

**CALENDAR ITEM  
C73**

A	Statewide	04/23/14 W9777.234 W9777.243 W9777.295 C2013-052
S	Statewide	N. Dobroski D. Brown

**REQUEST AUTHORITY FOR THE EXECUTIVE OFFICER TO ENTER INTO AN  
INTERAGENCY AGREEMENT WITH THE CALIFORNIA MARITIME ACADEMY TO  
EVALUATE ALTERNATIVE METHODS OF ONBOARD TREATMENT OF BALLAST  
WATER IN EMERGENCY OR CONTINGENCY SITUATIONS TO PREVENT  
NONINDIGENOUS SPECIES RELEASE**

**PARTY:**

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

**BACKGROUND:**

In coastal and estuarine environments, the ballast water of commercial ships has long been recognized as one of the most important mechanisms, or “vectors,” through which nonindigenous species (NIS) are moved to new locations throughout the world. Ballast water is used as a balancing and weight distribution tool necessary for the navigation, stability, and propulsion of large seagoing ships. Vessels may take on, discharge, or redistribute ballast water during cargo loading and unloading, as they encounter rough seas, or as they transit through shallow waterways. Typically, a vessel takes on ballast water after cargo is unloaded in one port to compensate for the weight imbalance, and will later discharge that ballast water when cargo is loaded in another port. This transfer of ballast water from “source” to “destination” ports results in the movement of thousands of species throughout the globe on a daily basis. Once established, these nonindigenous species can cause significant environmental, economic, and human health impacts. Research suggests that invasive species are responsible for \$120 billion in losses and damages annually in the United States (Pimental et al. 2005).

To limit the introduction of NIS in California waters, vessels are required to conduct ballast water management. Per Public Resources Code section 71204.3, ballast water management options include, among others: 1) retention of all ballast water on board the vessel, 2) ballast water exchange, 3) the use of alternative, environmentally sound

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methods of ballast water management approved by the Commission, or 4) discharge of ballast water to a reception facility approved by the Commission. Upon implementation of California's performance standards for the discharge of ballast water, vessels that must discharge ballast in California waters will likely need to use a shipboard ballast water treatment system or discharge to a shore-based facility. However, the vessel may forgo ballast water management, should the master, operator, or person in charge determine that ballast water management, including ballast water treatment, would threaten the safety of the vessel, its crew, or passengers.

In the event of an emergency situation, a vessel is permitted to discharge unmanaged ballast into California waters. This unmanaged ballast poses a significant risk of species introductions. Research indicates that each ballast water discharge has the potential to release over 21.2 million individual free-floating organisms (Minton et al. 2005). The State currently has no contingency plans to reduce the potential risk of species introductions in these emergency situations.

Public Resources Code section 71201 declares that the purpose of the California Marine Invasive Species Program is to, "move the state expeditiously toward the elimination of the discharge of nonindigenous species into the waters of the state..." Therefore research is necessary to develop a contingency ballast water treatment approach that may be used in emergency situations to reduce the risk of species introductions from unmanaged ballast water.

Per Public Resources Code section 71213, the State Lands Commission shall identify and conduct:

*"...any other research determined necessary to carry out the requirements of this division. The research may relate to the transport and release of nonindigenous species by vessels, the methods of sampling and monitoring of the nonindigenous species transported or released by vessels, the rate or risk of release or establishment of nonindigenous species in the waters of the state and resulting impacts, and the means by which to reduce or eliminate a release or establishment..."*

**PROPOSED ACTIVITY:**

Commission staff proposes to provide funds in the amount of \$85,000 from the Marine Invasive Species Control Fund to the California Maritime Academy, working in collaboration with the California State University Moss Landing Marine Laboratories, to conduct an evaluation of a contingency ballast water treatment methodology (known as the "Ballast Responder") on board the *Training Ship (T/S) Golden Bear*.

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The “Ballast Responder” has been developed through a partnership between the U.S. Geological Survey, the National Park Service, and the Glosten Associates (a marine engineering firm). Methodology development occurred on the Great Lakes bulk carrier *M/V Indiana Harbor* in 2009 and 2010. Emergency ballast water treatment using the “Ballast Responder” consists of three steps: 1) A mixing device is lowered into a ballast tank, 2) An active substance (e.g. sodium hypochlorite) is added to the ballast tank being mixed, and 3) A neutralizing agent is added to render the treated ballast water safe for discharge to local waters. The Ballast Responder prototype was tested at the California Maritime Academy on board the *T/S Golden Bear* in 2012, with a focus on active substance dosing and mixing.

The proposed next phase of the study, contingent upon Commission funding, will evaluate lab-scale and full-scale biological efficacy testing of the Ballast Responder. The biological analysis will focus on select organism classes in the California performance standards for the discharge of ballast water. All analyses will be conducted using analytical methods compliant with the U.S. EPA Environmental Technology Verification program protocol for verification of ballast water treatment technologies.

This study will provide valuable information about the ability of a portable dosing device to kill organisms in ballast water. The Ballast Responder may serve as an important tool to reduce the risk of species introductions into California waters from ballast water discharge in the event that a vessel is unable to conduct ballast water management due to adverse weather, vessel design limitations, equipment failure, or other extraordinary condition.

**STATUTORY AND OTHER REGULATIONS:**

- A. Public Resources Code section 6106 (Delegation to execute written instruments)
- B. Marine Invasive Species Act of 2003, Chapter 491, Statutes of 2003
- C. State Administrative Manual Section 1200
- D. State Contracting Manual (rev 01/14)

**OTHER PERTINENT INFORMATION:**

The staff recommends that the Commission find that this activity is exempt from the requirements of the California Environmental Quality Act (CEQA) as a categorically exempt project. The project is exempt under Class 6, Information Collection; California Code of Regulations, Title 14, section 15306.

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Authority: Public Resources Code section 21084 and California Code of Regulations, Title 14, section 15300.

**IT IS RECOMMENDED THAT THE COMMISSION:**

1. Find that the activity is exempt from the requirements of CEQA pursuant to California Code of Regulations, Title 14, section 15061 as a categorically exempt project, Class 6, Information Collection; California Code of Regulations, Title 14, section 15306.
2. Authorize the Executive Officer or her designee to award and execute an agreement with the California Maritime Academy in accordance with state policies and procedures to evaluate onboard methods of ballast water treatment in emergency or contingency situations to prevent nonindigenous species release.
3. Authorize and direct the Executive Officer or her designee to take whatever action is necessary and appropriate to implement the provisions of the agreement with the California Maritime Academy.