

BOARD MEETING DATE: February 2, 2018

AGENDA NO. 3

**PROPOSAL:** Demonstrate Zero Emission Cargo Handling Vehicles at Port of Long Beach

**SYNOPSIS:** The Port of Long Beach and its project partners have received \$5.3 million in funding from CARB through its Low Carbon Transportation Investments and Air Quality Improvement Program grant solicitation to demonstrate five zero emission cargo handling vehicles at the Port of Long Beach. This demonstration includes three battery electric top handlers, one battery electric yard truck and one hydrogen fuel cell yard truck. The project will provide a unique opportunity to directly compare the performance of battery electric trucks to hydrogen fuel cell trucks. Project partners include CARB, Port of Long Beach, Long Beach Container Terminal and SSA Marine Terminal for a total project cost of \$8.3 million. This action is to execute a contract with the Port of Long Beach in an amount not to exceed \$350,000 from the Clean Fuels Fund (31).

**COMMITTEE:** Technology, January 19, 2018; Recommended for Approval

**RECOMMENDED ACTION:**

Authorize the Chairman to execute a contract with the Port of Long Beach in an amount not to exceed \$350,000 from the Clean Fuels Fund (31) for a zero emission cargo handling vehicle demonstration project at the Port of Long Beach.

Wayne Natri  
Executive Officer

MMM:FM:NB:PSK

---

**Background**

The Port of Long Beach (POLB) and its project partners submitted an application to CARB under their Low Carbon Transportation Investments and Air Quality Improvement Program grant solicitation for a project entitled Commercialization of the Port of Long Beach Off-Road Technology Demonstration Project (C-PORT). This demonstration project provides a unique opportunity to directly compare the

performance of battery electric trucks to hydrogen fuel cell trucks, as well as provide a pathway for implementation of the recently adopted Clean Air Action Plan. CARB recently awarded the POLB \$5,339,820 towards the C-PORT project, which was approved by the Board of Harbor Commissioners on January 8, 2018.

### **Proposal**

The POLB C-PORT project is to: 1) design, develop and demonstrate three battery electric top handlers at the Long Beach Container and SSA Marine Terminals; 2) design, develop and demonstrate one battery electric and one hydrogen fuel cell yard tractor at the Long Beach Container Terminal; and 3) install electric charging and hydrogen fueling infrastructure to support operation of these vehicles in revenue service for a minimum of six months. It is anticipated that up to three vehicle original equipment manufacturers and three technology vendors will be involved in this project.

POLB will also conduct a zero emission vehicle education outreach program for residents of nearby disadvantaged communities by working with Green Education, Inc.; Center for International Trade and Transportation at California State University Long Beach; Cabrillo High School Academy of Global Logistics in the Long Beach Unified School District; and Long Beach City College. The project will also work with the International Longshore Warehouse Union, which represents more than 33,000 dock workers on the west coast of the U.S., Hawaii, Alaska and British Columbia, Canada, to work in collaboration with the POLB to develop a set of tools and processes to evaluate the impact of the proposed technologies on terminal operators and the local workforce. Tetra Tech, Inc., will serve as the program evaluator and collect and analyze project data.

### **Sole Source Justification**

Section VIII.B.2. of the Procurement Policy and Procedure identifies provisions under which a sole source award may be justified. The request for a sole source award for this project is made under the provision B.2.d.(1): Projects involving cost-sharing by multiple sponsors. This development and demonstration project will be cost-shared by CARB, POLB and other project partners as listed in the Resource Impacts section.

### **Benefits to SCAQMD**

Projects to support development and demonstration of battery electric and hydrogen fuel cell transportation technologies are included in the *Technology Advancement Office Clean Fuels Program 2017 Plan Update* under “Electric/Hybrid Technologies & Infrastructure” and “Hydrogen and Mobile Fuel Cell Technologies & Infrastructure.” This project is to demonstrate zero emission cargo handling vehicles for goods movement activities, providing additional NOx reductions towards attainment of upcoming 1-hour and 8-hour ozone air quality standards, as well as 24 hour and annual PM2.5 air quality standards.

**Resource Impacts**

The total project cost for the zero emission cargo handling vehicle demonstration is estimated at \$8,338,410, of which SCAQMD’s cost-share will not exceed \$350,000 from the Clean Fuels Fund (31). Anticipated cost-share is listed in the table below.

**Partner Cost-Share**

<b>Project Partner</b>	<b>Cost-Share</b>
CARB	\$5,339,820
POLB	1,560,710
Long Beach Container Terminal	\$642,321
SSA Marine Terminal	445,559
SCAQMD ( <i>requested</i> )	350,000
<b>Total</b>	<b>\$8,338,410</b>

Sufficient funds are available from the Clean Fuels Fund (31), established as a special revenue fund resulting from the state-mandated Clean Fuels Program. The Clean Fuels Program, under Health and Safety Code Sections 40448.5 and 40512 and Vehicle Code Section 9250.11, establishes mechanisms to collect revenues from mobile sources to support projects to increase the utilization of clean fuels, including the development of the necessary advanced enabling technologies. Funds collected from motor vehicles are restricted, by statute, to be used for projects and program activities related to mobile sources that support the objectives of the Clean Fuels Program.