response: We support the intent of these requirements. A clean, clutter-free ship is a safe ship. However, enforcement of these requirements must recognize the realities of the marine environment and conditions inherent with the dry-bulk trades on the Great Lakes. We refer specifically to the discharge of snow and ice (which may include traces of rock salt and dry cargo residue). This practice must continue to be allowed. Our members begin operations in early to mid-March when temperatures are well below freezing. It is unavoidable that thick ice formations build up on the deck and superstructures. This ice must be periodically washed away with warm water from the firemain to (1) ensure crew safety; (2) maintain stability of the vessel; and (3) allow for cargo operations.

Most vessels sail into January, so they experience the same conditions at the close of navigation.

2.2.3.4: Mandatory Ballast Water Management Practices for Existing Bulk Carrier Vessels (commonly known as Lakers) built before January 1, 2009, confined exclusively to the Great Lakes upstream of the Welland Canal

Requirements: Existing Bulk Carrier Vessels known as "Lakers" that operate exclusively in the Great Lakes upstream of the Welland Canal (i.e. those vessels confined to the upper Great Lakes because they are too large to exit the Great Lakes via the St. Lawrence Seaway) must meet the following additional ballast water management requirements:

- *Each owner/operator must perform annual inspections on their vessel to assess sediment accumulations. Removal of sediment, if necessary, must be carried out. Each vessel owner/operator must develop sediment removal policies as part of the Ballast Water Management Plan. Records of sediment removal and disposal (including facility name and location and all invoices) shall be kept onboard the vessel. EPA notes the discharge of sediments from cleaning of ballast tanks is not authorized in waters subject to this permit (see Part 2.2.3.3 of this permit).*
- *When practical and safe, vessels must minimize the ballast water taken dockside. This will typically mean limiting uptake to the amount of ballast water required to safely depart the dock and then complete ballasting in deeper water.*
- *The vessel sea chest is the first line of defense in keeping large living organisms out of the vessel ballast water tanks. Owner/operators of Laker vessels must perform annual inspections of their sea chest screens to assure that they are fully intact. The inspection must assure that there is no deterioration which has resulted in wider openings or holes in the screen. If the screen has deteriorated such that there are wider openings than the screen design, the vessel owner/operator must repair or replace the screen. Any repairs must be of sufficient quality that they are expected to last at least one year.*

LCA response: Detailed comments follow, but summary the following issues must be addressed:

1. The date of construction for vessels operating upstream of Welland Canal for which no ballast water treatment systems are available should be changed from January 1, 2009 to January 1, 2012;
2. "Upstream" of the Welland Canal should be defined as the eastern end of the Welland Canal;
3. LCA is unaware of a ballast water treatment system that can function in frigid water temperatures that occur on the Great Lakes at the opening and closing of navigation, and nothing in the record suggests otherwise;
4. Intermittent welding effectively precludes coating ballast tanks;
5. Flowrates necessary for the economic operation of Lakers are incompatible with existing ballast water technologies;
6. Lakers are unable to expand system capacity if flowrates are slowed;
7. Lakers complete many voyages just a matter of hours;
8. The natural flow of water in the Great Lakes is west to east, so this flushing effect enables moving the border for "upstream of Welland Canal" to its eastern end;
9. If EPA defines "upstream" as western end of the Welland Canal instead of the eastern end as advocated by LCA, the agency will put the 13th largest U.S-flag laker out of service;
10. Lakers should be allowed to flush ballast tank sediment in waters covered by this permit, as amounts are minute and material originated in the Lakes, not a body of water oceans away.
11. Furthermore, nothing in the record that Lakers' ballast is potentially harmful to the environment.

EPA correctly concludes that there are no ballast water treatment systems that can accommodate the operational requirements of Lakers and so imposes different requirements on Lakers that confine their operations to upstream of the Welland Canal. We have no doubt that some commenters will opine that requiring our vessels to meet these standards will lead to systems that can handle our operational demands, but that is not the case. The technology does not exist today that can accommodate the ballast water and pumping rates of Great Lakes vessels and will fit the limited space available and is not likely to exist during the term of this permit.

Before addressing the specific difficulties of treating Lakers' ballast, we'd like to explain why we believe the date of construction of vessels subject to this provision should be changed to January 1, 2012. Vessels constructed prior to that date have been designed and built to standards and arrangements which are identical to those of vessels constructed before January 1, 2009, making the adoption of yet-to-be established ballast water treatment equipment just as impossible to meet, given the unavailability of equipment. Vessels built after January 1, 2012 will have significantly greater opportunity to incorporate the added generator as well as piping and equipment space for future installation of treatment equipment if/when it becomes available. As with ships constructed before January 1, 2009, the designs of more recently constructed vessels simply do not incorporate sufficient space for future installation of treatment equipment.

The Science Advisory Board's ("SAB") report provides an excellent overview of the many hurdles that must be cleared before treating Lakers' ballast is even feasible:

> "In addition to specific environmental and vessel applications, vessel type and vessel operations can dictate BWMS applicability. Although a multitude of vessel designs and operation scenarios exist, a few important examples of specific constraints can greatly limit treatment option. **Perhaps the most dramatic limitations are found with the Great Lakes bulk carrier fleet** (emphasis added) that operates vessels solely within the Great Lakes with large volumes of fresh, and often cold, ballast water ("Lakers"). The vessels in this fleet have ballast volumes up to 50,000 m^3, high pumping rates (up to 5,000 m^3/hour, uncoated ballast tanks (older vessels), and some vessels have

> separate sea chests and pumps for each ballast tank. A further confounding issue is that voyages taken by Lakers average four to five days, with many less than two days. Given these characteristics, a number of limitations are imposed: electrochlorination and ozonation may only work in freshwater with the addition of brine (in particular C and Br, respectively); oxidizing chemicals may increase the corrosion rate of uncoated tanks; deoxygenation and chemical treatments that require holding times to effectively treat water (or even the breakdown of active substances) may not be completely effective on short voyages; and the space and power needed for the numbers of filtration + UV treatments may simply not be available."[6]

We endorse these declarations in the Science Advisory Board's report, but must expand on some statements.

Water temperature precludes use of currently available technologies. Cold is perhaps not the best word to use when describing the temperature of Great Lakes water at the beginning and end of the shipping season. It is a frigid 33 degrees. The ballast water treatment systems being installed on vessels now were not designed to function in such an environment. For one, there is the issue of slush ice plugging up the treatment equipment. During winter operations slush ice does plug up the main engine raw water cooling duplex strainers. It is not unreasonable to assume that similar problems will occur with respect to any back flushing filters or other equipment required to treat/filter ballast water.

Shortly after receiving type approval from Germany in 2008, the SEDNA Ballast Water Management System using Peraclean Ocean was withdrawn from the market after studies revealed that unacceptably high levels of residual chemicals were found in ballast water discharges when operating in very cold waters. In their study of the system, de Lafontaine, et al concluded that a 15-20 day hold time is required to ensure the residual toxicity of the discharge meets acceptable national and international standards. Other BWMS which use active substances have not undergone similar testing and study, so data on the toxicity of other systems' discharges is not available. Until such studies have been completed, it would be irresponsible for our members to install systems which could potentially do more harm to the environment than good and equally irresponsible for EPA to require such systems to be installed.

Lack of protection from corrosive effects of treatment systems is a fleet wide issue. Lack of coating in the ballast tanks is not limited to older vessels. It is essentially a fleet-wide issue. Most Great Lakes vessels use intermittent welding in their construction, which makes coating somewhat of a formality, as no effective corrosion protection is possible outside of the welded connections. Introduction of salt water or other corrosives would result in rapid loss of steel. On a practical basis, our members' ballast tanks are effectively uncoated. To date, there have been no studies – either long- or short-term – to evaluate the effects of ballast water treatment systems on coated or uncoated tanks. Even systems which de-oxygenate the ballast as a means of killing organisms and would therefore presumably reduce oxidative corrosion have been demonstrated in some studies to foster anaerobic microbial crevice corrosion.

Flowrates needed for doing business are incompatible with those needed for treatment technologies. Lakers' challenging ballast water volumes and flowrates cannot be reduced to levels required for current ballast water treatment technologies without rendering the entire operation uneconomical. The largest vessels operated by our members can carry more than 70,000 net tons of cargo in a single voyage when high water levels offset the chronic lack of adequate dredging. The

[6] Efficacy of Ballast Water Treatment Systems: A Report by the EPA Science Advisory Board, July 12, 2011, pg. 40.

rules of naval architecture require then that the vessel take on a similar weight when in ballast. In terms of gallons, some vessels can take on as much as 16.4 million gallons of ballast.

The flowrate necessary to accommodate these amounts, which can approach 80,000 gallons per *minute*, is a result of our operational requirements. In order to remain competitive with the railroads, vessels must load and discharge cargo as quickly as possible. This means cargos of 65,000-70,000 tons are loaded and discharged in roughly ten hours. Smaller, what we call "River-class" Lakers, discharge 15,000 tons or so in less than four hours.

To put these volumes and flowrates in perspective, Western Lake Superior Sanitary District includes Duluth, Hermantown, Proctor, Cloquet and three more small municipalities. On an average day, the WLSSD processes approximately 2.0 million gallons per hour at their facility. Their facility encompasses approximately 15 acres and contains 12 treatment tanks and miles of piping. The largest Lakers have flowrates which are more than twice as much as WLSSD, yet would have to treat this volume in the confines of an already cramped engine room which is a fraction of the size.

Slowing the unloading process (and therefore the rate at which ballast is taken on) to accommodate ballast water exchange technologies would have several severe impacts. First, it would reduce the fleet's seasonal capacity and result in shortfalls of raw materials for our customers. The reason a vessel in the Head-of-the-Lakes trade (Lake Superior to the Lower Lakes) can make 50-plus trips in a season is because it can load and discharge cargo in 10 hours or so. Lengthen those times to 20 or 30 hours and the vessel will forfeit trips. Based on a five-day round trip and increasing both the load and discharge times from 10 to 20 hours would reduce a vessel's seasonal carrying capacity by almost 15 percent.

There is no viable way to offset those lost trips right now. With the economy still yet to fully recover from the recession, it is true that some vessels remained in lay-up in 2010 and 2011, but during recent periods of high demand, only one hull has been idle. That ship is the JOHN SHERWIN and it has not operated since 1981. Conversion to a self-unloader and repowering was begun in 2008, but then halted when demand for iron ore crashed. It would probably take a minimum of 18 months to make the vessel serviceable again. The project could well stretch out to 24 months depending on availability of suitable engines.

New construction would take two years at a minimum, and could easily last 30 months, so if the keel for a 1,000-footer was laid today, the vessel might not enter service until July 2014.

Nor could slowing loading times be offset by increasing the speed of vessels while underway (10 to 16 miles per hour depending on the vessel). The ships are already operating at their safe continuous horsepower rating. A slight increase in speed is possible, but only for a short period of time, and it would not be nearly enough to offset the slower loading (and discharge) times.

Slowing load and discharge rates would also create lengthy congestion-related delays at the busiest terminals. For example, Superior Midwest Energy Terminal in Superior, Wisconsin, is the largest coal-loading dock on the Great Lakes. In periods of peak demand for electricity, the dock has loaded more than 2.5 million tons of coal in a single month. That volume required more than 50 vessels, or one ship every 14 hours. Double or triple load times and there will be several vessels anchored off Duluth/Superior waiting their turn at the dock.

The same will hold true at the busiest receiving terminals. Ships will queue up waiting for dock time. In both instances, the capacity of the system has been significantly reduced.

It is also not feasible to construct a new loading terminal to afford berths for more vessels, and therefore accommodate the increased loading and unloading time necessary if flowrates were reduced to accommodate ballast exchange technologies. This is especially true in the remote regions surrounding Lake Superior. The cost – per dock – could approach $1 billion, especially if rail connections must be significantly expanded or newly laid. We are told one mile of rail today can cost as much as $4 million (and much, much more if a bridge must be built). The iron ore mines on Minnesota's Mesabi Range are anywhere from 60 to 100 miles from the shores of Lake Superior, so a new rail link alone could cost $400,000,000.

The SAB's statement that voyages taken by Lakers average four to five days (which is relevant because treatments that require holding times may not be effective on "short voyages") applies mostly to Canadian Lakers that transit the Welland Canal and St. Lawrence Seaway. Given our members' current trade patterns, the longest voyage made with any regularity would be from Duluth/Superior at the western end of Lake Superior to Buffalo, New York. That's a voyage of 988 miles and assuming the vessel is not delayed by weather or a malfunction of the locks at Sault Ste. Marie, Michigan, the trip averages about 74 hours.

SAB's statement that many voyages are less than two days is correct and applies to both U.S. and Canadian Lakers, but needs to be expanded to note that a significant number of voyages are a matter of just a few hours. The limestone quarry in Marblehead, Ohio, ships large volumes of aggregate to Cleveland, Ohio. The voyage is about four hours from breakwall to breakwall, and then depending on the dock being serviced, the vessel could be tying up in another hour or so. Some ships delivering stone to Cleveland then move to a salt-loading dock, a trip of maybe two hours.

Port Inland on the northern shore of Lake Michigan is another port that ships significant volumes of limestone to nearby destinations. Escanaba, Michigan, is but 78 miles to the west, or a 6-hour voyage. Green Bay, Wisconsin, is 150 miles away, or an 11-hour voyage.

The iron ore trade out of Escanaba, Michigan, is another prime example of very short voyages. In the past five years, shipments have averaged 4,500,000 tons, and the vast majority went to the steel mills at the lower end of Lake Michigan, a voyage of less than 300 miles, or 19 to 22 hours depending on the vessel.

The draft permit recognizes that Lakes Superior, Michigan-Huron, and Erie are effectively one continuous body of water and so vessels that confine their operations to waters west of the Welland Canal need not treat their ballast. We agree, but note that the natural flow of water is from west to east, so with this flushing effect, the boundary would most appropriately be drawn at the eastern end of the Welland Canal. This would allow our members to continue to deliver cargo to Thorold, Ontario, and utilize the drydock in Port Weller, all the time remaining within what effectively constitutes an enclosed aquatic ecosystem.

The ability to transit the Welland Canal to Port Weller will decide whether or not the integrated tug/barge unit PRESQUE ISLE will be able to remain in service. The tug PRESQUE ISLE was designed specifically to push a barge of the same name. When the tug is in the notch, the combined unit stretches 1,000 feet and has a per-trip capacity of 58,240 tons. In terms of rated carrying capacity, it is the 13th largest vessel trading the Great Lakes.

Although there are four large drydocks west of the Welland Canal, the tug PRESQUE ISLE's draft of 25' 09" is too deep to pass over the sill. The drydock in Port Weller is the only on the Lakes that can accommodate the tug, and then only when it is flooded to its maximum water level. The U.S. Coast Guard requires U.S.-flag Lakers to be drydocked every five years for an out of water inspection. (Under certain conditions, the interval can be increased to six years.) If for some reason the vessel

can't be drydocked, its Certificate of Inspection will expire and it would be illegal for the tug to operate.

When operating independent of the barge, the tug requires a minimum of 120,000 gallons of ballast to maintain stability. We grant that is a relatively small quantity compared to the self-propelled vessels in our membership, but from an engineering viewpoint, the tug presents insurmountable hurdles. It is one of the most compact vessels ever built. There is absolutely no physical space in which to fit a ballast water treatment system.

One must not underestimate the importance of this one vessel. When high water levels offset the chronic lack of dredging, the PRESQUE ISLE can carry 2.5 million tons of iron ore, limestone, and coal per year. Its most frequent trade pattern is loading iron ore in Duluth and Two Harbors, Minnesota, for delivery to Gary, Indiana, and Conneaut, Ohio. Ore delivered to Gary feeds U.S. Steel's Gary Works. The Conneaut ore is then railed to U.S. Steel's Edgar Thomson Works near Pittsburgh, Pennsylvania.

Although water levels were down in 2011 and reduced the vessel's per-trip capacity, the PRESQUE ISLE still delivered 20 percent of the iron ore consumed in Gary and Braddock. Those cargos also represented 17 percent of the taconite pellets produced at Minntac, the largest mine on Minnesota's Mesabi Range.

It would be technically possible to rail the ore the PRESQUE ISLE delivers all the way to Gary and Braddock, but it would be considerably more expensive. Again to cite the 2009 U.S. Army Corps of Engineers report, "The Great Lakes Navigation System saves approximately $3.6 billion per year over the next least costly mode of transportation." Further the Corps report, rail delivery will result in a 70-percent increase in carbon dioxide emissions.

The PRESQUE ISLE's operator, Great Lakes Fleet / Key Lakes, Inc., has no other capacity to put in service.

We urge the EPA to carefully consider these facts. The ballast on the tug and any sediment in its tanks originated in the Great Lakes. Nothing alien will be introduced or spread if it transits the Welland Canal to Port Weller. The amount of ballast – 120,000 gallons – barely registers compared to the estimated 64,000,000,000,000,000 gallons in the Lakes, and it's just being moved from one area to another in a common ecosystem.

We anticipate that other respondents may recommend that that boundary be moved farther east and they can advance many logical arguments. From a purely jurisdictional viewpoint, Massena, New York, does represent the first point of entry into Great Lakes waters covered by this permit.

The water in the St. Lawrence River becomes saline at the Victoria Bridge in Montreal.

Three Great Lakes states, Wisconsin, Ohio, and New York, have designated Anticosti Island as the eastern boundary of the Great Lakes in their water ballast water provisions. The U.S. Coast Guard designates Anticosti Island as the easternmost point to which Lakers may sail on the vessel's Loadline Certificate and Certificate of Inspection.[7]

[7] 46 C.F.R. § 42.05-40 - Great Lakes: (c) In concurrence with related Canadian regulations, the waters of the St. Lawrence River west of a rhumb line drawn from Cap de Rosiers to West Point, Anticosti Island, and west of a line along 63 W. longitude from Anticosti Island to the north shore of the St. Lawrence River shall be considered as a part of the Great Lakes. In addition, the Victoria Bridge, Montreal, Canada, is the dividing line between fresh water and salt water in the St. Lawrence River.

While we favor the eastern end of the Welland Canal as the boundary defining "confined exclusively to the Great Lakes," the language in this provision is unclear as written. One read is that the vessel need not treat because it operates exclusively upstream of the Welland, but then the text in parenthesis immediately following suggests the vessel's designation is based on the fact it is too large to exit the Great Lakes via the St. Lawrence Seaway. Twenty-six of the 56 vessels enrolled in LCA are too large to enter the Welland Canal and St. Lawrence Seaway, but even those vessels small enough to transit those waters cannot legally operate on the oceans because they are not built to the strength standards required for ocean service.[8] To sail beyond Anticosti Island would be in violation of the vessel's Loadline Certificate and Certificate of Inspection and would result in legal action against the owner/operator. "Confined exclusively to the Great Lakes" should be based on a physical boundary, the eastern end of the Welland Canal in our opinion, not the vessel's size or ability to transit the Welland Canal and St. Lawrence Seaway.

Concerning sediment in ballast tanks on Lakers, we ask the EPA to reconsider its ban on ballast tank sediment discharge by Lakers. Nothing in the record establishes that the sediment in our members' ballast tanks is harmful to the environment. If the EPA has information to the contrary, it should be published for review and comment, and it should not (and may not) impose this requirement without adequate support in the record.

There is no evidence that the sediment in our ballast tanks is harmful to human beings. The U.S. Coast Guard has analyzed sediment in lakers' ballast tanks and found it non-toxic and allows its personnel to enter ballast tanks without any extra precautions (see attached August 9, 1990 memo).

It is appropriate to ban discharge of ballast tank sediment from vessels entering from the oceans; since the sediment in their tanks originates outside the Great Lakes it does have the potential to harbor NIS. However, our members' vessels never leave the Great Lakes, so whatever sediment is in their ballast tanks originated in the Great Lakes.

As we did in our comments on the first VGP, we respectfully request the EPA to allow discharge of Lakers' sediment in waters 13 miles offshore. This generally mirrors the requirements of the U.S. Coast Guard's Interim Final Rule on Dry Cargo Residue and would ensure any biota would be discharged into an environment in which they could not survive.

To again reiterate a point from our 2008 comments, the flushing of sediment does not happen on a regular basis, perhaps instead only once or twice a year. The amount estimated on a 1,000-foot-long vessel, the largest in the fleet – 318 cubic yards – pales in comparison to the 3.3 million cubic yards of sediment naturally deposited in the Great Lakes each year.

The record does not support the ban on discharge of sediment from Lakers' ballast tanks. Discharge should be permitted, at a very minimum, in waters 13 miles offshore.

4.1.1.2: Extended Unmanned Period (EUP) Inspections

Requirements: If a vessel is unmanned for a period of 13 days or greater, a vessel owner/operator may elect to either continue conducting routine inspections of the vessel consistent with Part 4.1.1 of this permit, or may conduct an Extended Unmanned Period (EUP) Inspection. The EUP inspection is an alternative inspection for fleeted, jacked-up, or similarly situated vessels, which routinely go into temporary periods of lay-up.

[8] That does not mean Great Lakes vessels are in any way unsafe. The stresses that are put on a hull are different on the Great Lakes, so our members' vessels are built to strength standards that match those conditions.

Vessel owners/operators may conduct EUP inspections in lieu of routine visual inspections if they are up-to-date with all other inspection and reporting requirements found in Part 4 of this permit (including routine and annual inspections) and the vessel owner/operator must not have received any VGP-related notices of violation or faced any VGP-related enforcement action from EPA within the previous 24 months.

The EUP inspection consists of three primary components: a pre-lay-up routine inspection, a periodic external observation of the vessel and surrounding waters, and a post lay-up routine visual inspection.

Immediately before a vessel is placed in an EUP, the vessel operator must conduct the pre-lay-up inspection, which will consist of:

- *A routine visual inspection consistent with Part 4.1.1 of this permit.*
- *Ensuring Part 2.1.1., material storage and Part 2.1.1, toxic and hazardous material requirements are met.*
- *Ensuring all oils and oily machinery are properly secured, covered, and protected, Any spilled or leaked oils must be cleaned up immediately. If machinery or equipment is leaking oil, the leaks must be stopped or appropriate containment must be in place to capture any leaking oil.*
- *Documenting whether automatic bilgewater pump(s) will be engaged on the vessel during the EUP.*
- *Documenting the amount of fuel on board.*
- *Documenting the amount of ballast on board.*
- *Documenting the date the EUP began.*

While a vessel is in extended lay-up, the owner/operator must examine the outside of the vessel and surrounding waters at least once every two weeks for any evidence of leaks, loss of cargo, or any other spills which might result in an unauthorized discharge. If any deficiencies are observed while the vessel is in EUP, the vessel owner/operator must document those deficiencies and the corrective actions taken to resolve those deficiencies. If a visible sheen is noted on the surface of the surrounding water, the source of the oil must be identified and corrective action must be taken immediately. Furthermore, EPA must be notified of the visible sheen in accordance with Part 4.4 of this permit. If these inspections are conducted as part of the routine operations of a fleeter or similar vessel caretaker, the vessel owner/operator does not need to keep recordkeeping documentation onboard the vessel if the owner/operator has electronic access to all records (including records of a fleeter or other caretaker kept in a central office), and those records are made immediately available to EPA or its authorized representative upon request.

Before a vessel reenters service, the vessel owner/operator must conduct a post lay-up routine visual inspection. As part of this inspection, the owner/operator must document the date the EUP ended, whether fluids (e.g. fuel, ballast water) are at their pre-EUP levels, and whether any spills or leaks of oily materials are observed. Any deficiencies noted must be corrected before the vessel reenters service.

LCA response: The 13-day period before a vessel can be deemed to be in an Extended Unmanned Period does not reflect the operational realities of Great Lakes shipping. When vessels reach their winter berth, Deck Department personnel will depart the vessel within 24 hours, often sooner. Engine room personnel will remain on board for a period of a week or more. An example illustrates the difficulties of this proposal given the realities of operations. If a vessel laid up on January 17, it may not be "unmanned" until January 25. Then, and only then, would the 13-day countdown begin. The

vessel operator would not be able to implement the reduced inspection requirements until February 13.

We assume EPA has proposed this on the premise that if the vessel is unmanned, it is unreasonable to require inspections. While that is true, it does not necessarily follow that just because there is one or more persons on board, the discharges addressed in the VGP must be monitored and controlled. The fact is manning is not the proper criteria for determining when Lakers enter lay-up. When laying up for the winter or an extended period during the season, navigation equipment is shut down and the main engines and generators are turned off within hours. The vessel may be connected to shorepower if maintenance or repairs are scheduled during the lay-up, but it is no longer capable of navigation, cargo operations, or propulsion. To restore propulsion power on a diesel plant takes about four days. Bringing a steamship's main engine back on line can take 10 days. Generally, every one of the discharges regulated by the VGP is generated when a vessel is operating and underway, rather than when they are manned vs. unmanned. There is no need to conduct full inspections if the discharges are not occurring. Accordingly, the reduced inspection requirements should commence when the vessel is not capable of navigation or propulsion and cease when the vessel is again capable of both.

The requirement that the owner/operator must examine the outside of the vessel and surrounding waters at least once every two weeks for any evidence of leaks, loss of cargo, or any other spills which might result in an unauthorized discharge needs to be amended to state that the owner/operator may delegate these inspection to an authorized representative. The following references to a "fleeter or similar vessel caretaker" clearly suggest this, but the additional language will eliminate the potential for confusion.

4.4.9: Controllable Pitch Propeller (CPP) and Thruster Hydraulic Fluid and other Oil-to-Sea Interfaces including Lubrication Discharges from Paddle Wheel Propulsion, Stern Tubes, Thruster Bearings, Stabilizers Rudder Bearings, Azimuth Thrusters, and Propulsion Pod Lubrication and Wire Rope and Mechanical Equipment Subject to Immersion

Major Requirements: Vessel owner/operators of vessels built after December 19, 2013 must use environmentally acceptable lubricants for oil-to-sea interfaces. In addition, all other vessel owner/operators must use environmentally acceptable lubricants for oil-to-sea interfaces when technically feasible, and all vessel owner/operators must apply lubricants and maintain all seals so that discharges do not result in quantities of oil that may be harmful. For all applications where lubricants are likely to enter the sea, environmentally acceptable lubricant formulations using vegetable oils, biodegradable synthetic esters or biodegradable polyalkylene glycols as oil bases instead of mineral oils can offer significantly reduced environmental impacts across all applications.

LCA response: Many of our members believe they already do use environmentally acceptable lubricants when available and feasible. The determination of whether those lubricants are environmentally acceptable is based on representations by manufacturers and suppliers.

However, we are concerned about what EPA means by "technically feasible." Not all lubricants are compatible, so before filling any system with a different lubricant, the lines must be completely emptied of the current lubricant. Otherwise, the interaction between the two types of lubricants could cause system malfunctions and perhaps even leaks. By shifting ballast, it is possible to raise bow thrusters and propellers out of the water, but draining lubrication from oil-to-sea interfaces would best be accomplished in drydock. There are only four large drydocks on the Great Lakes. The Coast Guard requires our members' vessels be dry-docked every five years (with the ability to request a one-year extension under certain circumstances). Changeover to these lubricants should be delayed until the vessel's first drydocking.

Additionally, EPA should only mandate use of such environmentally acceptable lubricants if they are compatible for use with the subject equipment and otherwise approved for use by the equipment manufacturer. Bow thrusters and other equipment on vessels represent significant capital investments and improper lubrication obviously could damage the equipment, and, in the process, void manufacturers' warranties. If an "environmentally acceptable lubricant" may damage equipment or void manufacturers' warranties, its use should not be required because it is not technically feasible. If EPA disagrees with this approach, we respectfully request that it explain on the record why it is not an appropriate way to approach this question.

ANSWERS TO QUESTIONS POSED IN THE NOTICE OF DRAFT PERMIT ISSUANCES AND NOTICE OF PUBLIC HEARING

Question #1: What are the merits of a four-year permit term instead of the standard five-year permit term?

LCA response: We certainly agree that technology does not stand still, but modifications to commercial vessels must be approved by the U.S. Coast Guard and classification societies, often only after considerable research into how such changes can affect the vessel's structural strength, subdivision and stability, and other safety requirements. This takes a great deal of time, often years. That fact alone argues against shortening the term of the permit.

In addition, as EPA knows, it began the process for this iteration of the VGP two years ahead of the expiration date. It is very expensive to analyze and provide meaningful comments on this significant action. If the term is reduced, that will significantly increase costs. Moreover given the time needed to revise each permit and the long process involved (two years in the case of the current proposal), reducing the term to four years will necessitate many entities having to employ someone almost full time just to participate in the permit revision process and to update and train personnel on changes.

The five-year term is also what governs all other discharges under the NPDES program. Our industry, like others, needs some measure of certainty to this regulatory program. LCA's members spend millions of dollars making sure they are in compliance, and the more the program changes the more they will have to spend to make sure they are keeping up. For example, many operators are trying to automate their compliance efforts. Every change to the permit means a change to those operations.

The VGP should also provide for grandfathering of existing vessels and systems when appropriate.

Questions #2 and #3 not relevant to LCA members.

Question #4*: EPA seeks comment on inclusion of revised language in the proposed VGP regarding what may constitute new information with respect to ballast water discharges for purposes of potentially modifying the permit during its term. Specifically:*

> *1. - Improved technologies justify application of significantly more stringent effluent limitations or other permit conditions;*
> *2. - Technologies known at the time of permit issuance perform better than thought and therefore justify application of significantly more stringent effluent limitations or other permit conditions;*
> *3. - Scientific understanding of pollutant effects or of invasion biology have evolved to the point that justify application of significantly more stringent effluent limitations or other permit conditions;*
> *4. - The cumulative effects of any discharge authorized by the VGP on the environment are unacceptable.*

LCA response: EPA's proposed inclusion of this "reopener" proceeds from the misconception, or flawed premise, that a solution, once found, can be implemented quickly. Even if the long-sought "magic bullet" materializes tomorrow, its application and installation on vessels is necessarily a long process. Any requirement for new equipment must allow sufficient time for the lengthy review, approval and certification by the American Bureau of Shipping, other classification societies, and the U.S. Coast Guard. The proposed U.S. Coast Guard type approval process alone will take at least 30-36 months. Then, and only then could manufacturers ramp up production. Naval architects and marine engineers would need significant time to draw the plans for installation on vessels. There are very few real "sisterships" in the fleet; most projects will require a totally new analysis and engineering plan. Therefore, it is likely that the total time required for the development of any "new" technology which could either potentially achieve a more stringent standard or have wider application to presently exempted vessels would exceed the term of a four or five year permit, thus negating the need for the EPA to re-open the VGP as a result of improvements – real or perceived - in technology.

Since there are no U.S. Coast Guard type approved systems that can accommodate lakers' volumes and flowrates that are available now, and are not likely to be available during the term of this permit, it is difficult to accurately forecast how long it would take to physically install a system. However, it appears the process could require as much as ten weeks. It would be impractical to take a vessel(s) out of service for that length of time during the navigation season and still meet the needs of commerce, so retrofits would have to be accomplished during the winter lay-up. If every vessel must be renovated at the same time, shipyard capacity – especially where drydock work is needed – will necessarily be overwhelmed (today many vessels must schedule lay-up work years in advance). For any proposal that might require drydock work, considering shipyard availability is essential before any time frame for compliance with such requirements can be implemented. We believe it is incumbent on EPA to consider this serious logistical issue when it establishes time frames. That may mean the agency must obtain information on shipyard capacity for various segments of vessels, and consider that information before it imposes any time frames on such requirements. This is not a situation in which one can simply hire and train more people. Nor is it a situation in which EPA can mandate a new technology that will create a market for its manufacture. The number and availability of facilities needed to install such equipment is the single most important part of how the timing for installing new equipment must be considered.

It is for these reasons that we are troubled by the statement in the Draft VGP Fact Sheet that the "EPA advises Laker owner/operators that EPA intends to promptly exercise the permit reopener to initiate the process to modify the permit if such systems become available during the permit term. These may include requiring that effluent meet levels achievable by treatment with an IMO type approved device or requiring an alternative technology based ballast water effluent limit."

The preceding paragraphs have spelled out why quick installation of a system is not possible on Lakers. While EPA is free to address new technologies as they become available, we respectfully submit that any action that would create a time frame for installing new equipment can only be reasonable if proper consideration is given to shipyard availability. Furthermore, such new technologies would likely be considerably more expensive than existing technologies and their availability would be extremely limited. Thus, these technologies could not be considered to meet the EPA's definition of Best Available Technology *Economically Achievable* since they would not likely be either commercially available or economically viable in a less than four-year period. Based on what we know today, the time to address this is when the EPA begins to draft the third iteration of the VGP, not before.

Finally, for reasons addressed elsewhere in these comments, the proposed reopener criteria are unnecessary because Lakers, which never leave the Great Lakes system, should not be required to treat their ballast water at all.

Question #5: Do the controls in this permit represent Best Available Technology, Best Conventional Pollutant Control Technology, and Best Practicable Control Technology currently available or are other controls needed to meet these levels.

LCA response: Except as otherwise noted in these comments, LCA supports the use of Best Available Technology *Economically Achievable* as the most appropriate standard. As EPA notes in the Draft VGP Fact Sheet, with regard to non-conventional pollutants, EPA must impose limitations that reflect the "best available technology economically achievable." *See* Draft VGP Fact Sheet at 45. BAT is technology that is both (1) technologically available and (2) economically achievable. *See BP Exploration & Oil, Inc. v. EPA*, 66 F.3d 784, 790 (6th Cir. 1995); *NRDC v. EPA* at 1426 (accepting EPA's determination that a particular technology was not BAT, despite its technological feasibility). While EPA may treat technology that is not presently in use by a given industry as available, there must be some indication in the administrative record of the reasons for concluding that such technology will be feasible if mandated. *See Hooker Chem. & Plastics Corp. v. Train*, 537 F.2d 620, 636 (2nd Cir. 1976) (setting aside EPA promulgated ELGs because EPA failed to explain how the technology it designated as BAT could be applied by the relevant industry).

In determining what is economically achievable, EPA must consider the impact on profitability and loss of jobs. *See BP Exploration & Oil* at 796-98 (court upheld EPA's determination that an available industry practice was not BAT due to unreasonably high costs); *Waterkeeper Alliance, Inc v. EPA*, 399 F.3d 486, 515-18 (2nd Cir. 2005) (EPA acted reasonably in rejecting technologies that although available would have resulted in 11% facility closures industry-wide). In developing technology-based effluent limits based on BAT, EPA must consider (1) the age of the equipment and facilities involved, (2) the process employed, (3) the engineering aspects of the application of various types of control techniques, (4) process changes, (5) the cost of achieving such effluent reduction, and (6) non-water quality environmental impact (including energy requirements).

Question #6: Is it appropriate that vessel owners/operators outline training plans in the recordkeeping documentation?

LCA response: We do not understand what EPA means by "outlining" training plans as part of recordkeeping documentation. We have no objection to outlining training plans, providing that what is being proposed is truly just a requirement for a description of training plans that can be adjusted and augmented, as needed, for specific actions or requirements without having to revise our records. This gives our members the necessary flexibility to respond to shipboard needs as they occur but not generate additional and unnecessary paperwork for crewmembers.

Question #7: Should bilgewater requirements be more stringent for new builds? Should there be more management options for existing vessels?

LCA response: No. The oily-water separator systems approved by the U.S. Coast Guard already represent BAT. There is nothing in the record of this proposed permit that would suggest some deficiency in the current requirements pertaining to bilgewater, or any other valid reason to change the bilgewater requirements for existing vessels or new builds. If EPA has such information, it should make it available to us for review and comment.

We note that on page 66 of the VGP Fact Sheet the EPA states, "since the Agency believes that 5 ppm-capable systems do exist, EPA, with the support of the United States Coast Guard, plans to

seek input from our international partners at IMO as to whether that body should consider amending MARPOL Annex I to require a phasing in of a 5 ppm oil and grease discharge limit for certain new vessels. Existence of systems does not automatically equal a necessity for such systems, so again, if EPA has information indicating a new ppm limit is necessary, it should be made available for review and comment.

Question #8: Should ballast water management plans be made available to the public?

LCA response: No. These plans represent a considerable expense and take significant time to develop. Therefore, these plans constitute and include proprietary information that directly relates to capital expenditures and operating and maintenance costs. Knowledge of these costs by anyone other than the owner/operator could give other interests unfair advantages in the marketplace. For example, one company could avoid the expense of developing a ballast water management plan simply by copying one supplied to the EPA for public consumption. Our members consider ballast water management plans valuable property that must be protected just like their security plan required by the Maritime Transportation Security Act of 2002 (Pub. L. No. 107-295).

The public interest has already been well-served in that the discharge limits are plainly stated in the VGP and were vetted during the comment period. Ballast water management plans are the means by which regulated entities achieve the EPA's end-of-pipe standard. If one company has built a better mouse to produce that end-of-pipe result, it should not be required to share it with its competitors or the general public. As recognized by Section 308(b) of the Clean Water Act, 33 U.S.C. § 1318, only "effluent data" is exempt from claims of confidentiality. Congress wanted the public to have access to "effluent data" so that the public could confirm that the discharger was meeting applicable effluent limitations. Even then, Congress was clear to point out that the public had no right to access such information if its disclosure "would divulge methods or processes entitled to protection as trade secrets of such person." Congress was, in short, not concerned with providing the public with access as to *how* the discharger *met* applicable effluent limitations, only ensuring that the public could confirm that the discharger *was* meeting those limitations. Ballast water management plans do not constitute "effluent data" that is required to be disclosed to the public, 40 C.F.R. § 2.302, and EPA should not mandate that this information, which is confidential and proprietary, be made public.

Question #9: Are there additional management measures which reduce risks at various stages of ballasting that are appropriate to include in the final VGP? Specifically, what additional management measures should the VGP include, what are the costs associated with those measures, and how well do those measures reduce the risk from ballast water discharges? Also, should any additional measures discussed by the NAS (2011) or SAB (2011) reports be incorporated in this permit?

LCA response: At this point in time we are unable to identify any additional management measures that reduce risks from ballasting with any certainty. Some of our members are over time retrofitting their vessels with "high" ballast water intakes, and these do seem to reduce the amount of sediment taken in. But as explained elsewhere in these comments, we question the environmental risks associated with this sediment, so cannot recommend this voluntary step be incorporated into the VGP. Sediment in ballast tanks adds weight to the vessel and that reduces its cargo-carrying capacity, so removal is as much an efficiency issue. Again, nothing in the record supports that this sediment is a potential threat to the environment.

None of the "Approaches Other than Ballast Water Treatment" discussed by the NAS (2011) are viable on Lakers. In Section 6.5.1 of NAS (2011), the study discusses managing the time, place and depth of ballasting. We are unclear how this could be implemented. A vessel that is loading or discharging cargo has to ballast and there is a minimum amount that must be taken on or pumped to

safely ensure the hull is not subjected to stresses for which it was not designed. A vessel can pull away from the dock and then take or discharge a small of amount of ballast to finish trimming the vessel, but the majority of ballast will be conducted dockside.

Section 6.5.2 of NAS (2011) discusses Mid-ocean Exchange, which is physically impossible for our vessels seeing as their loadline confines them to Anticosti Island and points west. Remember too it's the salinity/toxicity of the ocean water that kills freshwater species. The Great Lakes are fresh water from the western end of Lake Superior all the way to the Victoria Bridge in Montreal.
However, we need to stress that ballast exchange is challenging on our vessels, and the feasibility of any alternative must take the following facts into account:

- A vessel is a free-ended girder loaded down by the weight of the hull steel, machinery, stores, cargo or ballast, and pushed up by the buoyancy along the hull. The uneven distribution of weight and buoyancy cause the hull girder to be subject to shear forces and bending moments. The classification societies and Coast Guard have established "not-to-exceed" limits on bending moments and hull stress.

- The Master must assure the allowable stress and bending moments are never exceeded. It is possible to place loads of cargo or ballast on a vessel that will cause it to break in two. In 2000, a Canadian Laker suffered a catastrophic structural failure of the hull when improperly loaded and was subsequently scrapped. It is important to recognize that, due to the unique operating environment in the Great Lakes, Lakers are built to different structural standards than ocean-going vessels. Their scantlings are significantly different than their ocean-going counterparts. Thus, while ballast water exchange may be safe for most ocean-going vessels, it is not safe for most Lakers due to their ballast tank configuration, operating parameters and different scantlings. Any recommendation for ballast water exchange which may be included in the VGP should be just that – a recommendation – and should contain a strongly worded safety exemption to ensure vessel owners, operators and Masters are given absolute authority to determine if such exchange is safe for their vessel.

- U.S.-flag Lakers have anywhere from 10 to 18 separate ballast tanks. These tanks are on each side of the vessel and run the length of the hull. Exchanging ballast would require pumping out one or several pairs of tanks at a time. All ballast could not be exchanged at once because ballast is needed to keep the propeller and rudder submerged. Furthermore, pumping out ballast near the stern will cause that part of the vessel to float higher and cause the propeller and rudder to be partially out of the water and thus ineffective.

- The procedure would be to pump a tank dry and then refill it. However, pumping a tank dry removes significant weight from that area of the vessel and results in potentially very high hull stresses and bending moments. In order to compensate for this, other ballast water may have to be removed.

- In the spring and fall, high winds and storms are common, and a prudent Master will keep maximum ballast on board so the vessel can ride-out the pitching and rolling caused by the waves. The Captain could not consider increasing hull stresses and bending moments in those circumstances, so would be reluctant to empty any ballast water from any tank.

- While Lakers operate in fresh water, there still is some corrosion. Once a vessel

reaches 25 years of service, the actual thickness of the metal is measured and compared to the original thickness. Because there is corrosion and because Lakers have a life expectancy of decades (one vessel is 106 years old; others were built in the 1940s and 1950s), the Captain would not allow ballast distribution to cause any increase in stresses or bending moments.

- Flow-thru of ballast water is the process of continuously running the ballast pump into each tank until three tank volumes have been "exchanged." It has been claimed that tank manholes could be removed on the top of the tanks to allow the water to flow onto the deck. The design of Great Lakes ships does not have ballast tank manholes located on the outside deck. All manholes are inside the ship and removing them to let water flow out of the tank would flood the ship internally. Further, design and modifications that could overcome this limitation have been evaluated and costs for retrofit would approach $1 million per vessel. Also, having water spewing out on deck during freezing weather would cause an icing hazard and build up of weight from the ice and cause overloading of the hull.

- Length of voyages also works against lakers exchanging ballast. As discussed before, most voyages are less than 80 hours in duration. Vessels in ocean trades steam continuously for many days, even weeks on end. They have the time to exchange ballast, and if the weather is threatening, can postpone the exchange. A Laker that has discharged cargo in Cleveland, Ohio, and is then scheduled to load a limestone cargo in Marblehead, Ohio, would have only about four hours to exchange its ballast.

Section 6.5.3 of NAS (2011) discusses Reducing or Eliminating Ballast Water Discharge Volumes. Research suggests ballastless ships are possible in the future. "Rather than increasing the weight of vessels by adding to water to the ballast tanks, these new designs use reduced buoyancy to get the ship down to safe operating drafts in a no-cargo condition. For example, the Variable Buoyancy Ship design (Parsons 1998; Kotinis et al. 2004; Parsons 2010) achieves this end by having structural tanks of sufficient volume that extend most of the length of the ship below the "ballast waterline" and then opening these trunks to the sea in the no-cargo condition. When the ship is at speed, the natural pressure difference between the bow and the stern induces flow through the open trunks, resulting in only local water (and associated organisms) within the trunks at any point during the voyage."

However, NAS (2011) goes on to say, "While showing promise, and worthy of further considerations, ballastless ship designs appear feasible only for new vessels being built in the future. The study also acknowledges that "a return to the historic approach of using solid ballast (commonly iron, cement, gravel or sand) may not be feasible or cost effective for most vessels in the modern merchant fleet."

The practices employed on passenger and container ships are not feasible on dry-bulk carriers.

Section 6.5.4 of NAS (2011) addresses Temporal and Spatial Patterns. It seems logical that if a ballast discharge can be broken up in space or time, the invasion risk will be lowered, but this assumes the interruption increases salinity/toxicity, which clearly would not be the case on the Great Lakes. However, as noted before, the economics of Great Lakes shipping require the fastest ballasting and deballasting that can be safely achieved. The industry could not be competitive or meet the needs of commerce if loading or unloading had to repeatedly pause for an extended period of time. It is equally impractical to pipe ballast ashore, and piping to other locations in the harbors would be ineffective, as we have no tides on the Great Lakes that would produce mixing of the waters.

Question #10: Are the biocide discharge limits appropriate, in particular if the limit for peracetic aid is adequately protective of coldwater environments?

LCA response: We will leave comment to those best qualified to assess them.
Question #11: Is it appropriate that EPA must be notified at least 120 days in advance if a ballast water treatment system is going to use a biocide not authorized by the VGP and have the option of testing that biocide or derivatives?

LCA response: Yes.

Question #12: Is it appropriate to require use of potable water as ballast on small vessels?

LCA response: Our members do not operate small vessels, so we will leave comment to the affected community.

Question #13: Is the new definition of "short distance voyage" appropriate? That definition is:

- *Vessels stay within a single U.S. Coast Guard Captain of the Port (COTP) zone, and*

- *Vessels which do not travel more than ten nautical miles and cross no physical barriers or obstructions (e.g., locks), whether or not they operate within one COTP Zone.*

LCA response: The new definition of "short distance voyage" is not appropriate. Defining a short distance voyage as one where a vessel travels ten nautical miles or less, does not cross a COTP Zone, or transit a lock has no biological basis and does not determine the possibility that an invasive could be transported from one ecosystem to another by ballast water. An ecosystem approach is more appropriate. Many vectors can transport invasives within an ecosystem and COTP boundaries are simply jurisdictional boundaries designed to facilitate the exercise of Coast Guard authority. This permit has used an ecosystem approach in defining Lakers confined exclusively to the Great Lakes upstream of the Welland Canal and should employ those parameters to define a short distance voyage on the Great Lakes.

Question #14: Are there technologies available that would allow unmanned, unpowered barges to meet numeric ballast water treatment limits?

LCA response: The Draft VGP Fact Sheet indicates that EPA is referring here to barges on the inland and coastal waterway systems that are the equivalent of a maritime railway car, are unmanned, do not have infrastructure that allows for complex or energy intensive operations, and mostly ballast to pass under bridges. No such vessels are enrolled in LCA.

Question #15: Should "existing confined lakers" built before January 1, 2009 that operate exclusively in the Great Lakes upstream of the Welland Canal be required to use a ballast water treatment system to meet the ballast water discharge standards found in this permit under the implementation schedule? Are there applicable and available ballast water treatment systems for existing confined lakers built before January 1, 2009? Given the constraints noted by the SAB, can the confined lakers implement the technologies evaluated by the SAB? Are there unique technologies that are available or that would potentially be available during the permit term for the confined lakers? Are there other treatment technologies and/or methods that can be implemented by confined lakers that can reliably treat ballast water to reduce the concentration of living organisms upon discharge?

LCA response: We have already explained why it is effectively impossible for our members' vessels to comply with these ballast water treatment standards now and not likely during the period covered

by this permit. However, we recognize that technology will advance, so the question that must be asked and answered is: "Should those Lakers currently not required to treat their ballast be required to do so should a viable technology/system become available?" We believe there are very compelling reasons to answer that question, "No."

Please recognize that our position that Lakers should not be required to treat their ballast is not an abdication of our responsibility to operate in an environmentally sound manner. We think our actions to date are testimony that we do acknowledge and fulfill our role in finding solutions to this world-wide problem. As we have noted in earlier submissions to both the EPA and the U.S. Coast Guard, LCA was the first maritime organization in North America to implement a ballast water management program. That was almost 20 years ago – 1993 – and was in response to discovery of the ruffe in Duluth/Superior and Thunder Bay harbors at the western end of Lake Superior. U.S. Fish & Wildlife Service hailed the program as being, "on the cutting edge of ballast water management to prevent the spread of nuisance species."

We next partnered with the Northeast-Midwest Institute to conduct one of the very first tests of ballast water filtration and an after-treatment such as UV light or irradiation (see The Algonorth Experiment, Seaway Review, January-March, 1997 [attached]). Testing took place on a Canadian Laker as it traded in both fresh and salt water, but the expectation was any resulting system(s) would be installed on ocean-going vessels, as it is they who introduce NIS, not U.S. or Canadian Lakers. It is no exaggeration that the systems now coming into use owe at least some of their existence to this groundbreaking research.

Other measures have included developing and refining Best Management Practices for Lakers, a plan addressing a nascent ruffe population in Alpena, Michigan (which did not survive), and steps to deal with an outbreak of Viral Hemorrhagic Septicemia, should one occur.

Our members have taken initiatives on their own. One company has tested a system for delivering and mixing a biocide with ballast water as a sort of "rapid response" to detection of a new NIS. The result is an emergency guide for biocide introduction and mixing (although we must note no biocide has been approved for such application).

In addition, some of our members are again collaborating with the Northeast-Midwest Institute to install systems and assess methodologies for sampling ballast water.

Nonetheless, we have to be realistic about what is achievable. Those NIS that have established themselves in the Great Lakes are now every bit as much a part of the ecosystem as a walleye or yellow perch. There is no environmentally acceptable way to eradicate the ruffe, zebra mussel, round goby or other NIS.

Nor is there any way to stop the natural migration of a species, non-indigenous or native. The ruffe, for example, is migrating along the southern shore of Lake Superior, reportedly at a rate of about 25 miles per year. Once it reaches the St. Marys River, the path to the Lower Lakes lies before it.

The undisputable connectivity of Lakes Superior, Michigan-Huron, and Erie argues against requiring Lakers treating their ballast. The Straits of Mackinac make Lakes Michigan and Huron hydrologically one body of water. The St. Marys River connects Lake Superior to Lake Huron. The Detroit/St. Clair River links Lake Huron to Lake Erie. While it may take years for say the ruffe to reach Lake Erie, it will happen regardless of whether or not lakers treat their ballast.

It bears repeating that ballast is only one of (at least) 64 vectors for introduction and spread (again, see Appendix A). Is it really fair or meaningful that a commercial vessel should be required to have a ballast water treatment system that can cost more than $20 million when a largely un-policed bait bucket can harbor and introduce or spread an exotic?

In our comments to the U.S. Coast Guard on Standards For Living Organism In Ships' Ballast Water Discharged in U.S. Waters (Docket USCG-2001-10486) we estimated that equipping members' vessels with ballast water treatment systems would cost approximately $385 million. Adjust that figure for inflation, and today the cost would be approximately $402 million.

In the intervening four years, the maritime industry has become more familiar with ballast treatment systems and their requirements, so some of our members have done new, theoretical cost estimates (theoretical because again, no system exists today and is not likely during the term of this permit). The theoretical cost for a 1,000-foot-long vessel ranges from approximately $17 million to $20 million. There are thirteen 1,000-footers in LCA, so just that class of vessels faces a cost of roughly $235 million.

The theoretical cost for smaller vessels starts at $3 million and peaks at roughly $8.5 million. Using an average of $5.75 million for the other 43 vessels enrolled in LCA produces a cost of nearly $250 million.

In total then, LCA members theoretically would have to spend $485 million to retrofit their vessels with ballast water treatment systems.

Those costs just reflect installation. One company estimates its fuel expense would increase by more than $1.1 million per year because additional generators would be needed to meet the electrical requirements of ballast water treatment.

Annual maintenance and replacement costs could be nearly $100,000 per year for some vessels.

Another cost is loss of revenue. As noted before, space is at a premium in these engine rooms. One company projects building a room to contain the ballast water treatment system in a cargo hold. Another company would carve a room out of a ballast tank on each side of the ship. Both scenarios result in reducing cargo carrying capacity and so a loss of revenue. For some vessels the loss is estimated to total millions of dollars.

There is no denying that ships and tug/barge units are capital-intensive assets. During the winter of 2011/2012, LCA's members will spend more than $75 million maintaining and upgrading their vessels. However, these are projects that have a positive cost/benefit ratio. The payback for new engines is lower fuel costs. The return on renewing steel in cargo holds is extending the vessel's serviceable life.

A ballast water treatment system does not reduce operating costs, increase carrying capacity, or enable the vessel to service more docks. That statement is not cold-hearted economics. There are times our members exceed the requirements of the laws and regulations governing safety and operational equipment. The Coast Guard does not require defibrillators, self-contained breathing apparatus, gas detection meters, or trauma kits on vessels, yet our members have them. Some vessels are equipped with more radars than required, back-up gyros not mandated by regulation, swing meters, and e-charts. We certainly agree that protecting the Great Lakes from additional non-indigenous species is the right thing to do for the environment, but our vessels have never introduced an exotic and are only one of 3-plus score vectors for spread.

Congress recognized that cost is a valid part of the Clean Water Act equation. "The Committee believes that there must be a reasonable relationship between costs and benefits if there is going to be an effective and workable program" (Clean Water Act of 1972, Pub. L No. 92-500, 1972 U.S.C.C.A.N. (86 Stat.) 3713).

In summation, our members do employ Best Management Practices to reduce the potential that their ballast may spread NIS introduced by oceangoing vessels. They have and will continue to explore other measures that will enhance those efforts. But treating their ballast will not banish the zebra mussel from the Great Lakes. Filtering their ballast will not cleanse these waters of the spiny waterflea. Requiring Lakers to treat their ballast would represent a tremendous expense that offers industry and the environment no payback and will in no way contain NIS introduced to the Great Lakes by oceangoing vessels.

Question #16: Are the IMO ballast numeric discharge limits appropriate? Are there data sources which indicate that certain ballast water treatment systems reliably exceed the limits established in this permit? Can these limits be applied to those vessel classes to which, under the proposed VGP, such limits would not apply?

LCA response: Commenting on the appropriateness of the IMO ballast numeric discharge limits would be a purely academic exercise for LCA, as there are no systems that can handle our ballast volumes and flowrates. However, the second part of the question – whether there are data that indicate some systems exceed these limits – it is our understanding that there are presently no procedures and technology which are scientifically valid to determine if systems can meet higher standards. This view was shared by the Science Advisory Board in their report. Therefore, we would strongly urge the EPA to ensure any such claims made by commenters to the docket undergo strict scientific and statistical scrutiny before being accepted as fact.

Question #17: Would it be appropriate to include alternative treatment limits used by other regulatory agencies, specifically limits promulgated by the State of California?

LCA response: Inclusion of any alternative treatment limits or discharge standards has no scientific basis and therefore should be rejected. This conclusion is supported by Lee, et all (2010) in which the EPA's own research ecologist concluded that the zero detectable California standard "not be used at the national level for deriving environmentally protective limits on concentrations of living organisms in ballast water."

Furthermore, this question illustrates what we and many others believe is a fundamental flaw with the current VGP and this draft permit, namely multiple, conflicting standards. EPA itself has previously acknowledged the benefits of a single, Federal standard and, further, that the federal NPDES permitting program is ill-equipped to address the problem of mobile discharges. In June 2008, for example, James Hanlon, the director of EPA's Office of Wastewater Management, testified before a House subcommittee that "the NPDES program does not currently provide an appropriate framework for managing ballast water and other discharges incidental to the normal operation of vessels, which are highly mobile and routinely move from port to port, state to state, and country to country. As a general matter, we believe that discharges from such highly mobile sources would be more effectively and efficiently managed through the development of national, environmentally sound, uniform discharge standard" *See* Transcript of Testimony of James A. Hanlon (June 12, 2008), at 3.[9] Nonetheless, the EPA's provisions in the proposed VGP for Lakers operating upstream of the Welland Canal can, on a practical basis, be nullified by various states' provisions. The table on the following page lists the current patchwork of state requirements:

[9] Available at: http://www.epa.gov/ocirpage/hearings/testimony/110_2007_2008/2008.htm.

State	Regulatory Vehicle	Existing Lakers	New Lakers	Comments
IL	401 Certification	IMO by Jan. 2016	IMO for ships launched after Jan. 2012.	
IN	401 Certification	---	---	
MI	State Permit and 401 Certification	---	---	Reserve right to modify 401 Cert. if determined ballast treatment on lakers is necessary, available and cost effective.
MN	State Permit and 401 Certification	IMO by Jan. 2016.	IMO for ships launched after Jan. 2012.	Minn. Pollution Control Agency approves treatment technology.
OH	401 Certification	---	IMO for ships launched after Jan. 2016.	
PA	WITHDRAWN			
NY	401 Certification	100x IMO by Aug. 2013	1000x IMO for ships launched after Jan. 2013.	Can request to extend compliance date if it can be justified.
WI	State permit - Wisconsin Pollution Discharge Elimination System (WPDES) April 1, 2011 (5-year permit program)	Best Management Practices, Sediment Management Plan	BMPs and Sediment Management Plan	

Only one vessel enrolled in LCA confines its operations to the waters of one state, the supply boat OJIBWAY, and it does not ballast, as it ferries supplies to ships as they transit the St. Marys River at Sault Ste. Marie, Michigan. The carferry BADGER services just two ports, so it operates only in Michigan and Wisconsin waters, but the remaining 54 vessels operate in the waters of multiple states. There must be one uniform standard for the Great Lakes. Although not the purview of this VGP, we must also stress that U.S. and Canadian requirements must either mirror each other or be considered equivalent, as vessels move between national boundaries many times, especially when transiting the St. Marys and Detroit/St. Clair river systems.

Part of the solution to the patchwork of state regulations is for EPA to make the Section 401 certification of the VGP itself, as it is required to do by the Clean Water Act. The plain language of section 401 of the Clean Water Act, and the definitions in section 502, demonstrate that Congress envisioned that there would be a *single* state making the certification for a discharge only affecting that state's waters or, if appropriate, a *single* interstate agency in the case of a discharge that crosses state lines. Those same provisions instruct that a Section 401 certification is to come from the Administrator of EPA when, as here, there is no single state or interstate agency that has authority to provide the certification. *See* 33 U.S.C. § 1341(a)(1). To the extent EPA is concerned about a discharge from a vessel originating in one state migrating to impact another downstream state, the Act provides a procedure by which the states affected by the discharge may object and make recommendations to EPA. *See* 33 U.S.C. § 1341(a)(2). The states affected by the discharge are *not*, however, given certification authority – only the state in which the discharge originates or will originate, or "the interstate agency having jurisdiction over the navigable waters at the point where the discharge originates or will originate," is given such authority. 33 U.S.C. at § 1341(a)(1).

EPA's proposal, as was the case in the current VGP, is to seek multiple certifications from every state through which a vessel subject to the VGP travels. This proposal to allow multiple certification of a

single discharge is apparently premised on the contention that a discharge can "originate" in more than one state for a mobile source. This premise is flawed for several reasons. First, it ignores the ordinary meaning of the word "originates" – something can "originate" only once, not multiple times. *See* THE AMERICAN HERITAGE DICTIONARY 1277 (3d ed. 1996) (defining "originate" as "to bring into being; create" and "to come into being; start"). While a discharge may stop, move, and subsequently restart, it only "originates" once. *See Am. Mining Cong. v. EPA*, 824 F.2d 1177, 1183 (D.C. Cir. 1987) ("legislative purpose is expressed by the ordinary meaning of the words used") (citation omitted).

Second, EPA's interpretation renders subsection 401(a)(2) superfluous in the case of a nationwide general permit because, according to EPA, in that case *every* state has certification authority. *See Asiana Airlines v. FAA*, 134 F.3d 393, 398 (D.C. Cir. 1998) (statute should be construed so that no provision is rendered inoperative or superfluous, void or insignificant).

Third, the VGP is a *single* permit and section 401 clearly contemplates a *single* certification for a permit, not multiple certifications. *See*, *e.g.*, 33 U.S.C. § 1341(a)(1) ("No license or permit shall be granted until *the* certification …"); § 1341(a)(3) ("*The* certification obtained pursuant to paragraph (1) ...."); § 1341(a)(4) ("Prior to the initial operation of any federally licensed or permitted facility ... to which *a* certification has been obtained) (emphasis added).

Fourth, because section 401 allows "*the* certifying state" to seek suspension of "*such* [] *permit*," EPA's interpretation would effectively allow any state certifying a nationwide general permit to seek and obtain suspension of the entirety of that permit, thus rendering it inoperable in other states that have certified the permit but have not sought its suspension. *Id*. at § 1341(a)(5) (emphasis added).

Finally, EPA's interpretation of the word "originate" to the exclusion of the remainder of Section 401 is contrary to EPA's previous recognition that "[i]t may be that the Congress used the word originates to distinguish between *the State* in whose waters the discharge *originally* enters from a downstream State whose waters are affected by the discharge." EPA General Counsel Opinion 78-8, at n.4 (emphasis added).

In short, the statute clearly contemplates a *single* certification for a permit, not multiple certifications, and instructs that a Section 401 certification is to come from the Administrator of EPA when there is no *single* state or interstate agency with authority to provide that certification. Here, because there is no single state or interstate agency that has authority to certify the VPG, a *nationwide* general permit, Section 401 instructs that EPA must provide the necessary certification. EPA has never denied that it can make the section 401 certification of the VGP.

Even if Section 401 is not completely clear, there are several reasons why EPA's proposal to again have multiple state certifications is unreasonable. First, it makes no sense to read Section 401 as EPA suggests because it renders subsection 401(a)(2) superfluous and inoperable in the case of a nationwide general permit. *See Massachusetts v. DOT*, 93 F.3d 890, 897 (D.C. Cir. 1996) (rejecting, under *Chevron's* second step, agency's interpretation of statute when its implications would render superfluous at least two other segments of that provision's statutory scheme).

Second, EPA's interpretation tries to resolve the lack of clarity in Section 401 by rewriting it. Had Congress intended that Section 401 provide for multiple state certifications, it could have easily stated that an applicant for an NPDES permit obtain a certification from "[each or every] State in which the discharge [will occur], or, if appropriate, from [each or every] interstate water pollution control agency having jurisdiction over the navigable waters at [any] point where the discharge [will occur]," that any such discharge will comply with certain requirements of the Clean Water Act. Congress, however, only required certification from "*the* State in which the discharge originates or will originate, or, if appropriate, from *the* interstate water pollution control agency having jurisdiction over the navigable

waters at *the* point where the discharge originates or will originate," that any such discharge will comply with certain requirements of the Clean Water Act. 33 U.S.C. § 1341(a) (emphasis added). Congress then said that "in any case where *a* State or interstate agency has no authority to give such a certification, *such certification* shall be from the Administrator." *Id*. (emphasis added). EPA cannot ignore the language carefully chosen by Congress. *See Mova Pharm. Corp. v. Shalala*, 140 F.3d 1060, 1069 (D.C. Cir. 1998) (the second step of *Chevron* is not a license to rewrite statutes); *Indiana Mich. Power Co. v. DOE,* 88 F.3d 1272, 1276 (D.C. Cir. 1996) ("The [agency's] treatment of this statute is not an interpretation but a rewrite.").

Finally, EPA's assumption that there can be multiple state certifications for the same discharge authorized under a single national permit contradicts the agency's prior position that the federal NPDES permitting program is ill-equipped to address the problem of mobile discharges. *See* Hanlon Testimony, *supra*. EPA has supplied no reasoned explanation for any new interpretation of the Clean Water Act, and in particular Section 401. *See Arent v. Shalala,* 70 F.3d 610, 616 n.6 (D.C. Cir. 1995).

If EPA does not make the Section 401 certification itself, as it is required to do under the Clean Water Act, then EPA must, at the very least, provide notice and comment on Part 6 of the VGP to avoid issuing a federal NPDES permit that violates the U.S. Constitution or the Clean Water Act itself. That could well be the case depending on what conditions are submitted by states. States may not do indirectly via the Section 401 certification process what the dormant aspect of the Commerce Clause of the U.S. Constitution precludes them from doing directly. While individual states may suggest that Congress, via Section 401, allows states to impact interstate commerce in some way, these arguments ignore that the scheme of cooperative federalism created by the Clean Water Act was specifically designed to *preserve* state authority, not to expand it. States, in short, have no more authority under Section 401, and the Clean Water Act generally, to burden interstate commerce than they previously possessed prior to the passage of the Act.

If the first VGP is any indication, EPA has expressly recognized the state Section 401 certification process undertaken in the connection with the initial VGP, which allowed the last minute addition of over 100+ conflicting state conditions without any opportunity for public comment or coordination among the states, was fundamentally flawed. In its settlement agreement with various environmental groups in litigation involving the current VGP, EPA agreed as follows:

> 7. EPA will provide states with at least six months after publication of the Draft Next VGP to grant, grant with condition, deny or waive certification under CWA §401.
>
> 8. EPA will provide information to the states and facilitate communication among the states at a regional (e.g., Great Lakes, Atlantic, Pacific, and Gulf) level regarding state certification of the Next VGP. For purposes of this Paragraph, to "facilitate communication" means, at a minimum, to arrange for at least one conference call or meeting between the states at each regional level during the 6-month period referenced in Paragraph 7 ***to discuss appropriate interstate coordination on the states' CWA §401 certifications***. For purposes of this Paragraph, to "provide information" means, at a minimum, to explain to the states in a letter or other written format the states' obligations under 33 U.S.C. § 1341 and 40 C.F.R. § 124.53(e) either prior to or upon commencement of the six-month period referenced in Paragraph 7.

See NRDC v. EPA, No. 09-1163 (D.C. Cir.), Document No. 1296922, Filed March 8, 2011.

Finally, EPA must also conduct an appropriate economic analysis with respect to any new requirements that will be added by the states in Part 6 of the VGP. Complying with dozens of requirements to varying degrees depending on which state's waters the vessel crosses is certain to

impose on small entities substantial costs over and above or different than the cost of complying with the original federal requirements of the proposed VGP. EPA failed to consider the costs of compliance with state conditions in assessing the impact of the initial VGP permit on small businesses, as required by the Regulatory Flexibility Act, 5 U.S.C. § 601 *et seq*., and it does not appear that EPA has analyzed these costs, either on an individual or aggregate basis, in connection with the draft proposed VGP.

Moreover, inclusion of any discharge standard other than the proposed is inconsistent with the EPA's mandate under the Clean Water Act to establish a water quality based effluent limit (QBEL) or a technology based effluent limit (TBEL). As the EPA correctly points out in the VGP Fact Sheet, the NAS determined that there was a fundamental lack of data to support the determination of a QBEL. Therefore, based on the NAS determination, the EPA has no scientific basis to establish a QBEL. Similarly, the SAB concluded that, at present, there have been no ballast water management systems which have been able to demonstrate they can meet a more stringent standard than the IMO Standard (or proposed Coast Guard Phase 1). Given that the NAS concluded a QBEL could not be determined and the SAB determined that the best available technology (in this case irrespective of economic or commercial achievability!) is capable of meeting the proposed EPA standard, it is inconceivable that EPA could adopt a standard which is more stringent than proposed.

Question #18: Is it appropriate to require vessels entering the Great Lakes from freshwater or brackish ecosystems to conduct ballast water exchange or saltwater flushing in addition to treatment with a ballast water treatment system?

LCA response: We will leave to vessel operators affected by this proposal.

Question #19: Is it correct that it is currently infeasible to calculate water quality-based effluent limits for ballast water discharges?

LCA response: Yes. This is not merely the position of LCA, but this was the conclusion reached by the National Academies of Science in their year-long study which was funded by the EPA and Coast Guard.

Question #20: Are electronic records readable and legally dependable with no less evidentiary value than their paper equivalent and the implementation guidance provided in the fact sheet?

LCA response: Yes. There are numerous federal agencies that not only permit, but *require* regulated entities to only provide electronic records. For example, the Investment Company Act of 1940 and the Investment Advisers Act of 1940 require mutual funds and other registered investment companies, registered investment advisers ("RIAs"), and others to make and keep certain books and records electronically. The Electronic Signatures in Global and National Commerce Act encourages federal agencies to accommodate electronic recordkeeping. The Securities and Exchange Commission permits both investment companies and RIAs to maintain and preserve required records using electronic storage media such as magnetic disks, tape, and other digital storage media. Clearly EPA has the authority to permit the use of electronic recordkeeping. There is no reason why it should not do so.

Question #21: Is it appropriate to allow for a combined annual report covering all unmanned barges in a fleet/company? Is it appropriate to allow other types of vessels to do a combined annual report?

LCA response: Yes and yes. A combined annual report will reduce the paperwork load on our members and would in no way deny the EPA the information it needs to assess compliance with the VGP.

Question #22: Respondents are asked to critique three new definitions: Biodegradable, Environmentally Acceptable Lubricants, and Voyage. Those are as follows:

Biodegradable *means products and lubricants that demonstrate either the removal of at least 70 percent of dissolved organic carbon, production of at least 60 percent of the theoretical carbon dioxide, or consumption of at least 60 percent of the theoretical oxygen demand within 28 days.*

Environmentally Acceptable Lubricants *means lubricants that are biodegradable and non-toxic, and are not bioaccumulative. Products meeting this standard include those labeled by the following programs: Blue Angel; European Ecolabel; Nordic Swan, the Swedish Standard SS 155470.*

Voyage *means that a voyage begins when the vessel departs a dock or other location at which it has loaded or unloaded (in whole or in part) cargo or passengers, and ends after it has tied-up at another dock or location in order to again conduct such activities.*

LCA response: We will leave comment on "biodegradable" and "environmentally acceptable lubricants" to those who produce products impacted by these definitions. However, vessel operators should not be liable if they, in good faith, purchase products labeled as biodegradable, non-toxic and or non-bioaccumulative, only to find out after the fact that, for example, EPA has determined that such products may in fact be toxic, or bioaccumulative. Our members cannot possibly be expected to keep up with agency determinations in this regard, nor to conduct any testing of such materials to assure the claims are accurate. EPA should make it clear that no such expectations exist. EPA should provide an exhaustive list, updated periodically, which either lists all products which meet their definition of "environmentally acceptable lubricants" or "biodegradable" or an exhaustive list of all agencies, standards organizations and other entities authorized or accepted by EPA to designate a lubricant as "environmentally acceptable" or "biodegradable". Alternatively the agency must evaluate the costs to our members of having to do such testing.

Regarding the definition of voyage, we first must note there is no one, definitive legal or statutory definition for a voyage on the Great Lakes. This definition will be applicable only as it pertains to the Vessel General Permit and determines the frequency of "routine visual inspections."

We are concerned that the wording of the definition itself is potentially ambiguous, in that it is not clear whether a voyage is defined by a one-leg movement or a two-leg movement of a vessel. The sentence immediately following seems to clarify that a one-leg movement is intended: "For example, for a barge on the Mississippi River, such voyage would begin when it departs a location at which it has cargo loaded onto it and end when cargo is unloaded at another location." The definition can be easily clarified with the addition of two words (in ALL CAPS): "…and ends after it has tied up at another dock or location in order to again conduct EITHER OF such activities."

Using this definition of voyage, the vessels in the long-haul trades would perform a routine visual inspection twice per week. Other vessels might require three per week. There are some trade patterns that could result in daily inspections for period of time. That does not differ from the requirements of the current VGP, and, as these inspections can be conducted on a schedule that coincides with other routine vessel inspections, they do not place undue demands on crewmembers.

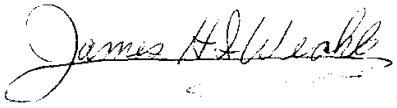
Questions #23 and #24 pertain to the "Small Vessel" VGP. We will leave comment to those who will employ the Small Vessel VGP.

CONCLUSION

In closing, we want to stress that we share others' commitment to the Great Lakes environment and have taken many steps to address our members' ballast water and its potential to spread NIS introduced by ocean-going vessels. We may well develop additional Best Management Practices in the future, and our members may implement measures unique to their vessels and trades. But to treat Lakers' ballast water to the standard required in this draft permit is beyond the technology available for installation on our members' vessels today and not likely during the term of the next Vessel General Permit.

If you need additional information, please contact us at your convenience.

Very Respectfully,



James H. I. Weakley
President

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Appendix A

Vectors for Introduction and Spread of Non-Indigenous Species Identified by U.S. Geological Survey

Accidental	Hitchhiker - Plants	Released – Packing Material
Canal	Hitchhiker - Platforms	Released - Pet
Dispersed	Hitchhiker - Scuba Gear	Shipping
Dispersed - Flood	Hitchhiker - Oysters	**Shipping** - **Ballast Water**
Dispersed - Ocean Current	Hitchhiker - Stocked Fish	Shipping - Hull Fouling
Dispersed - Waterfowl	Hitchhiker With Tunicates	Shipping - Solid Ballast
Escaped Captivity	Hybridized	Stocked
Escaped Captivity - Aquaculture	Ocean Currents	Stocked - Aquaculture
Escaped Captivity - Farm	Planted	Stocked - Aquarium
Escaped Captivity - Fur Farm	Planted - Erosion Control	Stocked - Escaped
Escaped Captivity - Pet	Planted - Food	Stocked - For Biocontrol
Escaped Captivity - Pond	Planted - Forage	Stocked - For Conservation
Escaped Captivity - Research	Planted - Ornamental	Stocked - For Exhibit
Escaped Captivity - Zoo	Planted - Restoration/Mitigation	Stocked - For Food
Gulf Stream Drift	Planted - Wildlife Habitat	Stocked - For Forage
Hitchhiker	Released	Stocked - For Research
Hitchhiker - Fishing, Boating	Released – Aquarium	Stocked - For Sport
Hitchhiker - Aquaculture	Released - Bait	Stocked - Illegally
Hitchhiker - Aquatic Plants	Released - Fish Food	Stocked - Misidentified
Hitchhiker - Imported Logs	Released - Biocontrol	Stream Capture
Hitchhiker - Imported Plants	Released - Food	Unknown
Hitchhiker - Packing Material	Released - Lab Animals	

Source: U. S. Geological Survey database Great Lakes Aquatic Non-Indigenous Species Information System