BOARD MEETING DATE: June 3, 2022 AGENDA NO. 5

PROPOSAL: Execute Contract to Study Emissions and Air Quality Impacts from Goods Movement Operations to Inland Southern California Communities

SYNOPSIS: In 2019, the Board approved a project to have the University of California, Riverside College of Engineering - Center for Environmental Research & Technology (UCR/CE-CERT) to demonstrate feasibility of estimating emissions impact from heavy-duty vehicles to local communities using low-cost onboard emission sensors. In 2021, UCR/CE-CERT proposed a more comprehensive program to better characterize the emissions and air quality impacts from goods movement operations to communities in the Inland Empire. This action is to execute a contract with UCR/CE-CERT to conduct a comprehensive study of the operations and impacts of goods movement in Inland Southern California in an amount not to exceed $500,000 from the Clean Fuels Program Fund (31).

COMMITTEE: Technology, May 20, 2022; Recommended for Approval

RECOMMENDED ACTION:
Authorize the Executive Officer to execute a contract with UCR/CE-CERT to conduct a comprehensive study of the operations and impacts of goods movement in Inland Southern California heavy-duty vehicles in an amount not to exceed $500,000 from the Clean Fuels Program Fund (31).

Wayne Nastri
Executive Officer

AK:SC

Background

The Inland Empire in Southern California is among the areas with the worst air quality in California. Diesel emissions from freight-related sources, especially from heavy-duty diesel trucks, account for 28 percent of NOx and 8 percent of fine PM2.5 emissions. These freight-related sources with diesel emissions tend to be concentrated in and around environmental justice (EJ) communities near freight hubs such as ports,

railyards, and warehouses. With the proliferation of freight facilities such as warehouses and the growing logistics industry in the region, there is growing interest in better understanding the associated air quality and health impacts from freight movement.

To better characterize the emissions impacts of goods movement activities upon local communities, the Board previously approved a pilot project with UCR/CE-CERT to estimate emissions impact from heavy-duty vehicles to local communities using low-cost onboard emission sensors. The pilot study showed success in identifying truck emission trends at a wide variety of locations over extended periods. In 2021, UCR/CE-CERT initiated a new comprehensive program to further study emissions and air quality impacts of goods movement operations in EJ communities in the Inland Empire entitled Objective Measurement/Monitoring/Mitigation of Emissions from Goods Movement and Impacts on Air Quality (OMEGA). The OMEGA program was recently awarded $2 million in funding from the California Attorney General's Office (AG) as part of the Automobile Emissions Research and Technology Fund grant as well as another research grant totaling $950,000 from CARB to further develop and deploy larger amounts of onboard sensors to both on-road and off-road mobile sources. UCR/CE-CERT has also received support from Center for Advancing Research in Transportation Emissions, Energy, and Health (CARTEEH) to perform the air quality modeling for the OMEGA project.

Proposal

As part of the OMEGA project, UCR/CE-CERT will conduct a comprehensive evaluation of the operations and impacts of goods movement in the Inland Empire. An extensive study will be conducted that includes emissions monitoring on up to 40 heavy-duty trucks from major truck fleets, monitoring air quality in disadvantaged communities surrounding truck routes, modeling the air quality impacts of truck activities, and developing strategies such as innovative truck routing to reduce truck emissions within these communities. UCR/CE-CERT proposes to establish a data management center that will be publicly accessible and incorporates the real time data collected during the OMEGA project. In addition to UCR/CE-CERT, the project team also consists of the University of California, Berkeley, the Coalition for Clean Air, and several emissions measurement technology providers. The OMEGA project supports the goals of the Clean Fuels Program Fund, in part, through measurements of diesel truck emissions with newly developed sensors, evaluating community level emissions resulting from truck emissions, and reviewing cost assessments for clean alternative fuel trucks. To complete the tasks in this proposal, South Coast AQMD will need to contract with UCR/CE-CERT in an amount not to exceed $500,000 from the Clean Fuels Program Fund (31).

Sole Source Justification

Section VIII.B.2 of the Procurement Policy and Procedure identifies four major provisions under which a sole source award may be justified. This request for sole source award is made under provision B.2.d.: Other circumstances exist which in the

determination of the Executive Officer require such waiver in the best interest of the South Coast AQMD. Specifically, these circumstances are B.2.d.(1): Project involving cost-sharing by multiple sponsors. The proposed projects will include in-kind contributions and cost-share by CARB, AG, and CARTEEH.

Benefits to South Coast AQMD

This project will improve the understanding of the operations and emission impacts of goods movement in the Inland Empire to better quantify impacts in disadvantaged communities and identify mitigation strategies. Further, this project will also evaluate community level emissions and cost benefits of different types of alternative fuels, supporting the overall goals of the Clean Fuels Program. Reduction of NOx emissions from mobile sources is needed to achieve state and federal ambient air quality standards and protect public health. In addition, reduction in diesel particulate which is a carcinogen will further reduce public health impacts in communities near goods movement areas. Projects to support development of a methodology to evaluate and demonstrate onboard sensors for on-road heavy-duty vehicles are included in the *Technology Advancement Office Clean Fuels Program 2022 Plan Update* under the category of "Emissions Control Technologies".

Resource Impacts

The total cost for the proposed projects is estimated at $3,610,000. South Coast AQMD's requested cost-share will not exceed $500,000 from the Clean Fuels Program Fund (31). Funding partners anticipated include AG, CARB, and CARTEEH with an aggregated cash and in-kind cost-share of $3,110,000.

Funding Source	OSAR Phase 1	Percent
California Attorney General's Office	$2,000,000	56%
CARB	$950,000	26%
CARTEEH	$160,000	4%
South Coast AQMD *(requested)*	$500,000	14%
Total	**$3,610,000**	**100%**

Sufficient funds are available in the Clean Fuels Program Fund (31) for this proposed project. The Clean Fuels Program Fund (31) is established as a special revenue fund resulting from the state mandated Cleans 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.