

BOARD MEETING DATE: May 7, 2021

AGENDA NO. 5

PROPOSAL: Recognize Revenue, Appropriate and Transfer Funds for Air Monitoring Programs, Issue RFQ and Purchase Orders for Air Monitoring Equipment and One Vehicle, and Execute a Contract

SYNOPSIS: South Coast AQMD is expected to receive grant funds up to \$703,945 from U.S. EPA for the PM2.5 Program and up to \$2,100,000 from the U.S. Government for the Enhanced Particulate Monitoring Program. In October 2016, the Board recognized revenue from the U.S. EPA through its Science to Achieve Results (STAR) research grant program to engage, educate and empower California communities on the use and application of low-cost air monitoring sensors. These actions are to recognize revenue and appropriate funds for the PM2.5 and Enhanced Particulate Monitoring Programs, transfer up to \$350,000 between Major Objects in Science & Technology Advancement's FY 2021-22 Budget to realign expenditures for the Enhanced Particulate Monitoring Program, transfer and/or appropriate up to \$124,792 between Major Objects for the STAR program, issue an RFQ and purchase orders for air monitoring equipment and one vehicle, and execute a contract.

COMMITTEE: Administrative, April 9, 2021; Recommended for Approval

RECOMMENDED ACTIONS:

1. Recognize revenue in the General Fund up to \$2,803,945 and appropriate funds up to \$703,539, upon receipt, into the FYs 2020-21 and/or 2021-22 Budgets as set forth in Attachment 1 and further detailed in Attachments 2 and 3;
2. Transfer up to \$350,000 between Science & Technology Advancement's FY 2021-22 Budget, Salaries and Employee Benefits Major Object (Org 44), and Services & Supplies Major Object (Org 47), Temporary Agency Account, to realign expenditures, as needed, for the FY 2021-22 Enhanced Particulate Monitoring Program;
3. Transfer up to \$124,792 from the Services & Supplies Major Object to the Capital Outlays Major Object in Science & Technology Advancement's FYs 2020-21

- Budget (Org 43) and/or appropriate up to \$124,792 to the Capital Outlays Major Object in Science & Technology Advancement's FY 2021-22 Budget (Org 43) to purchase air monitoring equipment and execute a contract for the U.S. EPA STAR program;
4. Authorize the Procurement Manager, in accordance with South Coast AQMD Procurement Policy and Procedure, to issue sole source purchase orders with Met One Instruments, Inc. for the following equipment as listed in Table 2:
 - a. Up to four Met One PM2.5 FEM Monitors not to exceed \$84,000; and
 - b. Up to four Met One E-BAM PLUS Portable Environmental PM Monitors not to exceed \$46,714.
 5. Authorize the Procurement Manager, in accordance with South Coast AQMD's Procurement Policy and Procedure, to issue a purchase order, based on a solicitation process, "Prior Bid, Last Price" or cooperative agreement for one BEV or PHEV (vehicle) in an amount not to exceed \$50,000 as listed in Table 1; and
 6. Authorize the Executive Officer to execute a sole source contract with Mazama Science in an amount up to \$78,078 to enhance the capabilities of open-source tools to support data access, data analysis and data visualization of air quality information by communities and citizen scientists.

Wayne Nastri
Executive Officer

MMM:JCL:RMB:AP:ld

Background

Enhanced Particulate Monitoring Program

South Coast AQMD has been providing enhanced particulate monitoring support as part of a national monitoring program since 2003. Sample collection began in February 2003 and will continue for the foreseeable future. South Coast AQMD is expected to receive up to \$2,100,000 from the U.S. Government for the annually funded Enhanced Particulate Monitoring Program.

PM2.5 Program

Since 1998, U.S. EPA has provided funds under Section 103 for a comprehensive PM2.5 Air Monitoring Program. To date, there are 19 ambient monitoring stations in the South Coast Air Basin (Basin) operating 22 Federal Reference Method (FRM) PM2.5 monitors under U.S. EPA funding and 15 other PM2.5 continuous monitors including Federal Equivalent Method (FEM) and Non-FEM monitors. In addition, U.S. EPA has supported the expansion of the network to collect ongoing PM2.5 mass and chemical speciation at several sites within the Basin. The chemical speciation of fine

particulate matter supports the characterization of PM2.5 sources, air quality conditions and health impacts. South Coast AQMD is expected to receive up to \$703,945 from U.S. EPA for the annually funded PM2.5 Program.

Science to Achieve Results (STAR) Program

On June 9, 2014, U.S. EPA, as part of its STAR Program, solicited applications proposing research on empowering communities and individuals to take action to avoid air pollution exposure, using low-cost portable air pollution sensors. South Coast AQMD's proposal to provide California communities with the knowledge necessary to appropriately select, use and maintain sensors and interpret sensor data was awarded one of these research grants. On October 7, 2016, the Board recognized and appropriated \$749,820 from the U.S. EPA for this study. As part of this program, low-cost sensors were deployed for PM2.5 measurements in 14 California communities, calibration procedures were developed to improve the quality of the collected sensor data, and a contract was issued to Mazama Science to develop a suite of open-source tools to support data access, data analysis and data visualization of air quality information by communities and citizen scientists.

Proposal

The federal revenue to be recognized and FYs 2020-21 and/or 2021-22 appropriations are summarized in Attachment 1 and further described in Attachments 2 and 3.

Enhanced Particulate Monitoring Program (FYs 2020-21 and/or 2021-22)

South Coast AQMD is expected to receive funding from the U.S. Government for the ongoing Enhanced Particulate Monitoring Program through April 30, 2022 in an amount up to \$2,100,000. This action is to recognize revenue up to \$460,594 into the FYs 2020-21 and/or 2021-22 Budgets (\$1,639,406 for Salaries, Benefits, and indirect costs was already included in the FYs 2020-21 and/or 2021-22 Budgets) and appropriate up to \$460,594 into Science & Technology Advancement's FYs 2020-21 and/or 2021-22 Budgets, Services & Supplies and Capital Outlays Major Objects, as set forth in Attachment 2.

PM2.5 Program (FYs 2020-21 and/or 2021-22)

U.S. EPA is expected to provide Section 103 Grant funding in an amount up to \$703,945 for the continuation of the PM2.5 Program through March 31, 2022. Revenue for this grant in the amount of \$461,000 for Salaries and Benefits has already been included in the budget. This action is to recognize the remaining revenue up to \$242,945 into the FYs 2020-21 and 2021-22 Budgets and appropriate up to \$242,945 into Science & Technology Advancement's FYs 2020-21 and/or 2021-22 Budgets, as set forth in Attachment 3.

STAR Program

This action is to transfer up to \$124,792 from the General Fund Services & Supplies Major Object to the Capital Outlays Major Object in Science & Technology Advancement's FYs 2020-21 Budget (43) and/or appropriate up to \$124,792 to the Capital Outlays Major Object in Science & Technology Advancement's FY 2021-22 Budget (Org 43) to purchase air monitoring equipment and execute a contract for the U.S. EPA STAR program. As part of this project, staff has been working to develop calibration procedures to improve the reliability of the data from this and other sensor networks. Staff is proposing to purchase up to four Met One E-BAM PLUS Portable Environmental PM Monitors in an amount not to exceed \$46,714 for collocated measurements at selected sensor locations. These will be used to improve the algorithms and overall calibration methodology for the sensor networks staff has developed.

Staff is proposing to execute a contract with Mazama Science in an amount up to \$78,078 to enhance the capabilities of open-source tools to support data access, data analysis and visualization of air quality information by communities and citizen scientists.

Proposed Purchases through a Solicitation Process, "Prior Bid, Last Price" or Cooperative Agreement

BEV or PHEV (Vehicle)

At the outset of the Enhanced Particulate Monitoring Program over 15 years ago, several dedicated vehicles were purchased to meet the mileage intensive needs of the program. Several of these original vehicles have more than 150,000 miles and one vehicle was recently involved in a collision and expected to be surplused. The U.S. Department of Homeland Security, which is the funding agency for this program, concurs that replacing one of these vehicles is appropriate. Staff proposes replacement of one vehicle with a BEV or PHEV at an estimated cost of \$50,000 through an RFQ process, "Prior Bid, Last Price," or a cooperative purchasing agreement. Low emission vehicles are available from vendors through cooperative purchasing under the State of California, Department of General Services, Procurement Division, and Alternative Fueled Vehicles Contract 1-18-23-23A-H. The cost of the vehicle will not exceed \$50,000 (see Table 1).

Proposed Purchases through Sole Source Purchase Orders

Met One PM2.5 Continuous FEM Monitor

The U.S. EPA Section 103 PM2.5 Grant award includes one-time funding for the purchase of up to four Met One PM2.5 FEM monitors. The Met One PM2.5 FEM monitor is the only commercially available FEM monitor that would allow South Coast AQMD to satisfy the U.S. EPA collocation requirement, which specifies that new FEM monitors added to the network must use the same monitor/method code as those already

in operation within the network. The cost of the monitors will not exceed \$84,000 (see Table 1).

Met One E-BAM PLUS Portable Environmental PM Monitor

Over the past few years, staff has been developing calibration procedures to facilitate the management of low-cost sensor networks and improve the overall reliability of the collected data. These procedures are largely based on collocation measurements conducted at specific locations where a subset of sensors is operated alongside more reliable monitors to compare their performance. This information is then used to develop calibration algorithms for the entire sensor network. To continue this important work, staff proposes to use \$46,714 to purchase up to four Met One E-BAM PLUS Portable Environmental PM Monitors for additional collocation measurements with PM sensors.

Mazama Science Contract

The proposed contract with Mazama Science would expand the capabilities of existing data analysis and visualization tools by making them sensor model/type- and pollutants-agnostic, adding further QA/QC functionality for individual sensors and sensor networks. All resulting products will be open source which makes them ideal for use by STAR Grant and other communities and organizations interested in working with sensors and sensor data.

Sole Source Justification

Sole Source Justification Section VIII.B.3 of the Procurement Policy and Procedure identifies four major provisions under which a sole source award funded, in whole or in part with federal funds, may be justified. Specifically, this request for sole source award is made under the provision B.3.a.: the item is available only from a single source. Met One, Inc. is the only manufacturer of real-time and continuous environmental PM_{2.5} FEM mass monitors that employ a unique “in-situ” sampling technique that would allow South Coast AQMD to satisfy U.S. EPA collocation requirements, which include that new FEM monitors added to the network must use the same sampler and method as those that are already in operation within the network. Met One, Inc’s E-BAM Plus is the only commercial portable, rugged, and battery-operated real-time PM instrument which has EPA approval (FEM certification) for PM₁₀ particulate measurements and can also be used for PM_{2.5} monitoring.

Section VIII.B.3 of the Procurement Policy and Procedure identifies four major provisions under which a sole source award funded, in whole or in part with federal funds, may be justified. Specifically, this request for sole source award is made under the provision B.3.a.: The item is available only from a single source. Mazama Science has unique resources to automatically process large volumes of monitoring sensor data, produce web-based sensor data visualization tools, and generate sensor data summary reports. The Mazama Science platform uses statistical programming code they have

developed to provide community members participating in the EPA STAR Grant with a highly customizable data interface which is ideal for this community project. The project involves the use of proprietary technology and the Contractor has ownership of key assets required for project performance.

Resource Impacts

U.S. EPA Section 103 Grant funding will support the continuation of the PM2.5 Monitoring Program, including equipment and services, along with supplies necessary to meet the objectives of the PM2.5 Monitoring Program.

U.S. Government funding will support the continuation of the Enhanced Particulate Monitoring Program.

Funding from U.S. EPA will support the STAR program implementation.

Table 1
Proposed Purchase through an RFQ Process, ‘Prior Bid, Last Price,’ or Cooperative Agreement Purchase Order

Description	Qty	Funding Source	Estimated Amount
BEV or PHEV Vehicle	1	U.S. Government FY 2021-22	\$50,000
Total			\$50,000

Table 2
Proposed Purchases through Sole Source Purchase Orders

Description	Qty	Funding Source	Estimated Amount
Met One PM2.5 FEM Monitor	Up to 4	PM2.5 FYs 2020-21 and/or 2021-22	\$84,000
Met One E-BAM PLUS Portable Environmental PM Monitor	Up to 4	U.S. EPA STAR Grant FYs 2020-21 and/or 2021-2022	\$46,714
Total			\$130,714

Attachments:

1. Proposed Federal Revenues and Expenditures for FYs 2020-21 and/or 2021-22
2. Proposed Enhanced Particulate Monitoring Expenditures for FYs 2020-21 and/or 2021-22
3. Proposed PM2.5 Expenditures for FYs 2020-21 and/or 2021-22

Attachment 1
Proposed Federal Revenues and Expenditures for FYs 2020-21 and/or 2021-22

Funding Agency	Program Name	Proposed Revenues	Proposed Expenditures	Detailed Appropriations
U.S. Govt.	Enhanced Particulate Monitoring*	\$2,100,000	\$460,594	Attachment 2
EPA-Section 103	PM2.5 Program*	\$703,945	\$242,945	Attachment 3
		\$2,803,945	\$703,539	

*The difference between the proposed revenue and expenditure amounts is due to Salaries, Benefits, and indirect costs already included in the FYs 2020-21 and 2021-22 Budgets.

Attachment 2
Proposed Enhanced Particulate Monitoring Expenditures for
FYs 2020-21 and/or 2021-22

Account Description	Account Number	Program Code	Estimated Expenditures*
Salaries & Employee Benefits Major Object:			
Overtime	52000	47505	\$41,000
Total Salaries & Employee Benefits Major Object:			\$41,000
Services & Supplies Major Object:			
Temporary Agency Services	67460	47505	\$270,994
Maintenance of Equipment	67600	47505	1,000
Building Maintenance Operation	67650	47505	400
Auto Mileage	67700	47505	94,000
Clothing and Safety Equipment	68000	47505	2,000
Office Expense	68100	47505	200
Small Tools, Instruments, Equipment	68300	47505	1,000
Total Services & Supplies:			\$369,594
Capital Outlays Major Object:			
Vehicle (1)	77000	47505	\$50,000
Total Capital Outlays:			\$50,000
Total Appropriations:			\$460,594

Note: Salaries, Benefits and Indirect Costs (excluding overtime) are included in the FYs 2020-21 and/or 2021-22 Budgets.

*Funds not expended by June 30, 2021 will be carried over to the FY 2021-22 Budget.

Attachment 3
Proposed PM2.5 Expenditures for FYs 2020-21 and/or 2021-22

Account Description	Account Number	Program Code	Estimated Expenditures*
Services & Supplies Major Object:			
Rents and Leases Structure	67350	47500	\$10,000
Maintenance of Equipment	67600	47500	63,500
Building Maintenance Operation	67650	47500	10,000
Laboratory Supplies	68050	47500	62,500
Office Expense	68100	47500	2,945
Small Tools, Instruments, Equipment	68300	47500	10,000
Total Services & Supplies Major Object:			\$158,945
Capital Outlays Major Object:			
MET One PM2.5 FEM Monitor (up to 4)	77000	47500	84,000
Total Capital Outlays Major Object:			\$84,000
Total Appropriations:			\$242,945

Note: Salaries and Benefits are already included in the FYs 2020-21 and 2021-22 Budgets.

*Funds not expended by June 30, 2021 will be carried over to the FY 2021-22 Budget.