

BOARD MEETING DATE: December 6, 2019

AGENDA NO. 3

**PROPOSAL:** Execute Contract to Demonstrate Fuel Cell Range-Extended Drayage Trucks

**SYNOPSIS:** In April 2017, the Board approved several projects for port handling equipment, including one with Vehicle Velocity Group (VVG), partnering with Efficient Drivetrains, Inc. (EDI), to develop and demonstrate one battery electric and three plug-in hybrid electric drayage trucks. Cummins Inc., which recently acquired EDI, proposes instead to develop and demonstrate four fuel cell range-extended drayage trucks. This action is to execute a contract with Cummins Inc. to develop and demonstrate four fuel cell range-extended drayage trucks in the amount of \$3,568,300 from the Clean Fuels Fund (31), comprised of \$2,985,995 in CEC pass-through revenue and \$582,305 for South Coast AQMD's cost-share. Cummins Inc. will provide the additional funds to make up the increased costs of the revised project.

**COMMITTEE:** Technology, November 15, 2019; Recommended for Approval

**RECOMMENDED ACTION:**

Authorize the Executive Officer to execute a contract with Cummins Inc. in an amount not to exceed \$3,568,300 from the Clean Fuels Fund (31), comprised of \$2,985,995 in CEC pass-through revenue and \$582,305 for South Coast AQMD's cost-share, to develop and demonstrate four fuel cell range-extended drayage trucks.

Wayne Natri  
Executive Officer

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**Background**

In April 2017, the Board recognized CEC's AB118 Alternative and Renewable Fuel and Vehicle Technology Program revenue and approved contracts to demonstrate Zero and Near-Zero Emissions Drayage Trucks and Cargo Handling Equipment. A \$3,568,300 contract with Velocity Vehicle Group (VVG), partnering with Efficient Drivetrains, Inc. (EDI), was executed to develop and demonstrate one battery electric and three plug-in

hybrid electric drayage trucks. Cummins, Inc., which acquired EDI as well as Hydrogenics Corporation earlier this year, proposes to modify the scope of work, changing the powertrain technology from one battery electric and three CNG hybrid Class 8 drayage trucks to four fuel cell range-extended Class 8 drayage trucks. The CEC has approved the change of contractor to Cummins Inc. and the change of the powertrain technology from battery electric and CNG hybrid to a fuel cell propulsion system. The contract with VVG, which incurred no costs, will be terminated.

### **Proposal**

Cummins Inc. proposes to develop and demonstrate four fuel cell electric powertrain Class 8 drayage trucks by utilizing the technology and expertise of its recent acquisitions, EDI and Hydrogenics. EDI is an electric powertrain manufacturer and has been developing powertrains since 2007. Hydrogenics Corporation is a fuel cell manufacturer and will be providing the fuel cells for the demonstration trucks. The Cummins fuel cell electric powertrain is expected to provide full performance comparable to diesel and natural gas powertrains and is zero emissions like battery electric powertrains but without the range limitations of battery electric vehicles. The Cummins powertrain will be designed for short, regional haul operations of less than 200 miles. Cummins will also develop a Technology Commercialization Plan to bring the class 8 zero emissions fuel cell electric power system technology to market. The vehicles will be delivered in 2021 with a 12-month demonstration.

### **Sole Source Justification**

Section VIII.B.2 of the Procurement Policy and Procedure identifies provisions under which a sole source award may be justified. Specifically, this request for sole source award is made under the provisions B.2.c.(2): The project involves the use of proprietary technology; and B.2.d.(1): Project involving cost-sharing by multiple sponsors. Cummins Inc.'s fuel cell electric powertrain will be used to design the fuel cell range-extended drayage trucks used in this demonstration. CEC and Cummins Inc. will provide cost-sharing for this project.

### **Benefits to South Coast AQMD**

Projects to support development and demonstration of zero emissions drayage truck technologies are included in the *Technology Advancement Office Clean Fuels Program 2019 Plan Update* under the categories of "Hydrogen and Fuel Cell Technologies and Infrastructure". This project is to develop and demonstrate zero emissions fuel cell drayage truck technologies for goods movement operations. Successful demonstration of such projects will contribute to the attainment of clean air standards in the South Coast Air Basin by eliminating PM and NOx emissions from replaced diesel drayage trucks.

### **Resource Impacts**

No costs were incurred on the VVG contract that will be terminated. The original costs for the project were \$4,198,000; the revised scope increased project costs to \$4,985,665. Cummins will provide the additional funds to make up the increased cost. The contract with Cummins Inc. will not exceed \$3,568,300, comprised of \$2,985,995 in CEC pass-through revenue and \$582,305 for South Coast AQMD's cost-share, from the Clean Fuels Program Fund (31). Further details are in the table below:

<b>Funding Source</b>	<b>Original Costs</b>	<b>Proposed Costs</b>
CEC	\$2,985,995	\$2,985,995
Proponents	629,700	1,417,365
South Coast AQMD	582,305	582,305
<b>Total</b>	<b>\$4,198,000</b>	<b>\$4,985,665</b>

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 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.