



**THE PORT
OF LOS ANGELES**
Executive Director's
Report to the
Board of Harbor Commissioners

DATE: MAY 29, 2013

FROM: ENVIRONMENTAL MANAGEMENT

SUBJECT: RESOLUTION NO. _____ - TECHNOLOGY ADVANCEMENT PROGRAM GRANT AGREEMENT WITH TRANSPORTATION POWER, INC. AND COST SHARE AGREEMENT WITH THE PORT OF LONG BEACH FOR THE ELECTRIC DRAYAGE PRE-COMMERCIAL DEMONSTRATION

SUMMARY:

The Clean Air Action Plan (CAAP) Technology Advancement Program (TAP) Advisory Committee (AC) has reviewed and recommends funding for the Transportation Power, Inc. (TransPower) Electric Drayage Pre-Commercial Demonstration Project (Project). The Project will demonstrate electric drayage trucks which utilize advanced zero-emission electric propulsion systems. The total TAP funding amount is \$300,000 which will be shared equally by the City of Los Angeles Harbor Department (Harbor Department) and the Port of Long Beach (POLB) for a total of \$150,000 from each. TAP funding will be leveraged with funding from the California Energy Commission (CEC), Department of Energy (DOE), and TransPower for a total Project cost of approximately \$4.4 million. Staff recommends that the Board of Harbor Commissioners (Board) approve and enter into a Grant Agreement with TransPower located in Poway, California for this Project in the total not-to-exceed amount of \$300,000 as well as approve and enter into a Cost Share Agreement with the POLB. The proposed technology, if successfully demonstrated, would eliminate all tailpipe emissions from drayage trucks including diesel particulate matter (DPM), sulfur oxides (SOx), and oxides of nitrogen (NOx) emissions.

RECOMMENDATION:

It is recommended that the Board of Harbor Commissioners:

1. Approve the Technology Advancement Program Grant Agreement with Transportation Power, Inc. for the total not-to-exceed amount of \$300,000;
2. Approve the Cost Share Agreement with the Port of Long Beach for the reimbursement of \$150,000 from the Port of Long Beach to the City of Los Angeles Harbor Department, as established by the Clean Air Action Plan Master Cost Sharing Agreement No. 2546;

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3. Authorize the Executive Director to execute and the Board Secretary to attest to the Grant Agreement with Transportation Power, Inc. for and on behalf of the Board;
4. Authorize the Executive Director to execute and the Board Secretary to attest to the Cost Share Agreement with the Port of Long Beach for and on behalf of the Board; and
5. Adopt Resolution No. _____.

DISCUSSION:

Background/Context - The 2006 San Pedro Bay Ports CAAP was adopted by both Boards of Harbor Commissioners of Los Angeles and Long Beach on November 20, 2006. The 2010 CAAP update was subsequently updated in November 2010. A significant initiative of the CAAP is the TAP, which accelerates the availability of new strategies into the suite of control measures that will ultimately result in significant reductions of DPM, NOx, SOx, and other pollutants. The Mission Statement for the TAP is:

"To accelerate the verification or commercial availability of new, clean technologies, through evaluation and demonstration, to move towards an emissions free port."

The TAP is the catalyst for identifying, evaluating, and demonstrating new and emerging emissions reduction technologies applicable to the port industry that could be utilized in future updates to the CAAP as new control measures, alternatives to existing measures, or as additional mitigation options for new projects. The TAP is a joint initiative that provides grant funding on a cost share basis. The TAP is funded by the Harbor Department and the POLB with each allocating up to \$1.5 million annually to the program which is leveraged with funding from other parties. TAP implementation is guided by the management and staff of the Harbor Department and the POLB through the AC, comprised of representatives from the U.S. Environmental Protection Agency, California Air Resources Board, and the South Coast Air Quality Management District. The TAP AC screens, evaluates, and recommends meritorious projects. To date, over \$13 million has been allocated to TAP projects since the program's inception in November 2006.

Project Description - The TAP AC recently received a proposal from TransPower to demonstrate drayage trucks which will utilize the application of advanced electric propulsion system technology. The Project was evaluated by the TAP AC to assess the technological merit of the proposed technology and was recommended for funding. The Project would involve complete integration of seven electric trucks for drayage service deployment. TransPower's ElecTruck™ electric propulsion system will be installed into seven Navistar International ProStar trucks procured under this Project. The ElecTruck™ system offers technological innovations in several key areas, including: 1)

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power conversion: an advanced “Inverter-Charger Unit” (ICU) that combines the functions of the vehicle inverter, which controls the drive motors, and the battery charger, which regulates recharging of the vehicle battery pack, to facilitate battery recharging; 2) *energy storage*: high-energy battery modules using lithium-ion cells and an advanced battery management system (BMS) used to monitor each individual battery cell and extend the life of the battery subsystem by enabling the replacement of failing cells; 3) *main propulsion*: an Automated Manual Transmission (AMT) that delivers torque from electric drive motors to the vehicles’ wheels more efficiently than competing transmission technologies; and 4) *vehicle control*: a proprietary vehicle control system enabling the development of algorithms that will optimize vehicle efficiency, maximize battery life, and protect key components such as batteries and power electronics from excessive temperatures, voltage spikes, or current surges. Once integrated with TransPower’s ElecTruck™ drive systems, the trucks will be operated in drayage service by one or more drayage truck operators (including Total Transportation Services, Inc.) for at least one year with operating data collected and analyzed during this period.

The Project consists of four primary tasks:

Task 1 – Administration

Task 2 – Drive System Design

Task 3 – Drive System Integration

Task 4 – Drayage Service Demonstration/Data Collection and Analysis

The Project has already been initiated with funding from CEC, DOE and TransPower which will fully fund Tasks 1 and 2. Task 2 is currently underway and about 80% complete. TAP funding will be allocated to Tasks 3 and 4 to supplement the funding committed by existing Project partners (Transmittal No. 1).

Deployment of the seven integrated electric trucks in drayage service for a one-year period will eliminate tailpipe emissions of all air pollutants including DPM, SOx, and NOx.

Cost Sharing - In June 2007, the Harbor Department and the POLB executed the Clean Air Action Plan Master Cost Sharing Agreement No. 2546 to establish an arrangement for sharing costs of all agreed upon CAAP expenditures. In accordance with the provisions of the Master Cost Sharing Agreement, a supplemental Cost Share Agreement between the Harbor Department and the POLB is being submitted for approval (Transmittal No. 2). The Cost Share Agreement identifies the Harbor Department as the contracting port and establishes that the costs associated with the Project will be shared by the Harbor Department and the POLB in the amount of \$150,000 each.

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ENVIRONMENTAL ASSESSMENT:

The proposed action is approval of a TAP Grant Agreement with TransPower to fund the Electric Drayage Pre-Commercial Demonstration Project and approval of a Cost Share Agreement with the POLB for funding of the Project. As an activity involving data collection, research and resource evaluation which does not result in a serious major disturbance to an environmental resource, the Director of Environmental Management has determined the proposed action is exempt from the California Environmental Quality Act (CEQA) in accordance with Article III, Class 6 of the Los Angeles City CEQA Guidelines.

FINANCIAL IMPACT:

The total cost of this Project is approximately \$4,443,801 funded by the following partners:

California Energy Commission	\$2,296,617
Department of Energy	\$1,192,184
TransPower	\$ 655,000
Harbor Department	\$ 150,000
Port of Long Beach	\$ 150,000
Total:	\$4,443,801

As the lead agency, the Harbor Department will contract directly with TransPower for the total not-to-exceed amount of \$300,000, and will enter into a Cost Share Agreement with the POLB to secure a reimbursement of \$150,000. The Project is funded out of the CAAP TAP. Funds in FY 2013/14 are available in Account 59965, Center 0330, Program No. 000. It is anticipated that funds will be expended as follows:

FY 2013/2014	\$240,000
FY 2014/2015	\$ 60,000
Total:	\$300,000

Future year funds will be requested to be budgeted through the Harbor Department's annual budgeting process, upon Board approval.

ECONOMIC BENEFITS:

This Board action will have no employment impact for the five-county region since the company associated with the Grant Agreement is located outside region.

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CITY ATTORNEY:

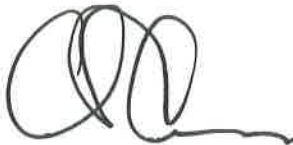
The Office of the City Attorney has reviewed and approved the Agreements as to form and legality.

TRANSMITTALS:

1. Grant Agreement with Transportation Power, Inc.
2. Cost Share Agreement with the Port of Long Beach

FIS Approval:  (initials)

CA Approval:  (initials)



CHRISTOPHER CANNON
Director of Environmental Management



MICHAEL R. CHRISTENSEN
Deputy Executive Director

APPROVED:



GERALDINE KNATZ, Ph.D.
Executive Director

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BOARD MEETING: 06/06/2013

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