



Lake Carriers' Association

The Greatest Ships on the Great Lakes

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June 6, 2012

Mr. Donald E. Tuxill, P.E.
New York State Department of Environmental Conservation
Division of Water, 4th Floor
625 Broadway
Albany, New York 12233-3505

Dear Mr. Tuxill:

Subject: Clean Water Act Section 401 Certification for 2013 Commercial and Large Recreational Vessel General Permit and Small Vessel General Permit

Lake Carriers' Association ("LCA") represents 17 American companies that operate 57 U.S.-flag vessels ("lakers") on the Great Lakes and carry the raw materials that drive the nation's economy. Those include iron ore and fluxstone for the steel industry, aggregate and cement for the construction industry, coal for power generation, as well as salt, sand and grain. Collectively, our members can transport more than 115 million tons of dry-bulk cargo per year. They employ more than 1,600 men and women, all of whom are U.S. citizens or legally admitted aliens, 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 per year.

We have a very strong tie to New York. Our largest member, American Steamship Company, is headquartered in Williamsville, just outside Buffalo. The company has 18 vessels. Several of our members deliver cargo to Buffalo. In 2009, the last year for which complete data is available, they delivered more than 900,000 tons of wheat, coal coke and limestone to Buffalo.

Summary of Main Points

1. LCA strongly agrees with NY DEC's decision to adopt the Technology Based Effluent Limit and applicability contained in the EPA's VGP2. This standard is universally and globally accepted as being environmentally protective and economically achievable. The establishment of a federal standard which is consistent with international Ballast Water Management Convention requirements provides certainty to the shipping community and will encourage vessel owners to install Ballast Water Management Systems on their vessels at a more accelerated pace.

We also strongly support NY DEC's decision at Requirement 3 to defer the establishment of a WQBEL until the next VGP (or later). However, the language in the supporting DRAFT Fact Sheet is inconsistent with the correct and appropriate determination that a WQBEL is not feasible at this time. The DRAFT Fact Sheet includes statements which we believe are not accurate or supported by factual and/or scientific evidence, including statements that the IMO D-2 Standard is not adequate. We believe several statements and references are not correctly or appropriately interpreted by the authors of the DRAFT Fact Sheet.

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The Association Representing Operators of U.S.-Flag Vessels on the Great Lakes

AMERICAN STEAMSHIP COMPANY ♦ ANDRIE, INC. ♦ ARMSTRONG STEAMSHIP COMPANY ♦ BELL STEAMSHIP COMPANY
CENTRAL MARINE LOGISTICS, INC. ♦ GRAND RIVER NAVIGATION COMPANY, INC. ♦ GREAT LAKES FLEET/KEY LAKES, INC.
INLAND LAKES MANAGEMENT, INC. ♦ THE INTERLAKE STEAMSHIP COMPANY ♦ LAKES SHIPPING COMPANY
LAKE MICHIGAN CARFERRY SERVICE ♦ PERE MARQUETTE SHIPPING COMPANY ♦ PORT CITY MARINE SERVICES ♦ PORT CITY STEAMSHIP SERVICES
SOO MARINE SUPPLY, INC. ♦ UPPER LAKES TOWING COMPANY, INC. ♦ VANENKEVORT TUG & BARGE INC.

Specifically, DEC staff members have consistently argued in favor of a more stringent TBEL standard than the IMO D-2 Standard despite overwhelming factual evidence to the contrary. During the preparation of the final report of the Great Lakes Ballast Water Collaborative, Work Group 3 (Review and Assess Current Verification Capability for Treatment Systems to Comply with a Discharge Standard of 100x IMO), as well as the EPA's Science Advisory Board Ballast Water Advisory Panel, DEC Staff argued in favor of a TBEL standard orders of magnitude more stringent than IMO D-2. In both cases, bodies of experts concluded that NY DEC's conclusions were baseless and not supported by facts. Therefore, it appears that since DEC was unable to establish a more stringent TBEL through the appropriate mechanisms of either regulations or permit requirements, the authors of the DRAFT Fact Sheet have chosen to circumvent the process by using the WQBEL process to argue in favor of a more stringent standard. As with their attempts to establish a more stringent TBEL Standard, there is no evidence to support a WQBEL standard. This conclusion was reached by not only the EPA in their Draft VGP2 and supporting Draft Fact Sheet, but also the National Research Council of the National Academies of Science in their report "Assessing the Relationship Between Propagule Pressure and Invasion Risk in Ballast Water." Therefore we strongly recommend that the WQBEL section of the DRAFT 401 Certification be either deleted completely or a more balanced and factual approach be taken with regard to the feasibility of establishing a WQBEL.

2. LCA strongly agrees with NY DEC's decision to apply the requirements for Ballast Water Exchange and Treatment to oceangoing vessels only. Our members' vessels never leave the Lakes, so have never, and, will never introduce an AIS. While their ballast has the potential to spread AIS introduced by oceangoing vessels, their ballast is but one of at least 64 vectors for introduction and spread.
3. There is presently no ballast water management system (BWMS) capable of being installed on our vessels (commonly referred to as lakers) and we do not foresee a BWMS that can accommodate lakers' flow rates, temperature range and other considerations during the term of the next VGP. This position is supported by numerous independent studies initiated by the U.S. Coast Guard and EPA. Both agencies acknowledged this fact and therefore required lakers to continue to employ Best Management Practices to limit the potential that their ballast might spread an AIS introduced by an oceangoing vessel. Additionally, the states of Ohio, Wisconsin, New York, Indiana, and Pennsylvania (Illinois has not yet published draft VGP2 regulations or made its intentions known) have also concluded that there are no systems capable of treating the high flow rates common to lakers given the physical constraints of our vessel layouts and operating profiles (short voyages, fresh water, wide temperature range).

Main Points

1. DRAFT Fact Sheet language is inconsistent with Requirement 3 in the DRAFT Certification and contains misleading and inaccurate information. LCA strongly supports NY DEC's adoption of the TBEL for ballast water discharges in the EPA's Draft VGP2, as well as its applicability. This standard is accepted world-wide and is environmentally protective of the fragile Great Lakes ecosystem. It is also technologically achievable and economically feasible for ocean-going vessels. The establishment of a single national standard which is consistent with the internationally accepted IMO D-2 Standard will provide certainty to the shipping community and encourage installation on board new and existing ocean-going vessels.

We also strongly support the language at Requirement 3 of the DRAFT 401 Certification which recognizes that a WQBEL cannot and should not be established during this iteration of the VGP2. However, the language in the DRAFT Fact Sheet contradicts this conclusion. We find the following omissions, misinterpretations and inaccuracies the most troubling:

- *This obligation (to establish a WQBEL) exists even if the supporting data are sparse – as is often the case – and agencies are typically able to issue numerical WQBELs “by making ‘conservative’ assumptions,*

using safety factors similar to those used in ecological assessments for pollutants, and/or by setting the standards based on the upper confidence limits of predictions of invasions.”¹

The DRAFT Fact Sheet authors use this statement to imply that Lee et al favor the establishment of a WQBEL. However, the converse is actually true when one reads the sentence which follows the above quote: “The risk management challenge will be to set standards that balance the level of protection afforded versus their technological feasibility and economic viability.”² The terms “technological feasibility” and “economic viability” are commonly associated with Best Available Technology and thus, Technology Based Effluent Limits.³ Therefore, contrary to the DRAFT Fact Sheet’s implication, Lee et al are not encouraging or endorsing the establishment of a WQBEL as a discharge standard. In fact, his statement appears to support the criteria normally associated with a TBEL.

- *In cases where a federal agency issues a permit such as the VGP that does not include a numerical WQBEL, states can and should do so.*

We agree that states clearly have the authority under the Clean Water Act and the 401 Certification process to establish numerical WQBELs, regardless of whether or not the EPA has established such a standard. However, we strongly object to the characterization that a state “should” establish a numerical WQBEL when a federal permit lacks one. Given that this document purports to be a “Fact Sheet,” it is inappropriate to include the authors’ opinion as to what should or should not be done as opposed to what must be done in accordance with the CWA and the permitting process. Moreover, as Lee, et al.⁴ state, determining a standard is a “risk management challenge” that “balances the level of protection afforded versus their technological feasibility and economic viability.”

- *IMO D-2 Standard may not adequately treat all AIS⁵*

The above statement is problematic in many ways, not the least of which is its inaccuracy and misinterpretation of the conclusions of the Bailey, et al report. It is incorrect and inaccurate to state that the “standard may not adequately treat all AIS” and represents a lack of understanding of the Ballast Water Management Convention and its requirements. A standard does not “treat” AIS; rather it establishes an upper limit for organism concentrations for the different class sizes and indicator microbes. Furthermore, we could find nothing in Bailey, et al upon which to draw the conclusion that the IMO D-2 Standard is not effective. In fact, the focus of the paper is on the efficacy of ballast water exchange, not ballast water treatment. Bailey et al conclude that BWE is 99.993% effective at removing or exterminating freshwater zooplankton and nearly eliminate high risk taxa⁶ however they draw no conclusions about the adequacy or environmental protectiveness of the IMO D-2 standard.

- *Any discharge of ballast water at the IMO D-2 concentration has the potential to violate state water quality standards and thus violate the VGP.*

This statement presumes that propagule pressure is the most critical factor when determining the risk of establishment of an invasive population. It also ignores that, for the Great Lakes, EPA has required (at 2.2.3.7 of the Draft VGP2) ballast water exchange / salt water flushing in addition to ballast water treatment for vessels entering the Great Lakes whose voyages originated in low salinity waters.

In the National Academies of Sciences report, numerous factors were identified which contribute to the variance in probability of establishment of a self-sustaining population:

¹H. Lee et al., Density Matters: Review of Approaches to Setting Organism-Based Ballast Water Discharge Standards, U.S. EPA Office of Research and Development, National Health and Environmental Effects Research Laboratory, Western Ecological Division, EPA/600/R-10/031 (2010), at 6

² H. Lee et al., *op cit*, at 6

³ From the EPA’s website http://water.epa.gov/scitech/wastetech/guide/questions_index.cfm , Best Available Technology Economically Achievable (BAT) represents the best available economically achievable performance.

⁴ H. Lee et al., *op cit* at 6

⁵ S.A. Bailey et al., “Evaluating Efficacy of an Environmental Policy to Prevent Biological Invasions,” *Environ.Sci.Technol.* 45, 2554-61 (2011), at 2557 and 2559.

⁶ S. A. Bailey et al., *op cit* at 2559

The factors encompassed by ϵ (sources of variation) are discussed here to underscore the importance of both event-specific (the moment of the release of a given inoculum from a single ship) and site specific conditions when discussing invasion risk.

Figure 3-1 summarizes these sources of variation. The figure commences at the release of discharge of ballast water. At this stage, critical variables include (1) *inoculum abundance, density and frequency*, (2) *the identity, diversity, source and history of the inoculating propagules*, and (3) *propagule quality*. Post discharge processes then strongly influence the fate of the released propagules. These variables include both *species traits* and *environmental traits*, covering a very broad range of biological and ecological phenomena. These sources of variation are shown in Figure 3-1. This overview **is not a comprehensive list of all factors** (my emphasis added) that can influence invasion success, but is intended to illustrate significant sources of variation that are likely to influence the relationship between propagule supply and invasion outcome.

In their admittedly non-comprehensive list of factors affecting the likelihood of establishment of a self-sustaining population, NAS identified 10 broad factors, only one of which related to the volume of discharge. Similarly, Lee et al⁷ identifies 25 different factors which can affect the prediction of invasion rates.

Given all of these variables and challenges associated with the prediction of risk associated with the establishment of a self-sustaining population, DEC has provided no evidence that discharges of ballast in compliance with the IMO D-2 standard will adversely affect New York state waters. Therefore, we do not believe it is appropriate to conclude that discharge of ballast water at the IMO D-2 concentration will violate state water quality standards.

General assessment of the Basis for Water Quality Based Effluent Limitation (WQBEL)

In June 2010, the EPA and U.S. Coast Guard charged the National Research Council's Water Science and Technology Board "to undertake a study to provide technical advice to help inform the derivation of numeric limits for living organisms in ballast water for their regulatory programs."⁸ The NRC impaneled a multi-disciplinary team of 21 leading experts from the U.S. and Canada to conduct the year-long study. Their report underwent rigorous peer and federal agency review before it was published in June 2011. This group of experts concluded that there were insufficient data upon which a Water Quality Based Effluent Limit could or should be established. Despite the fact that the DRAFT Fact Sheet cites nearly 40 different references, the authors of the DRAFT Fact Sheet have apparently chosen not to consider this august panel's findings in their determination that a WQBEL is appropriate for ballast water discharges. Instead, the authors have relied on a letter to the docket of the EPA VGP2 supporting a WQBEL, as well as the misinterpretation of otherwise valuable research noted above.

NY DEC staff have continually tried to establish a standard more stringent than the IMO D-2 standard, first, in their attempts to claim that 10X and 100X IMO were an appropriate TBEL, then, when that failed, the DRAFT Fact Sheet attempts to support a WQBEL more stringent than IMO D-2, despite what is stated in the DRAFT 401 Certification. The following two cases exemplify DEC staff's disregard for factual and scientific evidence in the development of standards:

- In July 2010 at the Great Lakes Ballast Water Collaborative meeting in Duluth, a Working Group was established to "Review and assess current verification capability for Treatment Systems to comply with a discharge standard of 100x IMO."⁹ This Working Group included experts from ballast water testing facilities, U.S. Naval Research Lab, shipping industry experts, ballast water management manufacturers and state agency representatives and was chaired by a NY DEC staff member. During their deliberations,

⁷ H. Lee et al., *op cit* at 7

⁸ National Research Council of the National Academies of Science, Committee on Assessing Numeric Limits for Living Organisms in Ballast Water, "Assessing the Relationship Between Propagule Pressure and Invasion Risk in Ballast Water," (2011) at 1.

⁹ Report from the Great Lakes Ballast Water Collaborative Meeting: DULUTH, July 20-21, 2010 at 43.

the Working Group concluded that "While progress has been made in the development of detailed testing protocols and harmonization among test facilities globally, there are currently no established protocols for, nor facilities capable of verifying ballast water treatment systems performance to the more stringent Wisconsin (100X IMO) discharge standard." However, in the months that followed the meeting, the WG Chair (NY DEC staff member) made repeated attempts to distort the conclusions drawn by the WG and drafted several WG reports which were directly contradictory to the WG's conclusions. Several members of the WG were so outraged by the Chair's obstinacy they threatened to withdraw from the WG. Direct intervention by senior members of the Collaborative was required to resolve the issue and ensure the WG's final report was representative of their actual deliberations.

- Similarly, during the public sessions of the EPA's Science Advisory Board, Ballast Water Advisory Panel, on several occasions DEC staff attempted to persuade Panel members that a standard 10X or 100X more stringent than IMO D-2 was both technically possible given the present state of ballast water treatment technology, and measurable. The SAB carefully considered the statements made and documentation provided by NY DEC, but, in all cases, this expert panel refuted DEC staff's claims. The SAB concluded that NY DEC was incorrect in its assertions regarding standards more stringent than IMO D-2 and concluded that the most stringent standard which is presently available (i.e., the BAT) and which is measurable is the IMO D-2 Standard.

Based on this history, it is clear that NY DEC staffers are strong proponents of a standard more stringent than the IMO D-2. It is equally clear that there is no evidence to support the establishment of any standard – TBEL or WQBEL – which is more stringent than the IMO D-2 standard. In its DRAFT 401 Certification, New York clearly states that a WQBEL numeric effluent limit for ballast water is not appropriate and should be deferred until the next VGP. Therefore, the section of the DRAFT Fact Sheet entitled "Basis for Water Quality Based Effluent Limitation (WQBEL)" should either be deleted in its entirety or be significantly modified to better reflect the language in the DRAFT 401 Certification and include the conclusions reached by the National Academies of Science.

2. We support NY DEC's decision to apply ballast water exchange and treatment requirements to oceangoing vessels only. U.S.-flag lakers never leave the system, so have never introduced an ANS. Most never sail any farther east than the Ohio/Pennsylvania line in Lake Erie. A few deliver cargo to Erie, Pennsylvania, and Buffalo, New York. There is an occasional trip onto Lake Ontario, but the vast majority of voyages are conducted between Duluth/Superior and Conneaut, Ohio. The ruffe, the zebra mussel, the round goby and other exotics were introduced by oceangoing vessels, unintentionally for sure. Perhaps more importantly, if new non-indigenous species reach the Lakes, they will have hitch-hiked in the ballast tanks of "salties." We recognize that our members' ballast does have the potential to spread ANS introduced by oceangoing vessels. So do the EPA and the U.S. Coast Guard, and as a result, the VGP and the Coast Guard's Final Rule published this past March require our vessels to employ a number of Best Management Practices.

3. No Ballast Water Management Systems presently available for installation onboard Lakers. At the Federal level, both agencies which have jurisdiction over ballast water discharges – the U.S. EPA and the Coast Guard – have determined that there are presently no ballast water management systems available which can be installed and operate satisfactorily on lakers. The states of Wisconsin, Ohio, Indiana and Pennsylvania have all reached the same conclusion. In fact, except for Minnesota, none of the Great Lakes states has included in their VGP2 draft 401 Certifications, state permits or implementing regulations any requirement for the installation of ballast water management systems onboard lakers.

In addition to the obvious difference in risk associated with vessels which are confined to the Great Lakes versus vessels which can bring non-indigenous species into the Great Lakes, there are several factors which make lakers significantly different from oceangoing vessels. First, even our smallest lakers typically have flow rates which are several times higher than their oceangoing counterparts. In the case of our largest, most efficient and environmentally friendly "thousand footers," they have flow rates approaching 80,000 gallons per minute.

Second, our ships' longest voyages are no more than five or six days and most are three days or less. Some voyages are only several hours. Compare these transit times to an oceangoing ship which may have a voyage of several weeks or even months. Many treatment systems which use biocides to kill organisms require hold times of several days to first kill the organisms, then several more days to degrade sufficiently so as not to be harmful to the environment upon discharge. Many BWMS are type approved with this in mind and specifically require holding times of five days or more. The extremely short duration of our voyages, coupled with the extreme cold water experienced throughout much of the navigation system would render such treatment systems ineffective and potentially damaging to the environment.

Third, all of our vessels have uncoated ballast tanks. Due to the fresh water operating environment, many of our ships have been in safe operation for 75 years or more with very little internal corrosion. Introducing a biocide, particularly one of the many oxidizers such as chlorine or ozone, would quickly cause the deterioration of these tanks. The existing condition of the tanks, welding techniques used and structural limitations make coating the tanks ineffective.

Many of the systems which might receive Coast Guard type approval are not practicable for use on Great Lakes vessels. For example, many electrolytic chlorination systems are being developed which might be able to treat at flow rates which approach those of our smallest vessels. However, those systems require salt water; hence they are suitable for oceangoing vessels, but not lakers. In order for our vessels to use such systems, a brine tank would be necessary to supply the required ionic constituents for the system to work properly. A brine tank would be highly corrosive to the uncoated ballast tanks. Those electrolytic chlorination systems have very high power requirements which would exceed the power generation and distribution capability of our ships, particularly given the fact that they would need to be operated simultaneously with the self-unloading equipment.

Lake Carriers Association agrees with the conclusions drawn by the Science Advisory Board, the U.S. Coast Guard, the EPA and several Great Lakes states that there are no ballast water management systems presently or foreseeable during the term of the VGP2 available that can be fitted on board our existing fleet of lakers. We applaud NY DEC for recognizing this fact and limiting the applicability for installation of BWMS to oceangoing vessels only.

When Treatment Systems Are Available For Lakers

As we have stated repeatedly, there are no BWMS that can accommodate lakers' operational requirements. Nor do we expect any will be available during the term of VGP2. However, both the Coast Guard and EPA have positively stated that when ballast water treatment systems become available for use on lakers, the Federal agencies will draft regulations to require their use.

Technology will continue to advance, and the day may come when a BWMS will be available that can handle 16 million gallons of frigid water being pumped in at 80,000 gallons per minute. We respectfully submit that a requirement that lakers install such a system must be preceded by a thorough review of all the facts. As we have stressed, U.S.-flag lakers never leave the system; most never sail any farther east than Conneaut, Ohio.

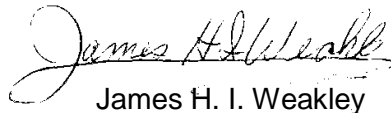
We must also acknowledge that once an ANS has taken root, it can and will migrate independent of commercial navigation. Take for example the ruffe. Since 1993, it has been migrating along the southern shore of Lake Superior at a rate of about 25 miles per year. Once the ruffe reaches the St. Marys River, the rest of the Great Lakes lies before them.

Another critical factor to consider is that lakers' ballast is but one of many means of introducing and spreading ANS. The U.S. Geological Survey has identified 64 and ballast is but one. (See Attachment A.) Our members implemented Best Management Practices to address the spread of ANS introduced by oceangoing vessels long before there was any requirement to do so, and they may voluntarily take additional measures, but installing ballast water treatment systems on lakers will have no impact on future introductions, and, at best, will have a very minimal impact on the spread of invasives introduced by vessels entering from overseas.

Conclusion

Lake Carriers' Association's first effort to limit the spread of an ANS introduced to the Lakes by oceangoing vessels dates back to 1993 and dealt with trying to contain the ruffe to western Lake Superior. But despite everyone's efforts, the problem of ballast water transport and spread of ANS persists, worldwide. We hope the ballast water treatment systems that will be installed on oceangoing vessels will permanently end new introductions of ANS to the Great Lakes. We will continue to do our best to minimize the potential that our members' ballast might spread an ANS. We know very well that recreational uses of the Great Lakes are a vital part of New York's economy and quality of life and always operate our vessels in a manner that respects the Great Lakes environment.

Very Respectfully,



James H. I. Weakley
President

Cc: LCA Board of Directors
Bruce Bowie, Canadian Shipowners Association

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Attachment 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