

BOARD MEETING DATE: December 6, 2024

AGENDA NO. 5

PROPOSAL: Execute Sponsorship Agreement with Cal State Los Angeles to Support Workforce Training and Professional Development of Electric Vehicle and Battery Engineers

SYNOPSIS: California State University, Los Angeles has been selected as one of 12 universities nationwide to participate in the Battery Workforce Challenge. This engineering competition will challenge universities and their partners to design, build, test and integrate advanced EV battery packs into a Stellantis vehicle. This program will help prepare and train the next generation of engineers and technicians to handle the increased demand for EVs. This action is to execute a sponsorship agreement with California State University, Los Angeles, in an amount not to exceed \$150,000 from the Clean Fuels Program Fund (31).

COMMITTEE: Technology, November 15, 2024; Recommended for Approval

RECOMMENDED ACTION:

Authorize the Executive Officer to execute a sponsorship agreement with the California State University, Los Angeles, to support their participation in the Battery Workforce Challenge and promote the training and growth of next generation EV engineers in an amount not to exceed \$150,000 from the Clean Fuels Program Fund (31).

Wayne Nastri.
Executive Officer

AK:MW:VP:HL

Background

In 2023, the California State University, Los Angeles (Cal State LA) was selected as one of 12 universities nationwide to participate in the DOE and Stellantis N.V. (Stellantis) Battery Workforce Challenge (BWC). BWC is a collegiate and engineering competition that gives students hands-on, real-world experience in battery design and

implementation. The three-year competition partners 12 university engineering departments with 12 local vocational schools together to design, build, and integrate an advanced EV battery pack into a Stellantis vehicle.

The Cal State LA team is the Charging Eagles and is comprised of 66 engineering students that currently are designing an 82-kWh battery pack in the first year of this competition to operate safely, reliably, and meet performance requirements. In the second and third year of this competition, the team will test the battery within the Stellantis vehicle and compete against other teams against different performance measures. All these challenges will incur costs related to the purchase of vehicle parts, tools, computers, software licenses, student stipends, faculty release time, outreach materials, and office consumables.

Proposal

Through the BWC, a public-private partnership will be established that trains the next generation of engineers, technicians, and workers to help support the workforce demand for a domestic EV battery design and development. The team at Cal State LA has secured over \$500,000 in funding from competition sponsors, including the Sikand Center for Sustainable and Intelligent Infrastructure (Sikand SITI-Center) and the College of Engineering, Computer Science, and Technology (ECST). This effort is led by the Cal State LA faculty in the Departments of Electrical Engineering, Mechanical Engineering, and Engineering Technology.

South Coast AQMD sponsorship of the Cal State LA team for this competition will support the purchase of the needed hardware and software as well as student stipends, faculty release time, and travel expenses related to the competition. The successful completion of this competition will provide the students, majority of whom reside within overburdened communities, an opportunity to secure high-paying engineering careers.

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 interests of South Coast AQMD. Specifically, these circumstances are B.2.d.(8): Research and development efforts with educational institutions or nonprofit organizations. The proposed project will include contributions and cost-share by Sikand SITI-Center and ECST.

Benefits to South Coast AQMD

Projects to support the development and demonstration of EV technologies and supporting infrastructure are included in the Technology Advancement Office Clean Fuels Program 2024 Plan Update under the “Demonstrate Light-Duty Battery Electric Vehicles and Plug-In Hybrid Vehicles.” The design and development of advanced batteries are a key component to electrify the transportation sector. The deployment of EVs within the South Coast region will create a demand for a domestic EV battery workforce. Engineering a battery pack is challenging and takes years of experience and a variety of skill sets. BWC seeks to motivate and build a highly skilled domestic workforce with the hands-on experience and knowledge needed for in-demand positions throughout the EV and battery industry. Students participating in this competition will be educated and trained to become highly skilled engineers driving battery technology, and South Coast AQMD’s support for this project will foster the next generation of EV and battery experts, which is synergistic to South Coast AQMD’s vision and future projects.

Resource Impacts

South Coast AQMD’s support for the Training and Professional Growth of Next Generation Electric Vehicle and Battery Engineers shall not exceed \$150,000 from the Clean Fuels Program Fund (31). In addition, Cal State LA has secured over \$500,000 in contributions from the Sikand SITI-Center and ECST, both of whom are competition sponsors.

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.