CALENDAR ITEM
C81

A
Statewide
S

06/28/10
W 9777.291
C2009-053
M. Falkner
D. Brown

REQUEST AUTHORITY TO ENTER INTO AGREEMENT TO EXPAND INVASIVE SPECIES RESEARCH TO DEVELOP A RAPID METHOD TO ASSESS PLANKTON VIABILITY IN TREATED BALLAST WATER.

PARTY:

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

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 utilized 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 organisms throughout the globe on a daily basis.

Currently, vessels that must discharge ballast water utilize ballast water exchange (BWE) as the primary management method for reducing the potential that NIS will be introduced to coastal areas at destination ports. During exchange, the biologically rich water that is loaded while a vessel is in port or near the coast is exchanged with the comparatively species-poor waters of the open ocean. Coastal organisms adapted to the conditions of bays, estuaries and shallow coasts are not expected to be able to survive or reproduce in the open ocean due to differences in biology and oceanography between the two regions (Cohen 1998). Likewise, open ocean organisms are not expected to survive in coastal areas.

BWE has been considered an interim management tool, however, because it suffers from widely varying efficacy and poses operational issues for ships. Scientific research indicates that ballast water exchange generally eliminates between 50% and 99% of organisms originally taken into a tank while at or near port. A proper exchange can take many hours to complete, and in some circumstances, may compromise ship or personnel safety in adverse sea conditions or on vessels with antiquated design. Some vessels must deviate or delay from the most direct route to exchange at required distances offshore.

Because of these limitations, regulatory agencies and the commercial shipping industry have looked towards the development of effective ballast water treatment technologies, along with the adoption of performance standards codifying the required efficiency of those systems. Ballast water treatment will provide safe NIS protection, whereas, in some situations, exchange would otherwise be unsafe. Technologies that eliminate organisms more effectively than BWE will provide a consistently higher level of protection to coastal systems from NIS. For the shipping industry, effective ballast water treatment systems will allow voyages to proceed along the shortest routes, in all operational scenarios, thereby saving time and money, while also avoiding the safety issues related to BWE.

The Marine Invasive Species Act (Act) directed the California State Lands Commission to recommend to the Legislature performance standards for the discharge of ballast water (Public Resources Code Section 71204.9). In 2006, the Legislature passed the Coastal Ecosystems Protection Act, directing the Commission to adopt the recommended performance standards and implementation schedule in regulation, which was completed in 2007. The first implementation date passed on January 1, 2010 for newly built vessels with a ballast water capacity of 5000 metric tons or less. Commission Staff anticipate that vessels in this category will begin arriving to California waters in early 2011. Unless the Commission finds that treatment technologies are not available to meet California's performance standards for remaining vessel categories, all newly built and existing vessels will be required to meet performance standards by January 1, 2016.

Before vessels begin utilizing treatment systems to manage ballast water in California, the Commission must develop protocols for use by marine safety personnel to verify vessel compliance with the performance standards. Ideally, the assessment of vessel compliance should utilize protocols and methods that can not only enumerate and assess viability of organisms of various types and sizes, but are also easy to use, relatively rapid, cost effective, and acceptably accurate. Currently methods exist to evaluate most organism classes, but most are costly, time consuming, very inaccurate, labor intensive, and/or complicated to complete.

In addition, the Act requires the State Lands Commission (SLC) to

" . . .. 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 . . .." (Public Resources Code Section 71213).

PROPOSED ACTIVITY:

To meet this mandate, the Commission's Marine Facilities Division has determined that the development of rapid, easy to use, and accurate methods for assessment of organisms in ballast water is necessary. Utilizing funds from the Marine Invasive Species Control Fund budgeted for conducting necessary research, Staff proposes entering into an agreement with San Jose State University Research Foundation for $141,000 to develop, optimize and evaluate a new rapid, bulk assay based on fluorescein diacetate (FDA) for the determination of plankton viability in ballast water. San Jose State University Research Foundation proposes four general lines of activity for this project:

1. Optimization of methodological details to maximize the sensitivity of the FDA bulk viability assay.
2. Design of pre-packaged FDA bulk viability test-kits to be distributed for hands-on peer review.
3. Calibration of the FDA bulk viability assay to the details of ballast treatment performance standards that are now in effect at the international, national and state levels.
4. Analysis of peer-review test-kit evaluations, modification of FDA assay (if necessary), final distribution of test kits to the State Lands Commission Staff.

The proposed project seeks to move forward on the development of a rapid, simple evaluation of plankton viability in the ballast treatment industry with a product that yields quantitative determination of relative viability using a portable, rapid, inexpensive technique that can be deployed in the field without laboratory support.
A contract shall be prepared and executed consistent with State policies and procedures as specified in the State Administrative Manual and State Contract Manual. Per the California State Contracts Manual, Section 3.06, contracts with auxiliary organizations of a state college or university are exempt from competitive bid requirements.

STATUTORY AND OTHER REFERENCES:

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 Section 3.06.5 (rev 10/05)

E. Public Contract Code Section 10340 (exemption from competitive bid)

OTHER PERTINENT INFORMATION:

1. Pursuant to the Commission's delegation of authority and the State CEQA Guidelines [Title 14, California Code of Regulations, section 15060(c)(3)], the staff has determined that this activity is not subject to the provisions of the CEQA because it is not a "project" as defined by the CEQA and the State CEQA Guidelines.

Authority: Public Resources Code section 21065 and Title 14, California Code of Regulations, sections 15060 (c)(3) and 15378.

RECOMMENDED ACTION:

IT IS RECOMMENDED THAT THE COMMISSION:

1. Find that the activity is not subject to the requirements of CEQA pursuant to Title 14, California Code of Regulations, Section 15060(c)(3) because the activity is not a project as defined by Public Resources Code Section 21065 and Title 14, California Code of Regulations, Section 15378.

2. Authorize the Executive Officer or his designee to execute an agreement with San Jose State University Research Foundation, in accordance with state policies and procedures, for invasive species research to develop a rapid method to assess plankton viability in ballast water that has undergone ballast water treatment in an amount not to exceed $141,000.