December 4, 2009

Docket Management Facility (M-30)
U.S. Department of Transportation
West Building Ground Floor
Room W12-140
1200 New Jersey Avenue, SE.
Washington, DC 20590-0001

RE: MCEA et al.'s Comments On Proposed "Standards for Living Organisms in Ships' Ballast Water Discharged in U.S. Waters" [USCG-2001-10486]

Dear Mr. John Morris and project staff:

We, the undersigned organizations, submit the following comments on the proposed U.S. Coast Guard rules "Standards for Living Organisms in Ships' Ballast Water Discharged in U.S. Waters" [USCG-2001-10486], 74 Fed. Reg. 44632, *et seq.*, published in Fed. Reg. Vol.74, No. 166, Friday, August 28, 2009, and proposed to be codified at 33 C.F.R. § 151, and 46 C.F.R. § 162 (hereinafter, "Proposed Rule"). We represent a coalition of Minnesota organizations that have been concerned about this issue for more than 20 years. Thank you for the opportunity to comment on this important rulemaking.

Aquatic invasive species introductions often occur via ballast water discharge, and have caused significant, destructive, and generally irreversible changes to the ecology and human uses (industrial, residential, and recreational) of Minnesota's waters. The introduction of 30 non-native aquatic species to Lake Superior has been attributed to ballast water and 65% to 70% of the non-native species documented throughout the Great Lakes were introduced via ballast water discharge. Some of these introduced species have then been spread to other Minnesota waters. Accordingly, we have a strong interest in ballast water discharge standards, and find it critical that standards be stringent enough to prevent new introductions from this important pathway and any further spread of ship-mediated aquatic invasive species.

Introductory comments

We strongly support several key elements of the Proposed Rule: the use of a concentration-based limit for organisms in ballast water discharge; the specific Phase-Two standard as currently proposed, i.e., 1000 times more stringent than the International Maritime Organization standard ("1000xIMO"); and the application of the same standard to all vessels in U.S. waters. These are all critical components of the Proposed Rule and must be retained in the final Rule.

There are major failings, as well. The proposed Phase-One standard (IMO) is already obsolete. The Phase-One standard should be raised by at least two orders of magnitude, from IMO to 100xIMO or higher. In addition, the reference date in the Proposed Rule is not a firm deadline; it should be. The timeline and reference date provided (first scheduled drydocking after January 1, 2016) is too distant – six years from now – and should be changed to a firm deadline of January 1, 2012 for the Phase-One standard, so as to remain in line with New York's standard. At least in the Great Lakes, a faster compliance schedule with a firm date and a higher standard is readily achievable. In light of the proven destructive potential of aquatic non-native invasive species and the availability of effective treatment technologies, a higher standard with a firm deadline that must be met sooner is urgently needed and practicable. We also urge the U.S. Coast Guard (USCG) to expand beyond ballast tanks alone and consider the whole vessel. Finally, the proposed practicability review is unnecessary, counterproductive and ill-defined, and should be eliminated.

More specific comments on the Proposed Rule follow.

SECTION II: Legislative and Regulatory History

1. **COMMENT: The legislative and regulatory history in this section is helpful but incomplete.**

Section III provides historic context within which to consider the present Proposed Rule, including an invaluable recitation of how two previous measures once deemed adequate by the USCG have failed to prevent the introduction and spread of aquatic non-native invasive species, a clear and useful reminder of the danger in attempting to get by with weak half-measures.

2. **COMMENT: Section III omits important information about the dictates of the National Invasive Species Act, 16 U.S.C. §§ 4701 *et seq.* ("NISA").**

The National Invasive Species Act (NISA) establishes as the objective a zero discharge standard for the introduction and spread of aquatic non-native invasive species by directing the Coast Guard to, "prevent the introduction and spread of non-indigenous species in waters of the United States by ballast water operations and other operations of vessels equipped with ballast water tanks," 16 U.S.C. § 4711(c)(1), and to, "ensure to the maximum extent practicable that aquatic nuisance species are not discharged into waters of the United States from vessels." 16 U.S.C. § 4711(c)(2). This categorical purpose of NISA, with any accurate caveats included, should be stated in this section.

SECTION IV: Background and Purpose

1. **COMMENT: A concentration-based ballast water discharge standard is practicable, helpful, and necessary to prevent the introduction and establishment of aquatic non-native species.**

MCEA agrees that ballast water exchange (BWE), "is not well suited as the basis for a protective programmatic regimen[.]"[1] The studies of BWE, cited at the top left of 74 Fed. Reg. 44634, provide evidence enough to support that conclusion, though MCEA regrets the description of BWE as being in any respect "effective" or even of "highly variable" effectiveness. No characterization of "effectiveness" should be made without providing a clear statement of the objective or standard against which effectiveness is to be measured. The objective set forth in NISA is to prevent the introduction and spread of aquatic non-native invasive species in U.S. waters, and by that standard BWE has been a failure, because it is unreliable and ineffective.

The USCG states, "[r]esults from several studies have shown the effectiveness of BWE varies considerably," ranging from 50% to 99%. 74 Fed. Reg. 44633-44634. "Variable effectiveness" is just another way of saying "unreliable." In any case, discussion of effectiveness on a ship-by-ship basis misses the point. The focus in this rulemaking is not on selecting a BWMS for a single ship, but rather on a programmatic effort to prevent the introduction and spread of aquatic non-native invasive species. No successful program for preventing the introduction and spread of aquatic non-native invasive species from all ships can be built around a technique that may be 50% effective for some ships and 99% effective for other ships.

2. **COMMENT: Significant information on the difference between conventional pollutants and aquatic non-native invasive species has been omitted from Section IV.**

Section IV omits information about why consistent high performance is required from a BWMS in order to prevent the introduction and spread of aquatic non-native invasive species. Specifically, there should be information in this section explaining that unlike ordinary pollutants (e.g., turbidity, diesel-range organics, or metals), which are diluted and dissipate in large volumes of receiving waters, aquatic non-native invasive species can reproduce and multiply exponentially if they become established in waters outside their native range. Some examples should be given, such as the invasion histories of the zebra mussel, quagga mussel, spiny water flea, and viral hemorrhagic septicemia, among many other recent non-native invaders now living in the Great Lakes.

This information more fully explains why unreliable practices like BWE must be abandoned in favor of a concentration-based ballast water discharge standard (BWDS). This information should be incorporated in the record and in the final rule documents,

[1] MCEA agrees also that adopting a concentration-based standard will, "advance the protective intent of NISA and simplify the process for Coast Guard approval of ballast water management systems (BWMS)"; and that, "setting a discharge standard would promote the development of innovative BWM [ballast water management] technologies, be used for enforcement of the BWM regulations, and assist in evaluating the effectiveness of the BWM program." 74 Fed. Reg. 44634.

because it is relevant and addresses the need for consistent, stringent BWDS in order to achieve NISA's purpose of preventing the introduction and spread of aquatic non-native invasive species.

3. **COMMENT: Section IV omits significant information about the enormous volume of ballast water discharged to busy ports, and the implications of those large volumes for setting effective concentration-type standards.**

Section IV omits information on the enormous volumes of ballast water received each year in U.S. ports. The significance of the omission of this information stems from the fact that the IMO standard and the 1000xIMO standard that the USCG has proposed for Phase-One and Phase-Two, respectively, are concentration-type standards.

This omission should be corrected. Volume information provides important context in rulemaking for a concentration-based ballast water discharge standard (BWDS), since (concentration) x (volume) = (number of organisms allowed to be discharged).

The specific IMO limits for numbers of viable organisms per cubic meter (m^3) of ballast water discharged into U.S. waters are:

Parameter	Limit
Organisms >50um	<10 viable organisms per cubic meter
Organisms 10-50 um	<10 viable organisms per mL
E. Coli	<250 cfu/100mL
Intestinal interococci	<100 cfu/100mL

Less than ten organisms per m^3 may not sound significant until one learns the sheer volume of ballast water discharged into some ports.

Busy ports may receive millions of metric tons of ballast water discharge each year. In 2005, for example, discharges to just two U.S. ports in Lake Superior (the ports at Duluth-Superior and Two Harbors), totaled over 27.4 million m^3.[2] This enormous volume of ballast water, presuming it all complied with the IMO standard, would allow the following numbers of organisms to be discharged alive into the Duluth-Superior and Two Harbors ports:

Parameter	Limit	Potential number of organisms introduced to Lake Superior annually
Organisms >50 um	<10 viable organisms per cubic meter	< 274,934,450
Organisms10-50 um	<10 viable organisms per mL	< 27,493,445,000
E. Coli	<250 cfu/100mL	< 6,873,361,250

[2] Bailey, S., et al. "Looking at Lakers"

Intestinal interococci	<100 cfu/100 mL	< 2,749,344,500

Billions of organisms each year, including hundreds of millions of the largest organisms, could be discharged into Lake Superior through these two major U.S. ports alone, in compliance with the Phase-One standard proposed by the USCG. What is the situation elsewhere? What volumes of ballast water are received in all the nation's ports? This information should have been supplied in the Federal Register notice and must be collected and considered by the USCG prior to final consideration and decision on the Proposed Rule.

SECTION V: Discussion of Proposed Rule

A) Phase-One Ballast Water Discharge Standard

COMMENT: It is necessary and practicable to raise the Phase-One standard from IMO (proposed), to at least 100 times IMO.

a. It is imperative that the USCG impose a higher standard.

The IMO standard is not protective enough to prevent the introduction of aquatic non-native invasive species into waters of the U.S., as is required by NISA. As explained above, the IMO standard would allow billions of viable organisms to be dumped into Lake Superior each year. Other states, such as New York, have recognized and commented upon the necessity to go far beyond the IMO standard, in order to protect the nation's waters sufficiently.[3] New York has pointed out that the USCG has agreed that the proposed Phase-One (IMO) standard would provide only "minor to moderate reductions" in introductions of invasive species. New York also points out that the USCG itself considered the IMO standard insufficient to protect U.S. waters, and favored a standard roughly equivalent to the California standard, which is a bit more than 1000 times more stringent than the IMO standard (1000xIMO).[3]

b. Imposing a more stringent Phase-One standard is practicable.

The NISA directs the USCG to ensure to the maximum extent practicable that non-indigenous species (NIS) are not discharged, introduced, or spread from vessels into U.S. waters.[4] Technologies that are on the market now can treat ballast water to a standard 1000 times more protective than IMO. Moreover, significant portions of the world and Great Lakes shipping fleets are currently idled, making now an ideal time to begin drydocking vessels to install ballast water management systems (BWMS) capable of complying with a Phase-One standard far more stringent than the proposed IMO standard.

i. Seven commercially available treatment technologies exist that perform to 1000xIMO, with more technologies on the way.

As of October, 2009, after compiling and reviewing all available literature and performance data on the ballast water management systems now on the market, the state

[3] October 29, 2009 Letter from James M. Tierney, Assistant Commissioner, New York State Department of Environmental Conservation, to U.S. Coast Guard.
[4] 16 U.S.C. § 4711(c)(1)-(2); 74 Fed. Reg. 44634.

of California has identified at least seven suitable BWMS believed capable of treating ballast water to the California standard. The California standard is roughly 1000 times more stringent than the IMO standard proposed by the USCG for Phase-One:[5]

> *Based on the available data, at least seven ballast water treatment systems*: AlfaLaval, Ecochlor, Hamann Evonik Degussa, Hyde Marine, OceanSaver, OptiMarin, and Techcross *have demonstrated the capability to comply with California's performance standards for the discharge of ballast water*. AlfaLaval (Norway), Hyde Marine (United Kingdom), Hamann Evonik Degussa (Germany), OceanSaver (Norway), and Techcross (Korea) have received Type approval from flag state administrations. All seven systems are commercially available at this time. *We expect several more systems to meet California's standards in the near future*.[6] (emphasis supplied)

Two of the seven BWMS employ ultra-violet (UV) light and filtration, both of which should function equally well in salt and fresh water, meaning that neither lakers nor salties operating in the Great Lakes can reasonably claim to need an exception to the Proposed Rule.

Furthermore, if seven companies selling California-compliant BWMS were not sufficient, the pace of ballast water treatment technological development is brisk. California State Lands Commission and New York State Department of Environmental Conservation scientists, among others, have been evaluating and tracking the trends and pace of ballast water technology development. They note that more ballast water treatment technologies are in development or will be brought to market in the near future.

> The field of ballast water treatment technology appears to be evolving rapidly. Within ten months of the release of our most recent report (Dobroski et al. 2009), the number of systems which have presented data demonstrating the potential to meet California's performance standards has more than tripled - from two to seven. We expect to see a great increase in the available data on system performance in the near future, particularly as systems are installed on operational vessels beginning January 1, 2010 for the initial implementation of California's performance standards for vessels with a ballast water capacity of less than 5000 MT.[5]

With seven technologies that can perform to the California standard (~1000xIMO) now on the market and with more on the way, the currently available technology supports a Phase-One standard 1000 times more protective than IMO.

If the USCG will not raise the Phase-One standard up to 1000xIMO, then we urge the USCG to raise it to at least 100 times more protective than IMO.

---

[5] The California standard differs from 1000xIMO mainly in that California requires zero detectable organisms in the largest (>50 microns) size class, whereas 1000xIMO allows "<0.01" such organisms per m^3. Currently, detection methods for such organisms are possibly inadequate to distinguish between the two thresholds. Better detection methods will have to be developed before the distinction between the two standards can be measured.

[6] October 2009 Update: Ballast Water Treatment Technologies For Use In California Waters, California State Lands Commission, p. 13.

ii. Reduced trade has idled vessels in the world and Great Lakes fleets, creating an opportunity to drydock vessels without reducing their gross earning potential.

During this extended economic downturn, in which global and Great Lakes trade has dropped 25%,[7,9] significant portions of the world's[7,8] and the Great Lakes'[9,10] shipping fleets are sitting idle, "waiting for work." Four percent of the world's shipping fleet is sitting idle in the waters around Singapore alone. An additional 2% and 1% of the world's shipping capacity is sitting idle at Rotterdam, the Netherlands and the straights of Gibraltar, respectively.[8] In the Great Lakes, 13% of the U.S. laker fleet is in lay-up. Earlier in the year, it had been 22% sitting idle.[10] Apparently, the lesson of similar downturns in the past suggests the current shipping doldrums are likely to continue for several years.[7] Even if exports and cargo volume begin to increase, it is likely to give little, if any, boost to the percent of vessels in operation, because the number of idle ships is being exacerbated by an enormous glut of new vessel orders placed and filled in the years prior to the recession.[7] The daily prices for chartering bulk carriers dropped nearly 97% between the summer of 2008 and early 2009.[8] Freight rates for container ships dropped 45% to 66% between the summer of 2008 and mid-late 2009.[7,8]

With neither lakers nor salties operating continuously, many sit idle, and those that are operating are charging less now for freightage than the cost of providing the service.[7] This idleness presents a tremendous but impermanent opportunity to quickly require that vessels enter drydock, have the highest-performing BWMS installed, and be placed in operation so that the entire fleet can then be cycled through drydock with little or no loss in operating revenue.

iii. To the extent loss of income while in drydock is a permissible consideration, now is an excellent and practicable time to cycle vessels through drydock for treatment system installation.

The Minnesota Pollution Control Agency (MPCA) issued a general permit for ballast water discharge in late September, 2008.[11] In its "Findings of Fact, Conclusions of Law, and Order"[12] as well as in its technical document called a "Fact Sheet"[13] for the general permit, the MPCA considered a fast compliance schedule that would take vessels out of operation and put them into drydock during the shipping season on the Great Lakes. The MPCA determined that it was not feasible to do so:

---

[7] "As Shipping Slows, Banks and Carriers Fear Loan Defaults," New York Times, Global Business section, 11/11/2009.
[8] "Cargo Ships Treading Water Off Singapore, Waiting for Work," New York Times, Global Business section, 5/12/2009.
[9] "North Country Public Radio, 11/17/2009
[10] "Five More Lakers Activated For Late Season Shipping Boost," Business North, News from 91.3 KUWS, 11/30/2009.
[11] State of Minnesota State Disposal System Permit MNG300000.
[12] Findings of Fact, Conclusions of Law, and Order, SDS Permit MNG300000, ¶33.
[13] State of Minnesota, Fact Sheet for SDS Permit MNG300000, at p. 12 of 24.

> The vessels are in constant use except when in a dry dock situation, so any significant modifications to the piping systems would have to be done only during that time.[11]

and,

> Laker vessels are usually sent to dry dock on a schedule of every five to six years in order that engines can be overhauled and the other necessary maintenance performed. Most dry docking is done in the period of January through March, when the Great Lakes are at least partially frozen. […] For the vessels to go into dry dock during their shipping season is a greater possibility, but that would mean the vessel would not be in use during that time, which could be up to two months, and would result in significant lost revenues for the company. […] For Salties vessels, the usual dry dock schedule is every three years. The vessels are in constant use except when in a dry dock situation, so any significant modifications to the piping systems would have to be done only during that time.[12]

In the view of the Minnesota Pollution Control Agency (MPCA), it is not a good time to send vessels to drydock when those vessels otherwise could be in "constant use," i.e., when shipping is brisk and ports are not locked-up by lake ice. Moreover, though many submitted information and argument to the MPCA during the Minnesota SDS permit development process, not a single one of the shipping company executives or carrier associations submitted comments disputing the MPCA's assessment.

Given the steep downturn in shipping demands, now is an optimal, and certainly a practicable, time for setting a Phase-One standard requiring vessels to enter drydock for installation of a suitable BWMS. To the extent that a shipping company or a regulatory agency might argue that the next several-year period is not a good time to put vessels in drydock, then several several points should be made: A) one cannot have it both ways; B) no weight should be given to a Catch-22-like argument that it is never a good time for drydock; C) a rational listener must conclude that from a balance-sheet or ship owner's perspective there is no good time for drydock; and therefore, D) balance sheet considerations are improper and simply shouldn't be considered in determining whether it is "practicable" to install BWMS.

B) Phase-Two Ballast Water Discharge Standard

COMMENT: Until a more stringent standard is practicable, we support the USCG's proposal of 1000xIMO as the Phase-Two standard as necessary and practicable.

We support the proposed Phase-Two, 1000xIMO discharge standard. The 1000xIMO standard is nearly equivalent to the strongest state standards, including the California standard for all vessels, the New York standard for all new vessels launched after January, 2013, and the Wisconsin standard for new salties launched after January, 2013. This standard will protect U.S. waters as effectively as any now in place, and will help to avert tremendous costs – including economic and ecological costs, and quality of life degradation – that would otherwise be imposed on the people and enterprises of the

United States by the introduction and spread of aquatic non-native invasive species in U.S. waters.

COMMENT: The Rule should provide for imposition of a Phase-Three deadline for meeting California's final-phase standard ("zero detectable living organisms" in all size classes) by no later than January 1, 2020.

The California standard includes a final-phase limit of zero viable organisms discharged into California waters.[6] We support that final-phase standard because it assures that NISA's goal will be satisfied, at least for ballast water-mediated aquatic invasive species introductions. The Rule should include, perhaps as "Phase-Three," this final standard.

C) Applicability of the Proposed Rule's proposed ballast water discharge standards

COMMENT: We support the proposed applicability in the Proposed Rule to all vessels in U.S. waters as necessary and practicable.

We support the application of the Proposed Rule to all vessels in all waters of the U.S. We are particularly glad to see that the Proposed Rule applies to both oceangoing salties and to lakers transiting only the Great Lakes and other vessels formerly considered for exemption. Some of the most pernicious non-native invasive species to have recently invaded the waters of the U.S., like zebra mussels, round gobies, and VHS, arrived first in the Great Lakes and later spread into other inland waterbodies in the states and provinces in the Great Lakes Basin[14]; into other adjacent continental watersheds, like the Mississippi River Basin; and even into western states.

It is necessary to cover lakers to the same full extent as all other vessels. Though more than 180 aquatic non-native invasive species have invaded the Great Lakes, not all of those species have spread throughout the Great Lakes. Many aquatic non-native invasive species are only found in one or a few Great Lakes. In particular, there are many aquatic non-native invasive species that have not yet reached Lake Superior. Due to currents, winds, distance, and other factors, many aquatic non-native invasive species would never have the chance, or would have very little chance, of reaching Lake Superior were it not for the ballast water discharged in Lake Superior, 95% of which comes from lakers.[2,11,12] Compliance with the direction in NISA requires the USCG to treat lakers and other vessels transiting the Great Lakes at least as stringently as vessels in other U.S. waters.

The Great Lakes should enjoy greater protection more quickly than other waters of the U.S., considering the large number of aquatic non-native invasive species introductions in the Great Lakes via ballast water discharge; the rate with which some aquatic non-native invasive species have spread within the Great Lakes and from there to beyond the Great Lakes Basin to inland waterbodies and major watersheds; the number of people who depend upon these waters; the limited number of lakers (~85) that transit the Great Lakes; and the unsurpassed and priceless volume of freshwater that the Great Lakes represent in the Western Hemisphere. Specifically, the Great Lakes should be given the benefit of imposition of the California standard well before January 1, 2016.

COMMENT: The scope of the Proposed Rule must be expanded to cover the entirety of each vessel, not just the ballast water tanks, to comply with NISA.

[14] Maas, G. 2008. VHS_SPREAD_LARGEMAP.pdf; VHS_SPREAD_SMALLMAP.pdf

The USCG must include in the regulations a program for studying, developing, selecting, and imposing requirements to implement methods and standards for sterilizing and otherwise preventing the introduction and spread of aquatic non-native invasive species on the exterior and other components of vessels. Hulls, hawsers, anchors, and other equipment can provide a substrate to which organisms can become attached in one location, only later to be deposited, or to release propagules, in other locations on the globe. The regulations should also provide some mechanism for funding such study, development, and selection of whole-ship aquatic non-native invasive species prevention.

D) Proposed Implementation Schedule

The USCG proposes that most vessels must comply with the Phase-One standard by the "first [scheduled] drydocking after January 1, 2016."[15] Only vessels with intermediate-sized ballast water tanks of between 1,500 and 5,000 m^3 capacity would have to comply earlier, by the "first [scheduled] drydocking after January 1, 2014."[15] Contingent upon the outcome of a poorly-described "practicability review," discussed later in this letter, the USCG proposes that all vessels comply with the Phase-Two standard by the first scheduled drydocking after January 1, 2016. [15]

a. <u>The proposed implementation schedule should be amended to include firm deadlines.</u>

COMMENT: A firm deadline is needed, in place of an uncertain implementation schedule in which compliance is required the first time a vessel has a scheduled drydock after a reference date.

The USCG White Paper[15] states that most vessels schedule drydockings on a periodic basis, going into drydock every 2.5, 5, or, rarely, 10 years. Thus, while the Proposed Rule includes a reference date that looks like a deadline set six years from now, in fact the full benefits from ballast water treatment will not accrue until perhaps 2026. The consequence of using this method is that the nation's waters will remain vulnerable to discharge of untreated ballast water for much longer than necessary. This compliance schedule, while perhaps preferred by ship owners, is not a prerequisite for "practicability," and would unnecessarily, and thus impermissibly, delay attainment of NISA's goal.

In addition, we have concerns that the implementation schedule, as proposed, will lead to increased deferment of scheduled drydocking, or to surreptitious drydocking beyond 2016 in an attempt to avoid the Rule's requirements. One additional predictable outcome will likely be that vessels will rush to drydock before 2016, so as to postpone the date of their next drydocking and BWMS installation. As an example of what is possible when large industrial facilities wish to avoid certain types of maintenance, consider the 50-year-old coal fired powerplants that have for decades avoided the most stringent pollution control technology.

These practices will have detrimental effects on the effectiveness of the Rule, and will expose U.S. waters to greater danger. With this implementation schedule, the Rule fails

[15] USCG-White Paper-BWDS v3B

to ensure to the maximum extent practicable that aquatic non-native invasive species are not discharged and do not become established in the waters of the U.S.

b. <u>The proposed implementation deadline should be advanced to 2012.</u>

COMMENT: Even if converted to a firm deadline, January 1, 2016 for Phase-One compliance is excessively slow and endangers the nation's waters.

As stated above, technological capability to meet a standard 1000 times higher than the one proposed exists today. Thus, a firm compliance deadline need not wait for the further development of technology.

COMMENT: The USCG should impose a January 1, 2012 deadline for installation of BWMS determined to have the potential to meet California's standard.

A firm compliance deadline need not and should not wait for the USCG to test treatment technologies. We understand that the USCG feels it needs an extended timeline to test all systems itself, or to approve methodologies for third-party testing facilities. The USCG should defer its approval requirement to a later date. In the brief interim, the USCG should rely upon the fact that reputable testing facilities and methodologies produced data that was reviewed by California before it identified BWMS with the demonstrated potential to meet the California standard.

Specifically, the USCG should impose a January 1, 2012 deadline for vessels to install BWMS that have satisfied the state of California of their potential to meet California's standard. The USCG can then require that by January 1, 2016, all vessels have installed technologies that have been found – by the USCG or independent facilities using the USCG's prescribed methods – to meet the 1000xIMO standard. This will simplify and speed the process of getting what are believed to be the highest-performing BWMS currently available onto vessels.

c. <u>At least in the Great Lakes, and very likely elsewhere, a firm January 1, 2012 deadline for installing BWMS capable of meeting the most stringent standard is both practicable and urgently needed.</u>

COMMENT: Sufficient drydock capacity exists, at least in the Great Lakes, that it is practicable to install Phase-One BWDS by January 1, 2012.

It has been explained above that the need is urgent, the technology is available, and the idle ships are waiting, for the most stringent BWMS available to be installed by January 1, 2012. Questions about training and employing enough ship-fitters, or whether the technology companies' have sufficient staff, are ancillary to the question of what standard is chosen and what deadline is imposed. These questions, at least for now, must be left for the marketplace to answer. The only remaining resource not yet addressed is drydock time. There is sufficient drydock capacity in the Great Lakes to meet a 2012 deadline.

The Minnesota Pollution Control Agency (MPCA) issued a general permit for ballast water discharge in late September, 2008.[16] In its "Findings of Fact, Conclusions of Law,

[16] State of Minnesota State Disposal System Permit MNG300000.

and Order" as well as in its technical document called a "Fact Sheet" for the general permit, the MPCA discussed drydock capacity for the Great Lakes fleet as a factor it considered in imposing a January 1, 2016 compliance deadline for all vessels transiting Minnesota waters (primarily Lake Superior).

The evidence in the MPCA's permit decision documents shows that a compliance deadline substantially earlier than January 1, 2016 is practicable, and was rejected largely in reliance upon a single incorrect assumption.

i. <u>MPCA incorrectly presumed that Great Lakes vessels are or would be in constant use.</u>

The MPCA presumed that lakers would be in constant use moving bulk cargo and containers around the Great Lakes. This concerned the MPCA because if true, then an early deadline for compliance would require otherwise active vessels to drydock during the Great Lakes shipping season (generally April through December), leading to a loss of sailing time, less tonnage hauled, and a loss of potential gross income. The MPCA therefore chose a compliance deadline that would allow all vessels to cycle through drydock for BWMS installation on their established, ordinary schedule, that is to say, primarily during the narrow off season (January through March), when ice usually closes Great Lakes ports and laker shipping halts.

By presuming that more than ¾ of the calendar year off-limits for this simple reason, MPCA chose a deadline (January 1, 2016, then seven years away), four times longer than was necessary (seven years instead of less than two). The relevant findings are expressed in paragraph 33 of the MPCA Findings of Fact, Conclusions of Law, and Order:

> The availability of dry docking slips in the Great Lakes for the Laker vessels was considered. Laker vessels are usually sent to dry dock on a schedule of every five to six years so that engines can be overhauled and the other necessary maintenance performed. Most dry docking is done in the offseason period of January through March, when the Great Lakes are at least partially frozen. There are currently thirteen 1,000-foot vessels in the U.S. Great Lakes Fleet. According to the Duluth Seaway Port Authority, there are only two dry dock slips in the Great Lakes which can accommodate the 1,000-foot Laker vessels. This leads to virtually no availability of dry dock facilities on a more accelerated schedule. For Salties, the usual dry dock schedule is every three years. The vessels are in constant use except when in a dry dock situation, so any significant modifications to the piping systems would have to be done only during that time.[11]

as well as on page _ of the permit Fact Sheet:

> Dry Dock Schedule
>
> A major impact on the shipping industries timeline for meeting specific discharge standards is the availability of dry docking slips available in the Great Lakes for the Laker vessels. As the approximate number of Laker vessels increased until the 1980's and has remained constant the last twenty years, the number of dry dock slips have evolved to handle just those ships. Laker vessels are usually sent to dry dock on a schedule of

> every five to six years in order that engines can be overhauled and the other necessary maintenance performed. Most dry docking is done in the period of January through March, when the Great Lakes are at least partially frozen. This leads to virtually no availability of dry dock facilities on a more accelerated schedule. For the vessels to go into dry dock during their shipping season is a greater possibility, but that would mean the vessel would not be in use during that time, which could be up to two months, and would result in significant lost revenues for the company. Laker vessels are also worked to some extent, such as engines can be overhauled, in a wet dock situation. The availability of wet dock slips is much more prevalent, but no modifications to the ballast water intake ports and associated piping would be able to be done. This would limit the amount of work which could be done in retrofitting a vessel for ballast water treatment. According to the Duluth Seaway Port Authority, there are only two dry dock slips in the Great Lakes which can accommodate the 1000 foot Laker vessels. For Salties vessels, the usual dry dock schedule is every three years. The vessels are in constant use except when in a dry dock situation, so any significant modifications to the piping systems would have to be done only during that time.[12]

The presumption expressed by the MPCA – that lakers and other Great Lakes vessels are in constant use – is incorrect. *See* Section V.A.b.ii and iii, above.[17] No similar presumption should be made or relied upon by the USCG. There is sufficient drydock capacity in the Great Lakes to fit the entire laker fleet within a 1.75 to 2-year period.

E) Practicability Review

Comment: The practicability review called for in the Proposed Rule is unnecessary, counterproductive, and insufficiently explained, and should be eliminated.

The practicability review is unnecessary. The California review of the efficacy and availability of ballast water treatment technology has shown that there are seven systems now available that are capable of meeting the most stringent standard now in existence, which is slightly more stringent than 1000x IMO.

The practicability review is counterproductive. The proposed practicability review creates uncertainty among ship owners as to the treatment standard with which the USCG will require them to comply. The uncertainty will encourage ship owners to wait and see what the practicability review concludes, even though there are technologies that meet the California standard. This delay in action will create and exacerbate drydock scheduling problems. The practicability review itself may make it impracticable or more difficult for ship owners to get Phase-Two treatment technology installed on all vessels by the deadline.

[17] Even if all vessels could be placed in constant use (which they have not been), the fact remains that drydocking facilities are available year round.

One of the most valuable things that a federal rule can do for regulated entities is provide some clarity and certainty as to what the regulated entities must do to comply with the rule, and by what firm date is compliance is required. Certainty allows companies to make plans, factor anticipated costs into business plans and budgets, and to establish a schedule for achieving compliance. The Proposed Rule forfeits these certainty-related benefits, because of the "practicability review. In short, the practicability review does more to make a successful, stringent, and speedy implementation of the Rule impracticable than any of the technical challenges we face.

Even if a practicability review were necessary (which we dispute), the standards and criteria used in the practicability review are not sufficiently explained. Neither the factors to be considered in the review, nor how they are to be weighed, nor even the specific thresholds of significance for each factor, are spelled out. The practicability review, as a result, leaves too much to the imagination. Even if there were clear and indisputable scientific evidence of effective and available technology to meet or exceed the Phase-Two standard at the time of the practicability review, the outcome of the practicability review would be absolutely unpredictable.

Section VII: Regulatory Analysis

Costs

COMMENT: The short and long term benefits of protecting U.S. aquatic ecosystems and water resources dwarf the monetary costs of complying with a strengthened Rule.

Cost/Benefit Analysis - We generally agree with the assessment that the benefits of implementing a BWDS with high standards will far exceed the economic and ecological costs. The rules clearly point out that annual and cumulative costs of aquatic non-native invasive species introductions in the U.S. and for regions like the Great Lakes, far exceed the cost of installation and operation of the BWDS. The estimated annual operating costs for the entire fleet of ships serving the United States with Phase-One BWDS ($760,000 as presented in Table 6) is less than the estimated annual cost to the public for just one single group of invasive species ($1.06 billion for zebra and quagga mussels as presented in Table 7) whose introduction and spread was primarily from ballast water.

While we generally support the conclusion reached from the analysis that the benefits of implementing a BWDS far exceed the costs, we believe that the economic and environmental benefits of effective controls on ballast water discharges are grossly underestimated in materials that support these rules (Chapter 5 of the Preliminary Regulatory Analysis and Initial 'Regulatory Flexibility Analysis; Chapters 3 & 4 of the Draft Programmatic Environmental Impact Statement). The information presented generally does not factor in the non-market impacts of invasive species (e.g., nearly all estimates of zebra mussels costs focus on the direct impacts and resultant costs on water treatment facilities rather indirect or ecological costs) to inland water quality and riparian land values resulting from the spread of aquatic non-native invasive species initially introduced by ballast discharges or spread by ballast water after introduction through another pathway.

A review of the literature makes it clear that the costs of aquatic invasive species are enormous[18] and that these costs are likely to persist forever once an aquatic non-native invasive species becomes established. Unlike BWDS, these costs will continue to grow as more aquatic non-native invasive species are established and spread. After long delay, many states that are incurring the direct and indirect costs of invasive species have already also determined that the benefits of ballast water treatment to high standards far exceed the costs. No further additional analysis of benefits and costs is needed to establish this Rule. In the Great Lakes region, states are spending hundreds of millions of dollars each year as a result of established aquatic invasive species, and are regulating private citizens and businesses to prevent the further spread of these species to non-coastal waters. Strict regulations of ballast water discharge is needed to finally establish a good defense for the entire nation and the Great Lakes where 65% of aquatic non-native invasive species have been introduced via ballast water.

Conclusion

This concludes our comments on the Proposed Rule [USCG-2001-10486]. Thank you for the opportunity to comment.

Sincerely,

Paul Aasen, Interim Executive Director
Minnesota Center for Environmental Advocacy

John Lenczewski, Executive Committee Chair
Minnesota Council of Trout Unlimited

Darrell Gerber, Program Coordinator
Clean Water Action, Minnesota

Paul Danicic, Executive Director
Friends of the Boundary Waters Wilderness

Kristen Blann, President-elect
Minnesota Chapter of the American Fisheries Society

Gary Botzek, Executive Director
Minnesota Conservation Federation

Le Lind, President
Save Lake Superior Association

[18] S. J. Lovell et al, The economic impacts of aquatic invasive species: a review of the literature. 2006. Agricultural and Resource Economics Review 35:1 pg 195-208.