

BOARD MEETING DATE: April 17, 2020

AGENDA NO. 20

REPORT: Technology Committee

SYNOPSIS: The Technology Committee held a meeting on Friday, April 17, 2020. The following is a summary of the meeting.

RECOMMENDED ACTION:
Receive and file.

Joe Buscaino, Chair
Technology Committee

MMM:av

Committee Members

Present: Council Member Joe Buscaino/Chair
Supervisor Lisa Bartlett
Board Member Gideon Kracov
Council Member Judith Mitchell
Council Member Carlos Rodriguez

Absent: None

Call to Order

Chair Buscaino called the meeting to order at 12:03 p.m.

ACTION ITEMS:

1. Amend Award and Execute Contract for Stationary Fuel Cells

In January 2018, the Board approved an RFP to solicit stationary and mobile source projects that will result in emission reductions of NOx, VOC, and PM. Subsequently, in January 2019, Bloom Energy Inc. was awarded \$3 million for fuel cells integrated with energy storage on the College of the Canyons campus. Bloom recently requested a change in scope of the project that reduces the award amount but does not impact the emission reduction benefits. This action is to

amend the award, the scope of the project and execute a contract with Bloom Energy Inc. in a total amount not to exceed \$2,934,052 from the EO Mitigation Fund (27).

Council Member Mitchell inquired about the utility tariff structure. Staff explained that the California Public Utilities Commission approves rate structures and the utility implements it. Based on Council Member Mitchell's inquiry pertaining to a potential future installation of the energy storage system, staff informed the committee that this is not included in the current scope of the project but will follow-up with project proponents and Southern California Edison for a future potential project.

Ayes: Bartlett, Buscaino, Kracov, Mitchell, Rodriguez
Noes: None
Absent: None

2. Amend Contract for Tier 4 Passenger Locomotives

In 2014, under the "Year 16" Carl Moyer Program solicitation, the Southern California Regional Rail Authority (SCRRA) submitted a proposal requesting \$58.85 million to cofund the deployment of 20 new Tier 4 locomotives. In September 2015, the Board awarded \$22.85 million to SCRRA from the Carl Moyer Program AB 923 Fund (80), with a commitment to consider the remaining \$36 million over four phases. The Board previously approved \$27 million of the \$36 million in three installments in December 2016, December 2017 and February 2019. This action is to amend SCRRA's contract, adding the remaining \$9 million from the Carl Moyer Program AB 923 Fund (80) for a revised contract total of \$58.85 million.

Board Member Kracov inquired about the project cost-effectiveness, and a relative comparison with other NOx reduction projects. Staff explained that project cost-effectiveness of \$15,000 per ton is very attractive compared to current Carl Moyer guidelines that allow up to \$30,000 per weighted ton of emission reductions, and up to \$100,000 per ton for advanced technologies that are lower emitting than existing standards. Council Member Mitchell asked for confirmation of the stated 0.5 tons per day of NOx reductions. Staff confirmed.

Ayes: Bartlett, Buscaino, Kracov, Mitchell, Rodriguez
Noes: None
Absent: None

INFORMATIONAL ITEM:

3. Staff Report on Electric Vehicle Battery Reuse and Recycling

Rapid growth in the market for zero emission battery electric vehicles is a significant part of the overall strategy to improve air quality in the South Coast Air Basin.

Although reuse of batteries is a desirable option in the near-term, the longer-term challenge of a growing number of batteries present a potential environmental waste issue. Staff will present the current range of approaches to electric-vehicle lithium-ion battery reuse and recycling and highlight potential future pathways.

Council Member Mitchell sought clarification on the low recycling percentage in U.S. compared to other countries. Staff explained that the U.S. mostly imports batteries manufactured in Asia and Europe, and thus more active recycling programs are located in those regions currently. Council Member Mitchell also inquired if the Federal Government is setting in place a recycling standard. Staff responded that the Federal Government understands a significant impact of battery reuse and recycling on the environment and is evaluating the development of a cost-effective recycling standard that will further lower costs of battery production. Council Member Mitchell further inquired if South Coast AQMD has existing analysis of cost and environmental impact of reuse and recycling of Li-ion battery. Staff responded that research is on-going, especially for reuse as stationary energy storage and California will likely have a greater benefit due to large amount of renewable energy sources. Based on Council Member Mitchell's query regarding the potential role of South Coast AQMD to accelerate reuse and recycling deployment, staff informed the committee that for all larger demonstration projects involving battery electric powertrains, staff encourages OEMs to set up reuse and recycling pathways, support universities for research on energy storage and microgrids, and work closely with the Federal Government and national labs to support their research work.

Council Member Rodriguez inquired as to the role of used batteries. Staff informed the committee that retired batteries from electric vehicles typically retain 80% of their original capacity, and duty cycle of stationary applications for residential, commercial and microgrids is more moderate than electric vehicle operation, and thus is the most common use today. Council Member Rodriguez also inquired if a reused battery can be used for another electric vehicle. Staff explained that it is difficult to reuse batteries for another electric vehicle because the loss in capacity would not typically meet performance requirements. Council Member Rodriguez asked about South Coast AQMD's efforts to increase recycling. Staff explained that currently the pathway is to track efforts by national labs and vehicle demonstration partners, especially for heavy-duty trucks that use a large amount of batteries. Council Member Rodriguez further inquired about a global practice for recycling research and demonstration. Staff responded that the Department of Energy's (DOE)

Recell program is one of the most recent and largest national effort but is still in a nascent stage.

Board Member Kracov inquired about current disposal practices of Li-ion batteries. Staff explained that Li-ion batteries are classified as hazardous materials that require permitted facilities to handle, with most batteries shipped to other countries for recycling. Board Member Kracov emphasized the need for a statewide battery recycling regulation by the appropriate agencies, considering the state's emphasis on zero emission battery electric vehicles. Staff supported the idea and indicated that the appropriate agencies would be engaged.

Council Member Rodriguez inquired about any existing regulation for disposing Li-ion batteries from electronics, electric vehicles and other applications. Staff informed him there are general regulations for hazardous material-handling developed and implemented by the Department of Toxic Substances. Council Member Rodriguez further inquired about the Federal Government's role in trying to standardize the battery design and projected timeline. Staff responded that the DOE is currently developing standards for batteries and charging equipment, but staff is not aware of any specific rule development.

Supervisor Bartlett explained that Orange County has a hazardous waste handling process where residents can transport their electronic waste, including batteries, and has a program to collect larger items from residences. These materials are then handled in accordance with appropriate hazardous material handling protocols.

OTHER MATTERS:

4. Other Business

There was no other business.

5. Public Comment Period

There were no public comments.

6. Next Meeting Date

The next regular Technology Committee meeting is scheduled for Friday, May 15, 2020 at noon.

Adjournment

The meeting adjourned at 12:58 p.m.

Attachment

Attendance Record

ATTACHMENT

**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
TECHNOLOGY COMMITTEE MEETING**

Attendance Record – April 17, 2020

**All participants attended the meeting remotely pursuant to Executive Orders N-25-20 and
N-29-20**

Supervisor Lisa Bartlett.....	SCAQMD Board Member
Council Member Joe Buscaino	SCAQMD Board Member
Board Member Gideon Kracov	SCAQMD Board Member
Council Member Judith Mitchell	SCAQMD Board Member
Council Member Carlos Rodriguez.....	SCAQMD Board Member
James Dinwiddie	Board Consultant (Bartlett)
Jacob Haik	Board Consultant (Buscaino)
Matt Holder	Board Consultant (Rodriguez)
Fred Minassian	Board Consultant (Mitchell)
Mark Abramowitz	Public Member
Howard Berman	Consultant
Dan McGivney	SoCalGas
David Rothbart	L.A. County Sanitation District
Andy Silva.....	San Bernardino County
Rick Sikes.....	Consultant
Derrick Alatorre	SCAQMD Staff
Naveen Berry.....	SCAQMD Staff
Seungbum Ha	SCAQMD Staff
Sheri Hanizavareh	SCAQMD Staff
Joseph Impullitti.....	SCAQMD Staff
Tom Lee	SCAQMD Staff
Lisa Mirisola.....	SCAQMD Staff
Matt Miyasato.....	SCAQMD Staff
Ron Moskowitz	SCAQMD Staff
Wayne Nastri.....	SCAQMD Staff
Veera Tyagi	SCAQMD Staff
Alejandra Vega.....	SCAQMD Staff
Mei Wang	SCAQMD Staff
Vicki White	SCAQMD Staff
Jill Whynot	SCAQMD Staff
Paul Wright.....	SCAQMD Staff
Alyssa Yan	SCAQMD Staff