

BOARD MEETING DATE: August 6, 2021

AGENDA NO. 4

**PROPOSAL:** Execute Contract to Develop and Demonstrate Hydrogen Fuel Cell Medium-Duty Buses

**SYNOPSIS:** A-1 Alternative Fuel Systems and partners propose to develop two Class 4 hydrogen fuel cell power medium-duty buses and demonstrate the technology with Sunline Transit Agency. This action is to execute a contract with A-1 Alternative Fuel Systems in an amount not to exceed \$531,166 to develop, demonstrate and commercialize hydrogen fuel cell medium-duty buses from the Clean Fuels Program Fund (31).

**COMMITTEE:** Technology, June 18, 2021; Recommended for Approval

**RECOMMENDED ACTION:**

Authorize the Chairman to execute a contract with A-1 Alternative Fuel Systems in an amount not to exceed \$531,166 to develop, demonstrate and commercialize hydrogen fuel cell medium-duty buses from the Clean Fuels Program Fund (31).

Wayne Natri  
Executive Officer

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**Background**

As CARB continues to adopt zero emission mandates such as the Innovative Clean Transit (ICT), Zero-Emission Airport Shuttle and Advanced Clean Trucks regulations, there is growing demand for longer range, fast fueling options that meet more vigorous duty cycles. Ford medium-duty vehicles have significant market share in multiple applications, including local and regional goods movement, municipal fleets, utilities, and a variety of transit, shuttle and school bus operations.

A-1 Alternative Fuel Systems (A-1) have demonstrated their commercialization strategy as well as aftermarket service and warranty capability from their two decades of

alternative fuels industry experience. A-1 and partners propose to develop two new zero emission hydrogen fuel cell powered Ford platforms for medium-duty commercial trucks and buses. This project will leverage A-1 and partners' core capabilities to co-develop and bring to market long-range, fast filling medium-duty zero emission platforms that are currently not commercially available.

### **Proposal**

A-1, along with SoCalGas, Plug Power, Inc., SEA Electric LLC, Turtle Top, Hometown Manufacturing, Inc. and Luxfer Gas Cylinders propose to develop, demonstrate and commercialize two hydrogen fuel cell Class 4 medium-duty buses on Ford platforms that are capable of 175-300 miles of range. Plug Power, Inc. and SEA Electric LLC will engineer and develop the hydrogen fuel cell and chassis electrification components for use on the Ford medium-duty platforms. Hometown Manufacturing, Inc. and Turtle Top will supply the suitable shuttle bus bodies. A-1 will perform the final systems integration of a low floor keeling bus on a Ford F-53 platform and a standard floor bus on Ford E-450 platform at their engineering and production facilities. Luxfer Gas Cylinders will provide the hydrogen fuel tank storage systems. Both buses will be used for Altoona/CARB verification and extended in-service demonstration with Sunline Transit Agency for up to 12 months. SoCalGas will provide funding support as well as assist the team in developing additional outlets for hydrogen fueling infrastructure.

This proposal is to execute a contract with A-1 Alternative Fuel Systems in an amount not to exceed \$531,166 to develop, demonstrate and commercialize hydrogen fuel cell medium-duty buses from the Clean Fuels Program Fund (31).

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

The proposed project is relevant to South Coast AQMD's priorities to reduce NOx and PM emissions from transportation sources in order to achieve federal ambient air quality standards and protect public health. Projects to support development and demonstration of advanced technologies are included in the Technology Advancement Office Clean Fuels Program 2021 Plan Update under the category of "Hydrogen & Fuel Cell Technology and Infrastructure". Successful demonstration of this technology will help support the commercial viability and wide-scale deployment of zero emissions technology in the medium-duty truck sector by offering more options that meet a variety of fleet needs.

### **Sole Source Justification**

Section VIII.B.2 of the Procurement Policy and Procedure identifies provisions by which sole source awards may be justified. The request for sole source award is made under provision B.2.d.(1): Project involving cost-sharing by multiple sponsors. The proposed projects include cash and in-kind cost-sharing from SoCalGas and the project proponents.

### Resource Impacts

South Coast AQMD's cost-share will not exceed \$531,166 from the Clean Fuels Program Fund (31). The estimated partners cost-share and total project cost is summarized below.

<b>Proposed Partners</b>	<b>Amount</b>	<b>Percent (%)</b>
SoCalGas	\$531,166	25
Plug Power Inc.	\$258,000	12
SEA Electric LLC	\$250,000	12
Sunline Transit Agency (in-kind)	\$160,608	8
A-1	\$132,668	6
Hometown Manufacturing, Inc	\$110,000	5
Turtle Top	\$85,000	4
Luxfer Gas Cylinders	\$28,000	1
South Coast AQMD ( <i>requested</i> )	\$531,166	25
<b>Total Project Cost</b>	<b>\$2,086,608</b>	<b>100</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.