CALIFORNIA ASSOCIATION OF PORT AUTHORITIES
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June 20, 2018

Commissioners, California State Lands Commission
The Honorable Gavin Newsom
The Honorable Betty Yee
Mr. Michael Cohen
California State Lands Commission
100 Howe Avenue
Suite 100-South
Sacramento, California 95825-8202

RE: Shore-Based Ballast Water Treatment in California

Dear Commissioners:

On behalf of the California Association of Port Authorities (CAPA), which is comprised of the state's eleven publicly-owned ports, we appreciate the opportunity to provide comments on the recently completed *Feasibility Study of Shore-Based Ballast Water Reception and Treatment Facilities in California* (the Study). The Study was conducted by Glosten, under the auspices of the Delta Stewardship Council (DSC), on behalf of the State Lands Commission (SLC).

For many years, CAPA and our member ports have been involved in efforts to address the introduction of invasive species. We appreciate the thoughtful efforts of the SLC throughout this multi-year challenge and commend the DSC for their management of the Study. Likewise, we commend Glosten for their efforts and analysis. As you know, California's ballast water discharge standards are currently unachievable and many concerns – including technical and economic considerations – surround the issue of ballast water management. The following comments refer specifically to *Task 15a: Summary Report* of the Study and outline a number of broad concerns of particular interest to California ports. They are intended to inform your deliberations as you consider how best to move forward with ballast water management in California.

- **Meeting California's Ballast Water Discharge Standards**
  The barge-based system identified in the Study may not be able to deliver verifiable treatment to the California standard. The Study recognizes that the standard is currently unachievable with best available technology (BAT), and recognizes that even measuring discharges to the California standard is unworkable. The Study also recognizes that the

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efficacy of the barge-based system is based on “theoretical performance specifications" that have not been established. Prior to pursuing any treatment project or protocol, the state should verify the validity, performance, and reliability of treatment approaches.

- **Economic Concerns**
  According to estimates contained in the Study, the creation of the barge-based treatment system will cost $3.63 billion. The estimate for retrofitting vessels so that they can use a barge-based treatment system will cost an additional $127 million per year. The study also estimates the per-vessel cost to be between $60,000 and $120,000 per discharge. These costs are enormous and would have a detrimental impact on the competitiveness of California ports. They would also have greatest negative impact on California’s export cargo and at our smaller port facilities. As the Study notes, the cost impacts would be “…most felt by a small percentage of marine vessels, on exported rather than imported cargo, and at smaller and more remote ports. These effects will be the likely diversion of some cargo to larger California ports and/or non-California ports, or rendering it non-economical to export certain agricultural and other price sensitive products.”

- **Evaluating Risk Reduction Benefits**
  California’s discharge standard is different than the discharge standard being implemented around the nation and the world. The global standard relies on ballast water treatment on board vessels. All ships that discharge ballast water into U.S. waters are now required to install Coast Guard-approved ballast water treatment systems, and within the next few years, all ships calling U.S. ports will be treating ballast water using BAT.

  The Coast Guard approved treatment systems achieve a 4-log, or 99.99 percent reduction of organisms. The Study estimated that in order to meet the California standard a “5-log reduction in zooplankton and protists and bacteria…” – or a 99.999 percent reduction in organisms from the discharge – would be needed.

  The state should thoroughly evaluate the risk reduction benefits of additional treatment prior to pursuing any specific projects.

- **Additional Logistics Concerns**
  The Study assumes the need for a limited number of barges, which does not appear to be adequate to serve all of California’s ports. In addition, the Study does not appear to have adequately considered the practicality of having additional barges and corresponding tugs operating within what are often very busy port waters. Nor did it address additional proposed Ships At Berth emission rules currently under consideration by the California Air Resources Board (CARB), which may require the use of barge-based emissions treatment systems alongside vessels while at berth.

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- The assumption that seven treatment barges (3 small, 1 medium, and 3 large) could effectively treat all ballast water discharges within the Port of Long Beach and the Port of Los Angeles, as well as Port Hueneme, El Segundo Marine Terminal, and the Pacific Area Lightering, appears to be too low.
- The barge-based system as outlined in the Study appears to have a high potential for delaying vessels as they wait for available ballast water treatment barges.
- There is significant potential for conflict between multiple barges seeking access to vessels for ballast treatment and emissions control.
- Questions remain as to whether vessels would have adequate space for a second or (in the case of bunkering barges) third barge to be tied up alongside while at berth.
- In addition to concerns with space alongside vessels, many port channels are narrow, raising additional concerns related to safety and access for passing vessels or tugs.
- It is unclear whether enough additional tugs are available to move the barges and where barges might be berthed when not in use.

We appreciate the opportunity to provide these comments and thank you for your thoughtful consideration of our concerns.

Sincerely,

Tim Schott
Executive Director

cc: Jennifer Lucchesi, Executive Officer, State L ands Commission
Nicole Dobroski, Assistant Chief, Marine Environmental Protection
George Isaac, Delta Science Program, Delta Stewardship Council

PMSA
PACIFIC MERCHANT SHIPPING ASSOCIATION

June 14, 2018

Commissioners:
Honorable Gavin Newsom, Lt. Governor – State of California
Honorable Betty Yee, Controller – State of California
Mr. Michael Cohen, Director – California State Department of Finance

California State Lands Commission
100 Howe Avenue
Suite 100-South
Sacramento, California 95825-8202

RE: June 21, 2018 Commission Meeting - Agenda Item 97 - Feasibility study of shore-based ballast water reception and treatment facilities in California

Dear California State Lands Commissioners:

These comments on the Delta Stewardship Council's (DSC) study - Shore-Based Ballast Water Treatment in California are provided on behalf of the members of the Pacific Merchant Shipping Association (PMSA), who own and operate commercial ships and marine cargo terminals servicing California's trade demands. We appreciate the opportunity to provide input to your deliberative process.

PMSA would like to commend Glosten and their team for their efforts in developing an analysis of the many aspects related to the feasibility of treating ship's ballast in either a shore-based facility or on a specialized treatment barge in an attempt to achieve compliance with California's interim ballast water discharge standard, which is currently unachievable with best available technology (BAT). The technical, logistical and economic hurdles posed by this strategy are significant, and although we take issue with some of the findings and analysis in the report, the Glosten team has done a good job of identifying and analyzing many of the most significant issues and their implications.

The study has been broken down into separate tasks, which have been released to the public over the past two years. PMSA provided written public comment to the DSC covering these earlier tasks, or components of the study. Our previous comments are posted on the DSC web-site and we incorporate them by reference.

The comments we are providing today pertain to Task 15a: Summary Report, and focus on broad issues which we feel the Commission should consider as the study is evaluated. We reserve the right to provide more detailed comment should the Commission take up the study as an action

item in the future, or should the study become referenced or incorporated into future documents to be adopted by the Commission.

Our comments are focused on the following main issues:

- Ability to meet the California discharge standard
- Environmental benefits to the proposal
- Impacts to California's maritime trade
- Compatibility of proposal with California law

These are discussed in detail below.

1. **Ability to Treat Ballast to the California Discharge Standard**

   The Study recognizes the need to achieve treatment of the ballast water to demonstrably meet the California discharge standard. In addition to the California standard being unachievable with BAT, there are significant obstacles to measuring a discharge to that low a level of organism concentration, which the study recognizes. Although the study finds that the legal framework under which the barges would operate may fall outside of the existing aquatic invasive species statutes, the State Lands Commission (SLC) recognizes that any discharge not adhering to their biological efficacy standard would be "an uncreative way to circumvent the law" (page 10).

   The study finds that "a shore-based network of ballast water treatment barges ***may*** provide a practical means to receive, treat, and discharge most if not all ballast water discharges in California to the CA Interim Standards" (page 20). The report also recognizes that this is based on "theoretical performance specifications" (page 20) that haves not been scientifically established. This is a question that deserves to be verified before the state seriously considers embarking on such a project. The study goes on to suggest that a robust trial period of not less than two years will be required to make such determinations.

   We agree with the study that it is incumbent on the state to adopt more stringent sampling and testing protocols sufficient to provide detection levels necessary to ensure treatment efficacy to the California standard, and to employ those protocols at established testing and certification facilities. These testing facilities are capable of processing the vast quantities of discharge needed to accurately measure to such low levels of detection, in order to confirm that the treatment barges being proposed could actually treat the ballast water to the level of the California discharge standard, as opposed to simply masking non-compliance through less rigorous testing. We believe that a guiding principle should be – *if the U.S. Coast Guard and EPA adopted the California discharge standard, could the proposed barge treatment system achieve type approval by the Coast Guard to consistently meet that discharge standard in real world applications?*

The greater than 50 micron category of the California interim discharge standard, and all of the final discharge standard categories do not have a volumetric reference point, which makes determination of actual organism removal nebulous if not impossible, and comparison to other discharge standards and treatment strategies equally impossible. We agree with the study's recommendation that California should adopt quantitative parameters to the interim and final discharge standards in order to provide a meaningful metric for determination of treatment efficacy and the ability to meaningfully compare the California discharge standard to other standards employed at the federal and international level.

2. Comparative Benefit of Shore Based Treatment

If such a treatment strategy is pursued by California it will be contrary to the ballast water treatment strategy pursued in the rest of the country and around the world. The rest of the world has wisely determined that having ballast water treated on board the vessel will provide environmental benefits to all ports around the world, reduce the risk of invasion from all ports, and consequently reduce the impact from aquatic invasive species into each port overall. This comprehensive strategy is now codified around the world. In the United States all ships that discharge ballast water into U.S. waters are required by law to install U.S. Coast Guard approved ballast water treatment systems (which represent best available technology) at their next scheduled out-of-water survey, which typically is required every 5 years. This means that every year approximately 20% of the world shipping fleet that might call in a U.S. port will install BAT to treat their ballast discharge, and within 5 to 6 years all ships calling U.S. ports will be outfitted and operating BAT to treat their ballast discharge.

The added environmental risk reduction achieved through meeting the California discharge standard (if that can be demonstrated), compared to the risk reduction achieved from ballast water treatment through U.S. Coast Guard approved BAT cannot be determined with existing science. The National Academy of Science attempted to make an assessment of the reduction in risk from invasive aquatic species based on quantitative discharge standards and found that "[T]he current state of science does not allow a quantitative evaluation of the relative merits of various discharge standards in terms of invasion probability"[1] beyond having no ballast discharged at all.

The study estimated that a "5-log reduction in zooplankton and protists and bacteria…" (page 22) would be required to theoretically meet the California discharge standard. This represents a 99.999 percent reduction in organisms from the discharge. The U.S. Coast Guard approved treatment systems, which will be in place on all vessels before the proposed barge system could effectively be deployed, achieve a 4-log, or 99.99 percent

[1] Assessing the Relationship between Propagule Pressure and Invasion Risk in Ballast Water. Page 130. Carlton et. al. National Academies Press. 2011.

reduction of organisms. The delta between the efficacies of this proven technology versus the unproved, proposed system will be difficult if not impossible to accurately measure, as will any reduction in environmental risk.

3. Impacts to California's maritime trade

The Study estimates investment costs of $3.63 billion for the barge system and separate costs of $127 million per year for vessels to retrofit to this unique California requirement (page 35).

The study also estimates the per vessel cost to be between $60,000 and $120,000 per discharge event. Those costs are substantially greater by several factors than the entire existing port costs for vessels calling California. Given the magnitude of these costs imposed in California that would not be incurred at any other ports in the world, it is indisputable that they would influence California maritime trade.

Beyond the overall impacts of this added unique requirement on ships calling on California's ports, the cost would not be apportioned equally and would be "…most felt by a small percentage of marine vessels, on exported rather than imported cargo, and at smaller and more remote ports. These effects will be the likely diversion of some cargo to larger California ports and/or non-California ports, or rendering it non-economical to export certain agricultural and other price sensitive products" (page 35).

The study also points out the unintended consequence of additional air emissions generated at ports through the barge based treatment system. With California ports already dealing with impacts from goods movement related air emissions and seeking ways to reduce those emissions; the barge system would create additional criteria and toxic emissions for communities at the ports to deal with.

4. Compatibility of proposal with California law

In order to develop and deploy the suggested system of treatment barges throughout the state, the study proposes to use a phased approach. The first, a six year phase, being the building and testing of two barges to ensure their efficacy in meeting the California discharge standard, followed by the phasing in of additional barges throughout the state over a three year period to satisfy the need to treat all vessel discharges at all ports. Concurrent with this the study envisions the world shipping fleet being retrofitted over a number of years to permit them to employ the barges for their discharges.

While this phased in approach makes sense from an engineering, logistical and economic perspective, it runs afoul of existing state law governing the discharge of ballast water into California waters, and would require a radical restructure of existing statutes.

Current law stipulates that once the California interim discharge standards enter into force (currently scheduled for January 1, 2020), all ballast water discharges must meet that standard. If barge treatment is the only viable way to meet that standard (currently unproven), then the barge system must be fully developed, tested and deployed in all ports, and all vessels must be retrofitted to employ the barge system, before the discharge standards can be enforced. Likewise, until such time as the discharge standards are enforced there would be no incentive for vessels to employ the use of expensive treatment barges when they could achieve compliance with state law through various ballast water management strategies approved by the Commission and already in use.

Consequently, the proposed phase-in scenario is in conflict with current statutes and would not support the use of treatment barges for anything less than a full, statewide basis, and for all vessel discharges, commencing on a fixed date.

The study proposes a potential ballast water treatment strategy that is unproven in terms of efficacy, would have significant negative economic, competitive and air quality impacts on California's ports, with no demonstrable environmental benefits, and is incompatible with the existing statutory framework for regulating aquatic invasive species introductions from commercial vessels. This is certainly not the fault of the authors of the study, and we commend the Glosten team and the Delta Stewardship Council for their work on this project and for highlighting the significant implications to California. But to move forward with such a strategy in light of the obvious problems associated with it would be, in our opinion, a poor public policy choice.

PMSA appreciates the opportunity to offer our comments and looks forward to continued dialogue with the Commission.

Sincerely,

John Berge

John Berge
Vice President

cc: J. Lucchesi, N. Dobroski / State Lands Commission
R. Hoenicke / Delta Stewardship Council