

SHIPPING INDUSTRY BALLAST WATER COALITION

Industry Stakeholders Promoting Safe & Effective Ballast Water Management

January 8, 2002

W-00-16 Ballast Water Comment Clerk (MC-4101)
Environmental Protection Agency
1200 Pennsylvania Avenue, N.W.
Washington, DC 20464

Re: Docket No. W-00-16; FRL-7068-4 – Availability of Draft Ballast Water Report and Request for Comments (66 *Federal Register* 49381-49382, September 27, 2001)

Dear Sir or Madam,

1. Introduction

The undersigned members of the Shipping Industry Ballast Water Coalition (“the Ballast Water Coalition” and “we”) submit the following comments in response to the Notice With Request for Comments (“Notice”) issued by the Environmental Protection Agency (“EPA” and “the agency”) in the above-mentioned matter on September 27, 2001. 66 Fed.Reg. 49381. By that Notice, EPA solicited comments on a draft Report – entitled “Aquatic Nuisance Species in Ballast Water Discharges: Issues and Options”, September 10, 2001 – that summarizes the results of a study by the agency on aquatic nuisance species in ballast water discharges, and recommends actions that EPA, working with other agencies, should take to address the issue. The draft Report (“draft report”) has been prepared in response to a 1999 petition to EPA requesting that ships’ ballast water be regulated under the National Pollutant Discharge Elimination System (“NPDES”).

The Ballast Water Coalition is a broad-based industry coalition formed to promote the development of a realistic and comprehensive mandatory national ballast water management program in the United States to address the important issue of transfer of aquatic non-indigenous species via discharged ballast water in a manner protective of marine safety and the environment and consistent with international policies and guidelines. Our coalition and its member associations represent the full spectrum of vessels – tankers, bulk carriers, container vessels and ro-ro vessels, and both U.S. and foreign flagged – that carry the overwhelming portion of this

nation's domestic and international commerce, all the public U.S. ports at which they call, and U.S. maritime labor. The members of the Ballast Water Coalition have a direct and profound interest in the statutory and regulatory framework for the management of ballast water and, consequentially, in the very issues that EPA's draft report addresses.¹

In one of its draft conclusions, the draft report notes that "the Federal Government, States, local governments, ports, the shipping community, and environmental groups are in agreement that [aquatic nuisance species] introductions from ballast water are a serious problem, and substantial resources are being spent developing ballast water treatment technologies".² We agree with both observations. Many of the coalition's member associations and member companies are involved, and have committed significant resources, in experimental shipboard and dockside installations of ballast water treatment systems both in the U.S. and elsewhere.

Similarly, the very creation of our coalition is a testimony of the shipping industry's commitment to participating actively and constructively in the development and implementation of a realistic and viable national ballast water management program.

Ocean-going vessels that transport America's trade are equipped with ballast water systems, necessary for the operation, stability and trim of the vessel. While much attention – rightly - is being given to the need to address the transfer of non-indigenous species via ballast water discharge, it should also be recognized that ballast water operations are, and likely will remain, an unavoidable part of transporting the world's oceanborne commerce.

We are pleased to note that the draft report acknowledges that ballast water is an essential operational requirement of ocean-going vessels.³ We also commend EPA for having prepared a draft report that seeks to address the important issue of transfer of non-indigenous species via discharged ballast water in a refreshingly forward looking way with an emphasis on how best to optimize current, and future, public and private efforts and to support the search for new technologies in furtherance of agreed upon standards, goals and objectives.

2. The NPDES Program and ballast water management

We submit that any sound and relevant analysis of the issues raised in the 1999 petition must ultimately answer the fundamental question of whether the elimination of the current exemption of ballast water discharge from NPDES requirements⁴ would ensure more effective and efficient prevention against, and control of, the introduction of non-indigenous species via discharged ballast water than efforts already in hand under the National Invasive Species Act ("NISA").⁵

¹ In Appendix A hereto we have included some technical and editorial comments to the draft report.

² Draft report, page 39.

³ "As a ship's cargo is loaded and unloaded, the ship must accommodate changes in its weight and trim by taking on or discharging ballast water. For this purpose, ships use dedicated ballast water tanks, empty cargo or fuel tanks, or some combination of the three". Draft report, page 4.

⁴ 40 CFR 122.3(a).

⁵ Pub.L. 104-332 that amended the Nonindigenous Aquatic Nuisance Prevention Act (Pub.L 101-646); codified in 16 U.S.C. 67 II (Prevention of Unintentional Introductions of Nonindigenous Aquatic Species) §§ 4711-14. A

As the draft report makes clear, a NPDES permitting system would not provide superior results compared to current regulatory initiatives within the framework established by NISA. EPA's efforts should therefore be tailored to support and calibrate these regulatory initiatives and, working with other U.S. government agencies, continue to support the development and implementation of an international instrument to control the introduction of non-indigenous species via discharged ballast water that parallels the U.S. program.

The draft report provides several important reasons why a NPDES permitting system "may have significant shortcomings with respect to the regulation of vessels"⁶, and thus would not *a priori* be superior to the existing ballast water management system established by NISA.

Among the many reasons correctly enumerated in the draft report are:

- The fact that primary responsibility for the NPDES program rests with States "hampers its utility in providing uniform regulation of point sources such as vessels that routinely move between States"⁷
- Using the NPDES program to regulate discharges of ballast water "could subject ballast water discharges to overlapping regulatory regimes. ...[and] may detract from those other efforts"⁸
- NPDES permits may impose "requirements which cannot be met with current technology....[T]he only known practical technology for ballast water treatment is mid ocean exchange and that is ineffective in removing 100% of ballast water [aquatic nuisance species] 100% of the time"⁹

separate question would be whether EPA does have the statutory authority to require the use of NPDES permits to regulate ballast water discharges. For the purposes of this particular Notice we do not find it pertinent to comment on this legal issue except to note that the basis for the current exemption in 40 CFR 122.3(a) is found in the Clean Water Act ("CWA"), that CWA distinguishes vessels from other point sources in several respects, that CWA distinguishes between "navigable waters", "the contiguous zone" and "the ocean" when defining "discharge of a pollutant", and that EPA has not determined whether all non-indigenous species in ballast water meet the CWA's definition of "a pollutant".

⁶ Draft report, page 33.

⁷ Draft report, page 33. "EPA believes that as a general matter it is better that mobile point sources such as vessels be subject to uniform controls". *Ibid.* We strongly agree, and would add that the same considerations explain why we support that the U.S. national ballast water management program should be broadly similar to the international instrument being developed in the International Maritime Organisation (IMO).

⁸ Draft report, page 34. Even more troubling, "[f]ailure to harmonize NPDES and NISA requirements would impose different regulatory regimes on the same activity" (draft report, page 35), resulting – we would argue – in an untenable situation for the shipping industry, maritime safety and ultimately the environment.

⁹ Draft report, page 34. As pointed out in the draft report (page 31 and page 36), instead of imposing numeric effluent limits based on technology-based treatment standards, NPDES permits may impose "best management practices". Best management practices – reflecting current technologies and management methods - have, however, already been promulgated by the U.S. Coast Guard (33 CFR Part 151, Subpart D, § 151.2035(a)), so no void exists in this regard that would need to be filled by the NPDES program. And we would submit that the issuance of best management practices above what is attainable with existing technologies and management methods would be an unproductive exercise that – to restate the draft report - would impose "requirements which cannot be met".

- Revising the NPDES regulations to extend to the discharge of ballast water would, according to EPA's own estimation, take the agency two to three years.¹⁰ States authorized under the NPDES program to issue permits would then have between one or two years to revise their own programs to reflect the revision to the NPDES national regulations. The subsequent issuing of permits would "likely take even more time"¹¹
- The time frame for a fully implemented NPDES program for ballast water discharges would be even longer if a technology-based effluent guideline, applicable to all NPDES permits regulating ballast water, were to be issued in an effort to try to promote some degree of uniformity.¹² Because of the many different types, deployments and usages of vessels, it would be "a challenge for EPA to develop a methodology that will make sense for all vessel discharges".¹³ Further, the diversity of vessels may make it "difficult to develop requirements that could technically be achieved by all vessels; it would be more likely that EPA would have to undertake separate analyses for different subcategories of vessels, thereby increasing the resources necessary to develop a [National Effluent Guideline]"¹⁴. Also, "EPA's lack of experience in regulating vessels" would be a complicating factor, as would "the paucity of information on treatment technologies, which are mostly new and emerging".¹⁵

In sum, it would appear that a fully implemented NPDES permitting program for the discharge of ballast water could take at least a decade to develop -- a time frame that obviously would need to be compared to the tangible and focused efforts already in hand to enhance and strengthen the ballast water management program under NISA.

Furthermore, we have no reason to question the validity and significance of the other serious concerns raised by EPA about the program's applicability and usefulness for the regulation of ballast water discharge. Thus, there simply is no reason to believe that such a lengthy NPDES approach would lead to a more effective and efficient prevention and control of the introduction of non-indigenous species than that being developed under NISA. Quite the contrary - compared to the "substantial opportunity" under NISA to control the introduction of

¹⁰ Draft report, page 35.

¹¹ *Ibid.*

¹² It is our understanding that the complex undertaking of developing an national effluent guideline could only begin once the current NPDES regulations have been revised to eliminate the existing exemption for discharged ballast water, *i.e.*, 2-3 years after a decision to amend the NPDES regulations was actually made.

¹³ Draft report, page 36.

¹⁴ *Ibid.*

¹⁵ *Ibid.*

non-indigenous species, the NPDES program “appears more problematic” and has “significant shortcomings”.¹⁶

We agree, therefore, that - at the very least – consideration of the NPDES permitting program for the discharge of ballast water should be deferred pending the outcome of the various other recommended actions by EPA, in particular its support for the U.S. Coast Guard’s efforts to assess and review that agency’s regulations under NISA, including development of ballast water treatment standards and of alternative treatment methods.¹⁷

3. Development of ballast water treatment technologies and treatment standards

There are currently no internationally or nationally agreed standards for the evaluation and approval of alternative ballast water treatment technologies.

Most parties involved in the ballast water issue agree that the current lack of such standards is the single most important obstacle to prevent and control the introduction of non-indigenous species from discharged ballast water. Simply put, the problem comes down to a classic ‘Catch 22’, *i.e.*, until a standard for measuring treatment effectiveness has been developed, the ability to determine and approve alternative treatment methods remains uncertain at best and may therefore stifle private sector innovation to be brought to bear on solving the problem.¹⁸ The draft report’s often repeated finding that the greatest impediment to preventing and controlling the introduction of non-indigenous species via discharged ballast water is “the lack of effective and affordable ballast water treatment technologies”¹⁹ supports this view and thus the manifest need for the development of a ballast water treatment standard.

Technology-based standards under the NPDES program

The NPDES program centers around the imposition of effluent limits in accordance with technology-based treatment or control standards. Such standards are typically defined with reference to a “best available technology” baseline.

Ballast water exchange currently is the only management method generally available to the shipping industry, and this situation is likely to continue in the foreseeable future.²⁰

¹⁶ Draft report, page 40.

¹⁷ Draft report, page 42, and 66 Fed.Reg. 49382.

¹⁸ Such risks were recently highlighted when the IMO’s senior ballast water management official publicly warned that “[g]overnments and ship designers, builders and owners should be extremely cautious when evaluating new, alternative ballast water treatment systems. There is a danger that shipping will invest in installing systems that may be of limited usefulness in terms of actually killing organisms, and which might become redundant when IMO agree an international standard for such systems”; Steve Raaymakers in “Ballast Water News”, Global Ballast Water Management Programme, Issue 5, April-June 2001, page 3.

¹⁹ Draft report, page 39. See also “Executive Summary”, page 1, and 66 Fed.Reg. 49382.

²⁰ “Workshop Report, 1st International Ballast Water Treatment Standards Workshop”, IMO, London 28-30 March 2001, page 4: “The three currently generally accepted methods of ballast water exchange at sea (empty/refill, flow-through and dilution) remain the best currently available methods of minimizing the transfer of harmful aquatic organisms and pathogens. It appears likely that they will remain the best available methods for the foreseeable future”.

No approved, alternative ballast water treatment methods or technologies are commercially available for shipboard installation, and none have been quantified regarding their biological effectiveness.²¹

On this background, we have serious doubts as to whether it would be possible to determine an appropriate, and realistic, ballast water treatment standard using the traditional “best available technology” baseline under the NPDES program.²²

Furthermore, because the application of alternative ballast water treatment methods and technologies to commercial vessels is still in its infancy, it would be premature to preclude any promising technology. Any standards promulgated should be designed to encourage the shipping industry and the research community to invest in and test alternative treatment methods. We are concerned that the fulfillment of these objectives would be seriously frustrated by an attempt to define or develop a technology-based treatment standard using the traditional NPDES “best available technology” baseline.

In order to allow a broad range of technologies to be tested and deployed, we believe that a generalized, performance-based treatment standard would need to be established. We further believe that such a treatment standard can – and should – be developed, as a matter of priority, in accordance with the guidelines laid down in NISA.

Performance-based standard under NISA

The Ballast Water Coalition earlier this year petitioned the U.S. Coast Guard to develop a mandatory national ballast water management program.²³ In our petition, we stressed that successful implementation of such a mandatory program would require the creation of a ballast water management performance standard and an alternative technology approval process, noting that “[w]hile existing law establishes ballast water exchange as the performance benchmark for alternate technology approval, there is currently no standard evaluation protocol on which to judge the effectiveness of exchange or alternate technologies.”

We also pointed to the need for “an interim approval process”, which would permit installation aboard ship during a predetermined test period. Furthermore, appropriate grandfathering provisions should be provided for the test vessel. The latter is critical in order to

²¹ “Abstracts of papers presented at the 1st International Ballast Water Treatment R&D Symposium, IMO, London 26-27 March 2001”, available at <http://globallast.imo.org/Abstracts.htm>. A summary of the current status of ballast water management and treatment options can be found in “Ballast Water Treatment – an Overview of Options, March 2001” by Alan Taylor and Geoff Rigby, available at <http://www.ahtaylor.com/option.htm>. Specifically for onshore treatment activities, see “Feasibility of Onshore Ballast Water Treatment at California Ports” by URS/Dames & Moore, San Francisco, September 2000.

²² If anything, it could be argued that ballast water exchange *is* the best available technology since no other ballast water treatment method, approved by the U.S. Coast Guard, is in use commercially. There are, however, several small treatment units of 1,500 GPM being tested.

²³ Letter, dated March 27, 2001, to Admiral James M. Loy, Commandant, United States Coast Guard, signed by American Maritime Congress, American Petroleum Institute, Chamber of Shipping of America, INTERTANKO, Lake Carriers Association, Maritime Institute for Research and Industrial Development, Transportation Institute and World Shipping Council.

provide an incentive for technology developers and vessel owners to commit financially to installation of promising new technologies without concern for compliance with existing or future requirements.

The Ballast Water Coalition strongly supports the Government's decision to initiate the critical process of developing a ballast water treatment standard²⁴ as well as the concurrent process of establishing a program for the experimental testing of ballast water treatment systems.²⁵ Both these initiatives, and the related July 11, 2001 USCG Notice of Meetings and Request for Comments²⁶, are concrete and tangible manifestations of the focused and substantial efforts to review and further develop the existing regulatory framework under NISA.

The Ballast Water Coalition reiterates its willingness and readiness to assist the Coast Guard and other government agencies, including EPA through its active participation in the Aquatic Nuisance Species Task Force and the Task Force's Ballast Water and Shipping Committee and its Ballast Water Program Effectiveness and Adequacy Criteria Committee, in moving expeditiously towards the promulgation of a ballast water treatment standard and a program for the testing of alternative ballast water treatment technologies within the guidelines in NISA. We understand, and welcome, that the Coast Guard intends later this year to publish an Advance Notice of Proposed Rulemaking (ANPRM) on the setting of ballast water treatment standards, to be followed by another ANPRM on the approval of experimental shipboard installations of ballast water treatment systems, with the intention that both regulations could be promulgated sometime next year.²⁷ Such a timeframe would track the Coast Guard's submission of its first report to the U.S. Congress on the implementation of NISA, and the envisaged, subsequent issuance of regulations that would establish mandatory ballast water treatment requirements, building on, but not limited to, the current voluntary guidelines.²⁸

In addition to our March 27, 2001 petition, we have filed extensive submissions in response to the various USCG requests for comments in which we identify what we consider to be essential elements in a mandatory ballast water program. We attach a copy of our most recent submission.

²⁴ Docket No. USCG-2001-8737 -- Potential Approaches To Setting Ballast Water Treatment Standards. 66 Fed.Reg. 21807

²⁵ Docket No. USCG-2001-9267 -- Approval for Experimental Shipboard Installations of Ballast Water Treatment Systems. 66 Fed.Reg. 28213

²⁶ Docket No. USCG-2001-10062 -- The National Ballast Water Management Program. 66 Fed.Reg. 36358.

²⁷ Briefing by the USCG at the opening of the agency's fourth public meeting to solicit comments on the National Ballast Water Management Program, Washington D.C., September 18, 2001.

²⁸ It would also track Action Item 16.b in the National Invasive Species Council's Management Plan – entitled “Meeting the Invasive Species Challenge”, January 18, 2001 – that the Coast Guard by January 2002 “will issue standards for approval of ballast water management technologies”. Such standards are necessary, the Council argues, “because actual deployment of new ballast water technologies on ships is contingent on a standard by which to judge their efficacy” (Management Plan, page 28).

Consistency with international requirements

We are aware, and appreciate that EPA, in cooperation with the U.S. Coast Guard, plays an active role in the discussions in IMO on an international instrument for the control of the introduction of non-indigenous species via discharged ballast water.

The Coalition deems it critical that U.S. requirements under a mandatory, national ballast water program parallel those under development at the IMO and as such, every effort should be made to ensure consistency between the international and federal requirements.

We would welcome the early agreement and implementation of such an international instrument. Shipping, as a truly international industry, favors solutions that build on, and strengthen, international comity and reduce legal and operational conflicts and uncertainties between jurisdictions.

NISA already provides sufficient flexibility for the alignment of future international requirements with the mandatory national ballast water management system we are requesting. The draft report seems to imply²⁹ that an international agreement in the IMO on ballast water management, agreed to by the U.S., would have to be implemented domestically through amendments to the Act to Prevent Pollution from Ships (APPS)³⁰. We respectfully submit that it could also be implemented administratively.³¹

4. Conclusion

The Ballast Water Coalition applauds EPA for having prepared a comprehensive draft report on the important issue of introduction of non-indigenous species via discharged ballast water. We agree strongly with the premise of the draft report, *i.e.*, if a NPDES permit program for the discharge of ballast water would not more effectively and efficiently prevent and control the introduction of non-indigenous species than existing ballast water management programs and initiatives, in particular the program established in accordance with NISA, then EPA's leadership, expertise and resources are put to better use by way of supporting and assisting in the development and strengthening of those other programs.

The draft report demonstrates that no such assurances can be given, and that a NPDES program might, in fact, add confusion and/or detract from those other efforts already in hand to address the introduction of non-indigenous species. Also, the time frame for a fully implemented NPDES program would be so long, compared to the Coast Guard's efforts to revise the

²⁹ Draft report, page 22 and page 28.

³⁰ 33 U.S.C. Chapter 33

³¹ NISA expressly authorizes the Coast Guard to revise its regulations issued under the statute "to the extent required to make such regulations consistent with the treatment of a particular matter in any international agreement, agreed to by the United States, governing management of the transfer of nonindigenous aquatic species by vessel," 16 U.S.C. § 4711(f)(3). Similarly, 16 U.S.C. § 4711(f)(2), in conjunction with § 4711(c)(2) and § 4711(e)(2), authorize the Coast Guard to periodically revise its regulations and guidelines under NISA, including a mandatory performance standard provided it is at least as effective as ballast water exchange.

regulatory framework under NISA, that it is highly unlikely that any additional benefits would be gained and/or any uncovered needs would be addressed.

We therefore agree with, and support, the recommendations and conclusions in the draft report.

Finally, we note that the draft report makes several references to already established “partnerships” with a number of maritime groups and associations, including some which are members of the Industry Ballast Water Coalition, to address environmental issues, including ballast water management, of interest to the shipping industry.

We are, as a Coalition, interested in exploring with the Federal Government the possibilities of a more structured co-operation to address pertinent issues in regard to the introduction of non-indigenous species via discharged ballast water, including innovative ways to further facilitate and fund the development and testing of alternative ballast water treatment technologies and management methods and their expedited approval as meeting the ballast water treatment standard being developed under the guidelines in NISA.

The members of the Coalition appreciate the opportunity to provide comments on this very significant issue and would be pleased to provide additional information or clarification upon request.

Sincerely,

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Appendix A

Technical and editorial comments to EPA’s draft report “Aquatic Nuisance Species in Ballast Water Discharges: Issues and Options”.

Pages 10-11: 2e(ii)(1) Shore reception facilities

We suggest that EPA includes a discussion of the report “Feasibility of Onshore Ballast Treatment at California Ports” by URS Corporation/Dames & Moore, September 2000. EPA funded that study, and EPA’s Office of Water provided assistance throughout the study. The study report (pages E-7 and E-8) indicates that shoreside treatment would be *technically* feasible “...provided cost is not a consideration and the treatment standards for existing wastewater treatment systems can be assumed to be representative of the standards required for organisms in ballast water...Operationally, it would not be possible to treat all ballast water discharged within the US EEZ at onshore facilities without intermediary vessels or some other transportation system to collect ballast water...”.

The study report also observes (page E-8) that “[e]conomically, capital infrastructure costs would range from \$7.6 million to \$49.7 million [for an individual port]. Operation and maintenance costs would range from \$142,000 to \$223,000 per year. Therefore, onshore treatment of ballast water is likely to cost at least \$1.40 per metric ton of ballast water treated and as much as \$8.30 per metric ton for California public ports, depending on port configuration and discharge volume....For comparison, the cost of ocean exchange of ballast water...is approximately \$0.02 to \$0.10/MT.”

Page 11: 2e(ii)(2) Chlorine Treatment on some passenger vessels

The draft report states that “[s]ome passenger vessels are equipped with systems that generate chlorine in-situ...”. In actuality, many ships use sodium hypochlorite generators or copper ion generators to prevent fouling of cooling water systems and heat exchangers. The systems are designed and sized to provide a recommended “dose rate” of 0.5ppm sodium hypochlorite under all flow conditions. The sodium hypochlorite is injected into the cooling water sea chest and thus distributed throughout the cooling water systems on the ship via the cooling water pump. It is our understanding that these generator systems as installed are for marine growth protection and not disinfection and are not currently sized or designed to treat pathogens and microorganisms in higher flow rate ballast systems.

The intent of the paragraph in the draft report appears to be to indicate that passenger vessels were given special treatment in NISA. However, NISA clearly provides for “...an exemption from ballast water exchange requirements to passenger vessels with operating ballast water systems that are equipped with treatment systems designed to kill aquatic organisms in ballast water....” At this time, sodium hypochlorite generators are not commonly installed on ballast

water systems designed to kill aquatic organisms as called for in NISA in order to obtain an exemption from ballast water exchange requirements. Further, we are not sure that the statement in the EPA draft report that "...one potentially significant adverse environmental impact from this treatment technology is the discharge of large amounts of chlorine." is accurate. At the designed small rate of 0.5ppm, and after passing through the complex cooling water system, "large amounts" of sodium hypochlorite are simply not there and it is doubtful whether even small traces could be detected on discharge.

Page 11: 2e(iii) Alternative Methods in Research, Development or Demonstration Stages

In the first bullet the following underlines should be added: "Support from EPA's Great Lakes National Program Office and others to the Northeast Midwest Institute and Lake Carriers' Association for development..." These additions will properly credit other contributors and clarify that the Great Lakes Ballast Technology Demonstration Project was co-chaired with Lake Carriers' Association since 1996.

At the end of the first bullet there is the following reference: "(see section 3.a.ii. (4))". This reference is the ballast technology demonstration project mandated in NISA, not the multi-funded Great Lakes Ballast Technology Demonstration Project co-chaired by Lake Carriers' Association and Northeast Midwest Institute. Reference should be deleted or corrected.

Page 12: 2e(iii)

Third full paragraph: "*Algol North*" should be "*ALGONORTH*"

We suggest that the third paragraph, third sentence, be changed to read "capable of filtering two 2000 cubic meters per hour (8,800 gallons per minute) ballast pumps at about \$1M per ship". It is important to distinguish that there were two pumps each capable of 2000 cubic meters per hour and requiring two filters vs. the incorrect impression one could get that there might be a single pump of 4000 cubic meters per hour capacity and only one filter.

Page 12, 6th paragraph.

The last sentence reads: "Estimated costs are in line with a rough order of magnitude estimate of '\$1,000s to \$100,000s per vessel' in the 1992 DOT shipping study ...". The discussion on pages 8-9 of "Potential Costs of Controlling Ballast Water ANS" makes similar references to the DOT study.

We would encourage EPA and others to use extreme caution in using this now decade old study when commenting on installation *and* operating costs for ballast technology installations (incidentally, the discussion on page 8 seems to exclude all operating costs). In some cases, these cost estimates may be accurate for small systems of 1,500 gallon per minute capacity such as passenger ships ballast pumps (only used for trimming the ship). A quite different situation

exists on e.g. tankers, self-unloading ships and large bulk carriers where pumps may get as large as 17,000 gallons per minute each and there may be four pumps on a ship. No equipment exists today to even provide a valid estimate as to what the cost would be for those massive systems and capacities. A casual statement that “\$1,000s to \$100,000s per vessel” could be misleading unless it explicitly addresses the actual size of the system and also the type of ship. In fact, the quote above that the ALGONORTH estimate is \$1M for two 8800 gallons per minute pumps is a concrete example of more than just “\$100,000s” per vessel.

The observations above underpin and reinforce the conclusion in the draft report (page 9) that “the possibility of significant costs indicates the need for a thorough cost analysis accompanying any regulatory efforts”. The Ballast Water Coalition strongly agrees with this conclusion.

Page 26: 3c(iii)(5) State Bills Introduced

Reference to Sec.3109C (1) is to an early version of the Michigan Bill. The final version of the Bill (SB0152) changed significantly. Some of the main provisions are: By March 1, 2002 the Department of Environmental Quality will determine if oceangoing ships and non-oceangoing ships are complying with their respective best management practices provided to the Department. Also, by that same date, the department will determine if one or more treatment methods could be used by oceangoing ships. If a treatment method is not available, the Department will determine actions needed to develop these treatment methods. By March 1, 2002, with use of forms developed by The Shipping Federation of Canada for oceangoing ships and by Lake Carriers’ Association and the Canadian Shipowners Association for non-oceangoing ships, the Department will compile a list of all vessels that comply with the Michigan legislation. Any owner or operator of ships and/or any Michigan company doing business with ships not on the list will not be eligible for new State sponsored grants, loans, or awards.

Page 27: (ii) Port of Oakland, California

Additional text should be added at the end of the lead paragraph in this section to reflect changes in the program effective September 2000. The text should read “The Port of Oakland revised its ballast water tariff in September 2000 to suspend those portions of its tariff that are redundant with California or Federal requirements. The Port continues to collect information that is not required by those entities.”

Page 27: (iii) Ports of Los Angeles and Long Beach, California

The existing paragraph should be deleted and replaced with the following text to reflect current programs: “The ports of Los Angeles and Long Beach have an active ballast water education and outreach program, which provides every vessel master entering the ports information on invasive species in ballast water and current regulatory requirements and preventative measures. Similar educational information is included in free tide tables provided to vessel masters and the general public.”