

BOARD MEETING DATE: June 2, 2023

AGENDA NO. 6

**PROPOSAL:** Recognize Revenue, Transfer Funds, and Execute Contract for Development and Demonstration of Medium-Duty Zero-Emission Electric Power Take-Off System Work Truck

**SYNOPSIS:** South Coast AQMD expects to receive an award of \$500,000 from U.S. EPA under the Clean Air Technology Initiative for Odyne to develop and demonstrate an electric Power Take-Off system on a zero-emission battery electric medium-duty truck chassis. These actions are to: 1) recognize revenue, upon receipt, up to \$500,000 from U.S. EPA into the Advanced Technology, Outreach and Education Fund (17); 2) transfer \$250,000 from the Clean Fuels Program Fund (31) as cost-share into the Advanced Technology, Outreach, and Education Fund (17); and 3) execute a contract with Odyne for the development and demonstration of the zero-emission electric Power Take-off system on an all-electric work truck chassis in an amount not to exceed \$750,000 from the Advanced Technology, Outreach, and Education Fund (17).

**COMMITTEE:** Technology, May 19, 2023; Recommended for Approval

**RECOMMENDED ACTIONS:**

1. Recognize revenue, upon receipt, up to \$500,000 from U.S. EPA into the Advanced Technology, Outreach and Education Fund (17);
2. Transfer \$250,000 from the Clean Fuels Program Fund (31) as cost-share into the Advanced Technology, Outreach and Education Fund (17); and
3. Authorize the Executive Officer to execute a contract with Odyne for the development and demonstration of the zero-emission electric Power Take-Off system on an all-electric work truck chassis in an amount not to exceed \$750,000 from the Advanced Technology, Outreach and Education Fund (17).

Wayne Nastri  
Executive Officer

**Background**

Odyne Systems, LLC (Odyne) is a clean technology company that develops and manufactures electric Power Take-Off (ePTO) systems to supply power at the worksite for auxiliary equipment using medium- and heavy-duty vocational vehicles. Odyne has already developed ePTO systems for plug-in hybrid electric vocational work trucks that have been implemented with bucket trucks, digger derricks and compressor trucks applications.

CARB's California Advanced Clean Trucks and Advanced Clean Fleet regulations will require new vocational work trucks to use zero-emission (ZE) technologies. Similar to the plug-in hybrid work trucks, the new ZE work trucks will require the installation of ePTO systems to supply power to support ZE operations of jobsite equipment such as welders, water pumps, electrically operated tools, and ventilation systems for underground utility. However, all-electric ZE power systems for work truck applications are not yet commercialized.

**Proposal**

Odyne proposes to develop, install, and field test one of the first ePTO systems on ZE battery electric work trucks. Partnering with Freightliner Custom Chassis Corporation (FCCC), Odyne will integrate a new ePTO system onto the commercially available FCCC medium-duty MT50e battery-electric chassis. The project will include design of the Odyne electrification system, system integration for the all-electric truck, field demonstration with the fleets, and in-use data collection. Odyne plans to expedite the development of the electric vehicle (EV) worksite solution by drawing upon its electrification technology refined through past awards. Fleets including Los Angeles Department of Water and Power and Southern California Edison have committed to participate and demonstrate the all-electric work trucks under in-use operation.

**Sole Source Justification**

Section VIII.B.3 of the Procurement Policy and Procedure identifies four provisions by which sole source awards may be justified when contracts are funded in whole or in part with federal funds. This award is made under provision B.3.c: The awarding federal agency authorizes non-competition proposals. U.S. EPA deemed the proposed award to Odyne to be a sub-award and does not require a competitive solicitation. This award is also being made under provision B.2.d.(1): Projects involving cost sharing by multiple sponsors. This project is being cost-shared by U.S. EPA, South Coast AQMD and Odyne in-kind support.

**Benefits to South Coast AQMD**

This project intends to facilitate and advance the application of medium-duty EV chassis into the work truck market. The project will potentially fill a market void in all-electric work trucks and bring such trucks to the market to meet the regulatory requirements under the California Advanced Clean Trucks and Advanced Clean Fleet Regulations. The in-use demonstration of all-electric work trucks with the fleets would eliminate emissions of diesel particulates and NOx during driving and stationary work and reduce noise from operating auxiliary equipment. It is estimated that the project will result in an annual NOx emission reduction of 0.02 ton per truck. The widespread deployment of ZE work trucks will help meet the state and federal ambient air quality standards, consistent with the South Coast AQMD 2022 AQMP. This project supports the Technology Advancement Office Clean Fuels Program 2023 Plan Update under the category of “Develop and Demonstrate MD and HD On-Road and Off-Road Battery Electric and Hybrid Vehicles and Equipment.”

**Resource Impacts**

The total cost of the proposed project to develop and demonstrate an ePTO system on an all-electric work truck is \$1,050,000. South Coast AQMD expects to receive an award of \$500,000 from U.S. EPA under the Clean Air Technology Initiative (CATI) FY 2023 for this project. Staff is proposing cost-sharing of \$250,000 from the Clean Fuels Program Fund (31) to this project for a total amount not to exceed \$750,000. Odyne will contribute up to \$300,000 of in-kind support.

| <b>Proposed Partners</b>              | <b>Funding Amount</b> |
|---------------------------------------|-----------------------|
| U.S. EPA (CATI)                       | \$500,000             |
| Odyne (in-kind)                       | \$300,000             |
| South Coast AQMD ( <i>requested</i> ) | \$250,000             |
| <b>Total Project Cost</b>             | <b>\$1,050,000</b>    |

Sufficient funds are available from the Clean Fuels Program 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.