

SHIPPING INDUSTRY BALLAST WATER COALITION

Industry Stakeholders Promoting Safe & Effective Ballast Water Management

June 29, 2001

Docket Management Facility
U.S. Department of Transportation
Room PL-401
400 Seventh Street, SW,
Washington, DC 20590-0001

Re: Docket No. USCG-2001-8737 -- Potential Approaches To Setting Ballast Water Treatment Standards

Dear Sir or Madam:

The undersigned members of the Shipping Industry Ballast Water Coalition respectfully submit the following comments in response to the May 1 request regarding possible approaches to setting ballast water treatment standards. Since the US Coast Guard (USCG) has treated the subjects of possible approaches to setting ballast water treatment standards and approval of experimental shipboard installations of ballast water treatment systems as separate notices, the Coalition has chosen to address these two requests in separate responses; however, we believe these two issues are inextricably linked and therefore final decisions as to the standard(s) should be reflected in and incorporated into the experimental shipboard installation requirements for reasons enumerated below.

The Coalition represents the overwhelming majority of vessels, both U.S. and foreign, in all U.S. trades, and the U.S. ports at which these vessels call. We have previously requested the USCG (see attached) to move forward on a comprehensive, mandatory national ballast water management program.¹ This request unequivocally states our support for the creation of a ballast water standard. We are pleased that the USCG has published the above notice as a necessary first step toward implementing a mandatory national ballast water management program.

The May 1 notice seeks comment on four different options for a ballast water treatment standard. Under the National Invasive Species Act of 1996 (NISA), Congress gave the USCG specific guidance on what to consider when developing regulations for ballast water

¹ The term "ballast water management" or BWM is used throughout to describe ballast water treatment methods including ballast water exchange. The terms "ballast water treatment" (BWT), "alternate treatment technologies," or "alternate treatment methods" are used to describe treatment methods other than ballast water exchange (BWE). In other words, BWM = BWT + BWE.

management. Before commenting specifically on approaches for developing a ballast water treatment standard, it is useful to review the framework provided by Congress².

The NISA directs the Coast Guard to establish guidelines and regulations to control the discharge of ballast water into waters of the U.S. Most important for the purposes of this notice, NISA clearly states that there are two ways to comply—ballast water exchange (BWE) or other ballast water treatment methods. The regulations must either require ballast water exchange or environmentally sound alternatives that are at least as effective as BWE. 16 U.S.C. § 4711 (c)(2)(D). NISA also provides that any regulations: must be “practicable,” or based on proven technologies (Id. at (c)(2)(A)); must not compromise the safety of the vessel and crew (Id. at (c)(2)(C)); and, must provide for the ability to suspend any BWM standard when it would put the vessel and crew at risk. Any regulations must provide for differences between existing and new ships, or the fact that a ship may operate under conditions that pose no threat of introduction of invasive species.

In its May 17, 1999 interim final rule, the USCG determined that both the flow-through or empty-refill exchange methods qualify as ballast water exchange (33 CFR 151.2025). Ballast water exchange is defined in terms of operational performance requirements e.g., three tank volumes must be exchanged in the flow-through method. The USCG provided a ballast water exchange definition in the May 17, 1999 rule that is consistent with the ballast water exchange guidelines issued by the International Maritime Organization.

In an effort to respond to proposals to approve alternative ballast water technologies that can be used instead of ballast water exchange, the USCG issued a request for comments on May 1, 2001, concerning appropriate standards for determining whether such alternatives are at least as effective as ballast water exchange. As we discuss in our comments below, currently there is not sufficient information to precisely quantify the effectiveness of ballast water exchange. Thus, we believe the USCG should establish generalized performance-based treatment standards that will allow a broad range of technologies to be tested and deployed. Because the application of BWM to commercial vessels is still in its infancy, it would be premature for the USCG to preclude any promising technology. Any standards promulgated should be designed to encourage industry and the research community to investigate alternative treatment methods.

Proposed Options for Ballast Water Treatment Standards

The statutory language in NISA clearly establishes BWE as the benchmark for developing a ballast water treatment standard. The USCG must, as a first step, establish a relationship between the effectiveness of BWE and BWT in order to determine whether alternative technologies are at least as effective. In the May 1 notice, the USCG rightly notes that only options (a) and (b) can be considered under NISA because only these two options are based on BWE. While options (a) and (b) refer to the “theoretical” and “measured” effectiveness of BWE, respectively, the Coalition feels that some confusion exists as to the true distinction between these two choices. We interpret option (a) to be based solely on the theoretical

² When issuing regulations under NISA, 16 U.S.C. § 4711(f)(A) directs the Coast Guard to “make mandatory the requirements included in the voluntary guidelines issued under [16 U.S.C. § 4711 (c)]. Thus the framework that was required for the voluntary program is incorporated into any regulatory requirements.

volumetric effectiveness of BWE simply to replace the water in the ballast tank without regard to whether the organisms in the ballast tank are removed, inactivated, or destroyed. We interpret option (b) to be based solely on the measured *biological* effectiveness of BWE to actually remove, inactivate, or destroy the organisms in the ballast tank.

Based on these interpretations, we believe that option (b) is the most acceptable starting point for establishing a ballast water treatment standard. While the biological effectiveness of a BWT system most closely correlates to the risk reduction associated with an exchange, the initial standard must reflect the infancy of measurement standards and the lack of data available.

Option (c) is not an appropriate basis for a treatment standard because NISA clearly establishes BWE as the baseline. The USCG cannot define best available technology because no current ballast water management methods have been quantified regarding their biological effectiveness.³

Similarly, option (d) could not be the basis for a treatment standard for the reasons outlined for option (c). The biological requirements of receiving bodies of water worldwide are extremely complex and poorly understood, and could not be the practical basis for a treatment standard. However, option (d) does contain elements of risk management that are being examined by other nations and should not be ruled out for future consideration when the science of invasion biology is better understood and documented.⁴ Once a treatment standard is established, the USCG should consider the use of biological assessments in load and receiving ports as an equivalent BWM compliance method. While this could be a complex undertaking, it may be feasible for a company that consistently utilizes the same vessels on the same shipping routes.

Questions Related to Setting and Implementing Standards for BWT

The statutory concerns noted above clearly direct standard development based on BWE. The Coalition has provided responses to the specific questions posed at page 21809 in the Federal Register publication with regard to practicality, the current state of technological and scientific knowledge, and the absolute need to create an achievable baseline standard. Due consideration of these very important parameters will result in the creation of a standard which will promote technological innovation and provide critical “real world” data on technology applications in a specific shipboard environment and on specific biological profiles of ballast water.

a. Questions Related to Setting the Standard

³ It could be argued that BWE is the best available technology, since no other treatment system is in use commercially.

⁴ Option (d) is similar to the ballast water risk management program that Australia implemented in 2001.

1. The statute requires that the standard be based on ballast water exchange. It is the only existing technology currently in place aboard vessels. Best available technology is not an appropriate basis for a standard because no technology has been measured with regard to biological effectiveness. With regard to the biological capacity of the receiving ecosystem, information received by the Coalition indicates that the state of knowledge within the field of invasion biology is not yet sufficient to serve as the standard for BWT.
2. The appropriate criterion for developing a BWT standard is the biological effectiveness (kill, removal, or inactivation of organisms) of ballast water exchange.
3. The eventual standard applied to alternate treatment methods, based on biological effectiveness of exchange, should be measured in two phases. The first phase would utilize a standardized test facility (either land-based, shore-side, or on a vessel) utilizing a standard ballast water profile composed of known quantities of organisms representing an appropriate number of taxonomic groups to be selected by the USCG. The second phase would occur aboard ship at which time the first phase effectiveness would be compared to results obtained during this shipboard phase with regard to the taxonomic groups found in the managed ballast water. Comparison would allow for an initial conclusion relative to transferability of the results to the shipboard environment if the results from the shipboard phase were equal to or better than the effectiveness determined in the first phase. This response would also apply to the process by which a developing technology would be compared to determine its effectiveness relative to exchange.

A number of sources have indicated that measurement of the biological effectiveness of exchange is difficult. While we do not disagree, difficulty is no justification for failure to design an appropriate measurement process that attempts to quantify this biological effectiveness. The USCG should not let perfection become the enemy of the good. Because there are so many different potential living organisms in ballast water, the Coalition recommends that the biological effectiveness of BWE not be initially measured by its effectiveness on all organisms but on a list of organisms selected by the USCG based on what would be a representative sample, as well as risk assessment criteria which may identify certain classes of organisms as greater environmental risks. The USCG could then adjust the list of organisms and develop a revised standard in the future as scientific information improves.

The Coalition does not believe that the USCG should examine vessel class and types because of the complexity of parameters associated with such an analysis.

4. In the standard setting process, the probability of conducting a safe and effective exchange on every voyage so as to estimate the overall effectiveness of exchange over time should not be considered due to the large number of factors which need be considered to determine this probability, including load configurations, in-transit weather conditions, and route. Once the initial quantification of exchange is made and generic test and measurement protocols are developed to enable measurement of effectiveness of both exchange and treatment, the overall effectiveness of exchange may be integrated into the decision making process by

which alternate technologies are compared and the standard refined and strengthened over time.

5. In setting the standard, we support expression of the standard in terms of percent inactivation or removal of organisms since this will more adequately reflect the effectiveness of the treatment method relative to the loaded and discharged ballast water.

The USCG should only use a percent inactivation or removal standard to determine that an alternate treatment method is at least as effective as BWE; such a standard should not be used for compliance purposes. For determining compliance, the Coalition strongly urges the USCG to only determine whether a vessel has conducted exchange, is using an approved technology, or is not discharging ballast water.

b. Issues Related to Implementing the Standard:

1. The performance standard based on the biological effectiveness of ballast water exchange should apply to new and existing ships alike. NISA suggests and we agree that the minimum effectiveness of BWT methods must at least be that associated with ballast water exchange. We also acknowledge, as discussed above, that incremental refinements in the performance standard may be needed over time which should then be applied to vessels constructed after the time at which the refined standard is effective. An issue of concern not specifically addressed in the questions posed relates to the treatment of existing ships after the initial standard has been refined at least once. We believe that any requirements must provide predictability to ship owners that compliance with the standard in effect at the time of construction or major modification will constitute compliance for the life of the ship.

We have similar concerns with respect to the experimental shipboard installation program that we address in separate comments submitted to that docket. In order to provide incentive for the significant financial commitment required for shipboard installation of new technologies, vessel owners must be provided a measure of predictability that compliance with the test program requirements will constitute compliance with the overall ballast water management requirements for an appropriate period of time.

2. Best Available Technology (BAT) should not be used as the basis for the standards for the reasons enumerated in a.1 above.
3. Indicators must be used to characterize the effectiveness of a particular technology as it relates to the standard. The Coalition recommends the use of a limited but scientifically valid set of indicator organisms representative of near coastal environments as the preferred option. Use of a single surrogate organism or physical surrogate is by far the least complex method, but it is doubtful that an acceptable surrogate could be identified in the short term which would accurately translate into actual effectiveness for a particular ballast water treatment method installed aboard vessels. Use of percent reduction of all organism types would provide an overly complex set of indicators which would vary with each port of origin, and unless tested for every ballast water load, would not provide a quantifiable measure of effectiveness that could be extrapolated to every ballast water profile.

The USCG is urged to develop regulations and standards that allow as many alternatives to the treatment of ballast water as possible. Ensuring maximum flexibility, in particular given the multiple issues and jurisdictions involved, will allow the development of cost-effective and practicable technology and techniques into the future.

The members of the Coalition appreciate the opportunity to provide comments on this very significant issue. Please contact either Joseph Cox, President, Chamber of Shipping of America at (202) 775-4399, Christopher Koch, President, World Shipping Council at (202) 589-1230, or Gloria Tosi, President, American Maritime Congress at (202) 842-4900, if you have any questions or if we can be of further assistance.

Sincerely,

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American Petroleum Institute
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