

BOARD MEETING DATE: November 3, 2023

AGENDA NO. 4

PROPOSAL: Execute Contract for Regional Medium- and Heavy-Duty Zero Emission Vehicle Infrastructure Analysis

SYNOPSIS: The University of California, Riverside (UCR) was awarded \$400,000 from CEC to conduct a technical planning study for Southern California's and the California-Mexico Border ZEV infrastructure deployment. The CEC Medium-Duty and Heavy-Duty (MD/HD) blueprint project focuses on ZEV infrastructure deployment planning. Consistent with CEC's blueprint and to expand the scope of the study, UCR proposes to expand the scope of the existing planning efforts to include a Medium-Duty and Heavy-Duty ZEV infrastructure deployment criteria and benefits analysis for Southern California. This action is to execute a contract with UCR in an amount not to exceed \$150,000 from the Clean Fuels Program Fund (31).

COMMITTEE: Technology, October 20, 2023; Recommended for Approval

RECOMMENDED ACTION:

Authorize the Executive Officer to execute a contract with the University of California, Riverside (UCR), to conduct a regional Medium-Duty and Heavy-Duty Zero Emission Vehicle Infrastructure Analysis in an amount not to exceed \$150,000 from the Clean Fuels Program Fund (31).

Wayne Natri  
Executive Officer

## **Background**

The medium-duty/heavy-duty (MD/HD) transportation sector continues to be a significant source of harmful air pollutant emissions, presenting an opportunity for improving local air quality and addressing climate change. Transitioning this sector to ZEV powered by low or zero-emission electricity and hydrogen is crucial to achieve California's climate and air quality goals, including meeting the National Ambient Air Quality Standards (NAAQS) for the South Coast Air Basin. This transition is pursued through initiatives including Advanced Clean Trucks and Advanced Clean Fleets regulations. However, a significant challenge lies in planning, building, and deploying the necessary charging and fueling infrastructure. Challenges include limitations in electrical grid capacity, integration costs, and land use constraints. Addressing these issues is essential for successfully implementing ZEV in the MD/HD transportation sector and meeting California's environmental and air quality objectives. As such, it is critical to perform studies that provide essential information to promote MD/HD ZEV infrastructure planning for commercial and industrial operations, and identify key barriers associated with transitioning trucking to ZEV platforms.

## **Proposal**

UCR was awarded \$200,000 through CEC ARV-21-027 to develop a comprehensive blueprint that discusses a viable strategy to identify the most cost-effective technology solutions, financial incentives, infrastructure upgrades, and equipment mixes for identifying actions and milestones needed for the implementation of MD/HD ZEV and related electric charging and hydrogen refueling infrastructure in the South Coast Air Basin. This funding will expand the scope of the study to include a cost analysis of ZEV infrastructure deployment and fuel/power supply, evaluation of the technical specifications for charging and fueling stations, resource requirements, and standardization of protocols. The study will also quantify criteria pollutant, air toxics, and greenhouse gas benefits from and review potential impacts on Environmental Justice communities within the South Coast Air Basin from the installation of MD/HD charger. In addition, University of California Alianza Mexico awarded UCR \$200,000 to lead an infrastructure analysis for the California-Mexico Border MD/HD ZEV that involves activities to update, improve, and optimize the models that will be used in the proposed study.

## **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 sole source award is made under provision B.2.d.(8): Research and development efforts with educational institutions or nonprofit organizations. UCR is an educational institution and the College of Engineering - Center for Environmental Research and Technology (CE-CERT) is its research center with multidisciplinary resources to engage in diverse environmental and transportation research programs including advanced vehicle

technologies and systems; emission measurements, analyses and control technologies; atmospheric measurements and modeling; and renewable energy.

**Benefits to South Coast AQMD**

Projects to support the development and demonstration of MD/HD ZEV technologies and supporting infrastructure are included in the Technology Advancement Office Clean Fuels Program 2023 Plan Update under the category “Zero Emission Infrastructure including Hydrogen and Electric Charging Infrastructure.” This study further evaluates the cost and technical specifications, quantifies the air quality benefits anticipated from MD/HD ZEV deployments, and promotes a smoother transition to providing strategic ZEV infrastructure development. Having strategic ZEV planning will help with adoption of MD/HD ZEV technologies. The implementation of this project is consistent with the 2022 AQMP, which relies on MD/HD ZEV technologies to achieve NAAQS for ozone and PM2.5 in the South Coast Air Basin.

**Resource Impacts**

South Coast AQMD’s support of the Regional MD/HD ZEV Infrastructure Analysis, provided through an agreement with UCR CE-CERT, shall not exceed \$150,000 from the Clean Fuels Program Fund (31). CEC’s contribution to this project is \$15,000 from the initial award of \$200,000 to develop the regional blueprint and University of California Alianza in Mexico (UC Alianza MX) will contribute \$135,000 towards this project for the California-Mexico Border ZEV Infrastructure Analysis for MD/HD Vehicles. Project partners and proposed funding are as follows:

<b>Project Partners</b>	<b>Funding*</b>	<b>Percentage</b>
CEC	\$15,000	5%
UC Alianza MX	<del>5,000</del>	45%
South Coast AQMD ( <i>requested</i> )	\$150,000	50%
<b>Total (not to exceed)</b>	<b>\$300,000</b>	100%

Sufficient funds are available from the Clean Fuels Program Fund (31). The Clean Fuels Program Fund (31) is 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.