

BOARD MEETING DATE: October 6, 2023

AGENDA NO. 22

REPORT: Technology Committee

SYNOPSIS: The Technology Committee held a hybrid meeting on Friday, September 15, 2023. The following is a summary of the meeting.

RECOMMENDED ACTION:  
Receive and file.

Carlos Rodriguez, Chair  
Technology Committee

AK:psc

---

### **Committee Members**

Present: Councilmember Carlos Rodriguez, Committee Chair  
Supervisor Curt Hagman  
Board Member Veronica Padilla-Campos

Absent: Supervisor Andrew Do  
Mayor Patricia Lock Dawson  
Mayor Larry McCallon

### **Call to Order**

Committee Chair Carlos Rodriguez called the meeting to order at 12:10 p.m.

For additional details of the Technology Committee Meeting, please refer to the [Webcast](#).

### **ACTION ITEMS:**

#### **1. Execute Contract for Development and Demonstration of Electric-Powered Trailer for Heavy-Duty Vehicles**

Range Energy is proposing to develop and demonstrate battery electric-powered trailers that can integrate with existing diesel and zero-emission trucks to provide propulsion assistance and regenerative braking. This project will demonstrate emission benefits of electric-powered trailers. The University of California,

Riverside College of Engineering - Center for Environmental Research & Technology (UCR/CE-CERT) will assist Range Energy with data collection and quantifying emission benefits. This action is to execute contracts with 1) Range Energy in an amount not to exceed \$500,000; and 2) UCR/CE-CERT in an amount not to exceed \$50,000 from the Clean Fuels Program Fund (31).

Board Member Padilla-Campos inquired about the plan following the conclusion of the one-month demonstration of the electric-powered trailer project. Seungbum Ha, Program Supervisor/Technology Advancement Office, responded that the trailer would remain in active use, and will explore potential applications for its next phase, including its deployment as a Transportation Refrigeration Unit. For additional details, please refer to the [Webcast](#) beginning at 4:15.

Moved by Hagman; seconded by Padilla-Campos; unanimously approved.

Ayes: Hagman, Padilla-Campos, Rodriguez

Noes: None

Abstain: None

Absent: Do, Lock Dawson, McCallon

**2. Issue RFP for Technical Assistance to Support South Coast AQMD's Technology Advancement Office Activities and Implementation Efforts**

South Coast AQMD administers and implements incentive programs as well as pre-commercial research, development, demonstration, and deployment of low- and zero-emission technologies. These actions are to: 1) issue an RFP to solicit proposals from qualified consultants and consulting firms with relevant technical expertise and experience to assist with the implementation of incentive programs and development of technology demonstration project proposals; and 2) authorize the Executive Officer to execute or amend contract(s) with the selected consultant(s) or firm(s) in an amount not to exceed \$600,000 using up to \$300,000 in administrative funds from the Carl Moyer Program Fund (32), Community Air Protection Program Fund (77) and Proposition 1B Goods Movement Fund (81); and up to \$300,000 from the Clean Fuels Program Fund (31).

Board Member Padilla-Campos inquired if the contracts for the selected consultants will be for one year. Tom Lee, Program Supervisor/Technology Advancement Office explained that the contracts will be for at least two years or until funds are exhausted. The last RFP for consultants was issued two years ago and funds for the incentive contracts are nearly exhausted.

Harvey Eder, Public Solar Power Coalition, expressed support for the RFP.

Councilmember Rodriguez asked for the range of grants that staff is anticipating. Aaron Katzenstein, Deputy Executive Officer/Technology Advancement Office, explained that an U.S. EPA grant will be released in December or January for up to \$3 billion where South Coast AQMD is planning on submitting proposals for Port projects. For additional details, please refer to the [Webcast](#) beginning at 11:23.

Moved by Hagman; seconded by Padilla-Campos; unanimously approved.

Ayes: Hagman, Padilla-Campos, Rodriguez  
Noes: None  
Abstain: None  
Absent: Do, Lock Dawson, McCallon

**3. Execute Contract to Develop and Demonstrate a Portable Liquid Hydrogen Fueling System for Medium- and Heavy-Duty Equipment Applications**

Large equipment with high power demands used in long range applications requires high-capacity hydrogen power systems when converted to zero-emission. Gaseous hydrogen fuel storage is not technically viable to meet power demands. Liquid hydrogen storage has a higher energy density and is needed to meet higher power demands. Zero Emission Industries, Inc. (ZEI) will design, build, and demonstrate a portable and rapidly deployable liquid hydrogen fueling system for marine or locomotive applications. This action is to execute a contract with ZEI to develop a portable liquid hydrogen fueling system in an amount not to exceed \$1,175,000 from the Clean Fuels Program Fund (31).

Board Member Padilla-Campos commented that she will vote for the item, but she is still learning about hydrogen.

Ranji George, public member, inquired about the proposals submitted and how was ZEI selected. For additional details, please refer to the [Webcast](#) beginning at 23:05.

Moved by Hagman; seconded by Padilla-Campos; unanimously approved.

Ayes: Hagman, Padilla-Campos, Rodriguez  
Noes: None

Abstain: None

Absent: Do, Lock Dawson, McCallon

**4. Amend Contract with Coachella Valley Association of Governments**

In January 2013, the Board approved contracts for emission reduction projects in the Coachella Valley from the AB 1318 Mitigation Fees Fund (58) for numerous projects. The Coachella Valley Association of Governments (CVAG) received \$17,400,000 for constructing a 46-mile corridor for neighborhood electric vehicles, bicycles and pedestrians, known as “CV Link” that will extend from Palm Springs to Coachella. In January 2021, the Board approved amending the CVAG contract with \$1,469,680 in accrued interest. As portions of the CV Link have been completed and in anticipation of the next construction phase, CVAG is requesting accrued interest funds from their award balance, as included in their contract. This action is to amend the contract with CVAG to augment the existing funding by \$255,923 from the AB 1318 Mitigation Fees Fund (58).

Board Member Padilla-Campos asked if there were any community groups involved in the project and the partnership structure of the project. Mr. Katzenstein replied that South Coast AQMD is not involved in the construction of the project and would need to ask CVAG. For additional details, please refer to the [Webcast](#) beginning at 28:42.

Moved by Hagman; seconded by Padilla-Campos; unanimously approved.

Ayes: Hagman, Padilla-Campos, Rodriguez  
Noes: None  
Abstain: None  
Absent: Do, Lock Dawson, McCallon

**INFORMATIONAL ITEM:**

**5. Clean Buses in the Valley - Hydrogen-Fueled Buses Overview**

An overview of Sunline Transit Agency's operation and their long activities in developing hydrogen fueling infrastructure and deploying hydrogen fuel cell and battery electric transit buses will be presented. In addition, a summary of transit agencies such as Sunline Transit Agency's feedback on deploying the zero-emissions technologies within their fleets will be discussed.

Board Member Padilla-Campos inquired about Sunline Transit Agency (Sunline) ridership estimate and the cost per rider. Rudy Le Flore, Sunline Transit Agency, responded that he does not have the current ridership counts, but the number has dropped by nearly 40 percent during and post-COVID. The general rider cost is one dollar, and is half price for seniors and residents with disabilities.



Supervisor Hagman stated that there are several pathways for hydrogen production and inquired about the types of Sunline hydrogen production pathways to fuel its fleets. Mr. Le Flore responded that Sunline has an onsite hydrogen electrolyzer and plans to construct a liquid hydrogen station to improve reliability and provide fuel to their fleets.

Councilmember Rodriguez inquired about the philosophy behind the ratio of battery electric and hydrogen fuel cell vehicles within the Sunline fleet. Mr. Le Flore explained that in order to meet the CARB ACT regulation, Sunline has put together a plan to move towards full transition to zero-emissions fleets by 2035 and that battery electric buses can serve local/shorter routes compared to hydrogen fuel cell vehicles that can serve regional/longer routes due to their extended mileage range. On that basis, he stated that hydrogen fuel cell vehicles could replace CNG buses on a 1-to-1 ratio, while battery electric buses could replace CNG buses on a 2-to-1 ratio. As such, Sunline is invested in purchasing more hydrogen fuel cell electric buses since they offer longer routes. He also stated that, due to heat and other environmental conditions in the valley, battery electric buses offer limited mileage range which is not equivalent to the existing CNG buses' mileage range currently in use. Councilmember Rodriguez emphasized that using battery electric vehicles can cost more for Sunline's plan to achieve 100 percent zero-emissions by 2035. Mr. Le Flore mentioned that driver scheduling and operational needs can change with battery electric buses due to the limited mileage range. Councilmember Rodriguez inquired about the reduction of emissions by replacing 30 percent of Sunline fleets with zero-emission buses. Mr. Le Flore emphasized that all the CNG buses removed from service are replaced with zero-emission buses, which can reduce criteria pollutant and GHG emissions. For additional details, please refer to the [Webcast](#) beginning at 33:28.

## **OTHER MATTERS:**

### **6. Other Business**

There was no other business to report.

### **Public Comment Period**

There was no public comment to report.

### **7. Next Meeting Date**

The next regular Technology Committee meeting is scheduled for Friday, October 20, 2023, at noon.

### **Adjournment**

The meeting adjourned at 1:10 p.m.

### **Attachment**

Attendance Record



**ATTACHMENT**

**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT  
TECHNOLOGY COMMITTEE MEETING  
Attendance Record – September 15, 2023**

Supervisor Curt Hagman.....	South Coast AQMD Board Member
Board Member Veronica Padilla-Campos .....	South Coast AQMD Board Member
Councilmember Carlos Rodriguez.....	South Coast AQMD Board Member
Debra Mendelsohn.....	Board Consultant (McCallon)
Mark Abramowitz.....	Community Environmental Services
Harvey Eder.....	Public Solar Power Coalition
Ranji George.....	Public Member
Alex Hall.....	UCLA
Rudy LeFlore.....	Sunline Transit
Fred Minassian.....	Public Member
Debra Ashby.....	South Coast AQMD Staff
Lara Brown.....	South Coast AQMD Staff
Laurence Brown.....	South Coast AQMD Staff
Phillip Crabbe III.....	South Coast AQMD Staff
Scott Gallegos.....	South Coast AQMD Staff
De Groeneveld.....	South Coast AQMD Staff
Seung Ha.....	South Coast AQMD Staff
Maryam Hajbabaei.....	South Coast AQMD Staff
Lauren Henninger.....	South Coast AQMD Staff
Gillian Kass.....	South Coast AQMD Staff
Aaron Katzenstein.....	South Coast AQMD Staff
Angela Kim .....	South Coast AQMD Staff
Ruby Laity.....	South Coast AQMD Staff
Tom Lee .....	South Coast AQMD Staff
Ron Moskowitz.....	South Coast AQMD Staff
Susan Nakamura.....	South Coast AQMD Staff
Wayne Nastro.....	South Coast AQMD Staff
Vasileios Papapostolou .....	South Coast AQMD Staff
Sarah Rees.....	South Coast AQMD Staff
Penny Shaw Cedillo.....	South Coast AQMD Staff
Walter Shen.....	South Coast AQMD Staff
Lisa Tanaka O’Malley.....	South Coast AQMD Staff
Carolina Vargas .....	South Coast AQMD Staff
Mei Wang.....	South Coast AQMD Staff
Paul Wright.....	South Coast AQMD Staff