

BOARD MEETING DATE: July 10, 2015

AGENDA NO. 11

PROPOSAL: Transfer and Appropriate Funds and Issue RFQs and Purchase Orders for Laboratory and Field Equipment

SYNOPSIS: Air quality monitoring and laboratory-based sample analysis at SCAQMD continues to be an integral part of ongoing efforts to better characterize air quality. Staff is requesting funding of up to \$835,400 for Capital Outlays and up to \$148,200 in Services and Supplies to provide for new more reliable laboratory and field equipment that will enhance instrument performance, rapid response, and near-real time monitoring and reporting. These actions are to transfer and appropriate funding to Science & Technology Advancement's FY 2015-16 Budget and to issue RFQs and purchase orders for laboratory and field equipment.

COMMITTEE: Administrative, June 12, 2015; Recommended for Approval

RECOMMENDED ACTIONS:

1. Transfer and appropriate funding up to \$835,400 to the Science & Technology Advancement FY 2015-16 Budget (Org 44), Capital Outlays Major Object, from the special revenue funds indicated in Tables 1 and 2;
2. Transfer and appropriate funding up to \$148,200, as needed, from the Air Toxics Fund (15) to the Science & Technology Advancement FY 2015-16 Budget (Org 44), Services and Supplies Major Object, as follows: Lab Supplies (\$75,000), Equipment Maintenance (\$65,000), and Rents & Leases Equipment (\$8,200);
3. Issue RFQs for laboratory and field equipment listed in Table 1 and described in this letter, in accordance with SCAQMD Procurement Policy and Procedure; and
4. Authorize the Procurement Manager to:
 - a) Issue purchase orders, in accordance with SCAQMD Procurement Policy and Procedure, based on the results of RFQs for laboratory and field equipment in a not-to-exceed amount of \$732,000 as listed in Table 1; and

- b) Issue sole source purchase orders in a not-to-exceed amount of \$103,400 for laboratory software and field equipment listed in Table 2.

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Executive Officer

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Background

Air quality monitoring at SCAQMD continues to be an integral part of ongoing efforts to better characterize air pollutant exposure and assess the progress and effectiveness of air quality programs. Currently, staff is conducting special monitoring and analysis programs at several facilities including TAMCO, Exide, Carlton Forge Works, AllenCo, Hixson Metal Finishing and Ridgeline. Additionally, samples are collected and analyzed to assess the impact of well reworking operations as well as source tests of toxic emissions from facilities such as Quemetco.

In addition to these initiatives as well as efforts to reduce and monitor toxic air contaminants, there are ongoing federal monitoring programs for toxics and general air quality, such as U.S. EPA's National Air Toxics Trends Stations (NATTS) Program and near-road monitoring, which are also being conducted by staff. NATTS was developed to fulfill the need for long-term national Hazardous Air Pollutants (HAP) monitoring data. In 2007, U.S. EPA expanded the NATTS Program and awarded Section 103 grant funds to conduct monitoring for toxic air contaminants at two existing SCAQMD monitoring sites, Central Los Angeles and Rubidoux. The data compiled through these monitoring efforts serves as a continuum between past and future air measurements programs, such as MATES and PAMS, and allows for more accurate evaluation of trends on a regional basis.

Lastly, compliance programs require the measurement of VOC content of paints, coatings, adhesives, lubricating oils, and other products to ensure that such products are meeting stringent rule limits. These detailed analyses are dependent on a series of sophisticated analyses using gas chromatograph/mass spectrometer (GC/MS) and associated software including chemical compound mass spectral libraries. Each sample analyses can take up to 40 hours.

While these programs are given the highest priority, many of the instruments currently used are at the tail-end, and some even beyond the end, of their useful life. SCAQMD's capability, capacity and response time, in terms of final data reporting, public dissemination of information and data capture rates, can be enhanced with new and upgraded monitoring and laboratory equipment and instrumentation.

Proposal

In an effort to upgrade and modernize SCAQMD's air monitoring and laboratory capabilities, this action is to transfer and appropriate up to \$835,400 for the purchase of laboratory and field equipment, through competitive and sole source purchases, as described below and summarized in Tables 1 and 2. Additionally, this action is to transfer and appropriate up to \$148,200 for services and supplies necessary to conduct special monitoring and analysis programs which are used in the development of Health Risk Assessments (HRAs).

Proposed Purchases through an RFQ Process

Ozone Transfer Standard

SCAQMD uses ozone transfer standards to calibrate and audit the ozone monitors located at air monitoring stations. The transfer standards are first compared to a primary ozone standard located at SCAQMD Headquarters and then transported to the field to be used for calibrations and audits. In order to meet more rigorous quality assurance requirements and maintain the required calibration schedule, additional SCAQMD monitoring staff has been trained in the ozone calibration procedure. The additional staff require ozone transfer standards to carry out their assignments. One ozone transfer standard can be purchased for approximately \$9,000. Quotes for this RFQ will be solicited through informal bids, in accordance with SCAQMD Procurement Policy and Procedure, which allows for informal bids for equipment less than \$25,000.

Gas Chromatograph/Mass Spectrometer

Gas chromatograph/mass spectrometer/flame ionization detection (GC/MS/FID) instrumentation is extensively used to determine VOC and exempt compound content in low VOC paints and solvents and play a critical role in determining compliance of such products with SCAQMD rules and regulations. GC/MS/FIDs are also used in the evaluation of clean air choices cleaner (CACC) and clean air solvent (CAS) products; volatile organic hazardous air pollutant (VOHAP); maximum incremental reactivity (MIR) content; compounds; paint thinners; fracking fluids; and process fluids for odorous compounds, VOCs and VOHAPS. Staff is proposing the replacement of two existing aging instruments at the end of their useful life, one GC/MS/FID and one GC/FID. Both instruments are approximately 20 years old, have had repeated recent failures and despite numerous repairs do not operate consistently enough to provide continuously reliable results. Also, because of their age, they are no longer supported by the manufacturer, and parts are on an as-available basis. Additionally, the associated PCs and software cannot be upgraded to meet the standardized SCAQMD operating system requirements. Two (2) new GC/MS instruments cost approximately \$320,000.

Analytical Balances

Analytical balances are used to determine density, non-volatile as well as water content of a sample brought to the laboratory for analysis. These values, along with GC/MS analyses, are needed to calculate a sample's VOC content which in turn determines its compliance status. Current balances that are in use for these functions are over 25 years old. Some cannot be connected to laboratory PCs for electronic data transfer. Staff is proposing the purchase of four (4) balances to replace the existing aging balances to be used by laboratory personnel in the determination of the VOC content of paints, coatings and adhesives. The cost of the four (4) balances is estimated at \$27,000.

Liquid Autosampler for a GC/MS/FID

GC/MS/FIDs are required for Method 313 analysis of paints and coatings for VOCs; CACC and CAS samples for VOCs, VOHAPs and MIR compounds; paint thinners; fracking fluids; and other liquids. Since the materials being tested are liquids, they must be injected into the instrument with a liquid autosampler. The lab has one GC/MS/FID which is currently being used for ambient air samples but does not have liquid sampling capabilities; however, it has all of the other parts required for liquid analysis to convert the ambient air GC/MS/FID to liquid analysis. Staff is proposing to enhance the functionality of this existing instrument by purchasing and outfitting it with a liquid autosampler to provide a means for Method 313 analysis. The cost of one liquid autosampler for a GC/MS/FID is approximately \$15,000. Quotes for this RFQ will be solicited through informal bids, in accordance with SCAQMD Procurement Policy and Procedure, which allows for informal bids for equipment less than \$25,000.

Thermogravimetric Analyzer

Thermogravimetric analysis (TGA) is used to determine compliance of metal working fluid and lubricant samples with Rule 1144. It is also useful in determining the volatility of various compounds and products. The lab has a TGA instrument; however, the instrument isn't functional for long periods of time. The current TGA instrument breaks down frequently and is costly to repair, often requiring that it be sent to Germany. The repairs, in addition to being costly, remove the instrument from the laboratory for months at a time. Staff is proposing the purchase of a new TGA at a cost of approximately \$85,000.

Portable GC/MS with Laptop PC and Software

In 2003, as part of a Department of Defense contract, the SCAQMD purchased four (4) portable GC/MSs along with their associated laptops and software. These instruments have proven to be a valuable component in SCAQMD's Emergency Response Program. The GC/MSs have also been used in field monitoring programs, such as Western Environmental, providing near-real-time data in the field. However, the instruments are no longer supported by the manufacturer, and parts are not available. Additionally, the software that operates these instruments and the laptops that control them do not meet SCAQMD software/hardware standards and therefore cannot be networked. Therefore,

replacement units are needed to maintain field capabilities and data integration capabilities with SCAQMD software platforms. The cost of two (2) portable GC/MS instruments with laptop PCs and software is approximately \$270,000.

National Institute of Standards and Technology Library for Mass Spectral Data

GC/MS/FIDs are required for Method 313 analysis of paints and coatings for VOCs; CACC and CAS samples for VOCs, VOHAPs and MIR compounds; paint thinners, fracking fluids; and other liquids. Individual compounds are identified by their mass-to-charge fragment patterns; these patterns are stored in a library which is updated by the National Institute of Standards and Technology (NIST) every few years. The SCAQMD's current NIST library for mass spectral (MS) data is from 2005. As formulators become creative about reducing VOCs and replacing them with special-property compounds, more and more compounds are no longer able to be identified by the 2005 NIST library. The current library is missing thousands of additional compounds which have been added over several recent revisions. An updated library will be able to identify more compounds than the current ten year old version. The cost of a 2015 NIST MS Library is approximately \$6,000.

Proposed Purchases through Sole Source Purchase Orders

Jerome Hydrogen Sulfide Analyzer

The Jerome hydrogen sulfide (H₂S) analyzer is a portable H₂S monitor capable of being operated in either continuous or short-term survey monitoring modes. SCAQMD's current H₂S monitors do not have continuous capabilities. Extended H₂S monitoring in a continuous mode is well suited for special monitoring applications such as Rule 1148.2 well reworking monitoring projects. Additionally, new H₂S analyzers have the capability to allow data to be transferred via common USB memory devices and to be connected to external data loggers for extended monitoring applications. The cost for one Jerome H₂S analyzer is approximately \$17,000.

BGI Particulate Samplers

To perform particulate sampling at remote locations where electricity may not be available, or in situations where time is of the essence and securing a source of line power may take valuable time, portable battery operated samplers are used. SCAQMD currently operates BGI samplers to fill this need. The sampler is typically used in the total suspended particulate (TSP) mode; however it is versatile enough that it can also be operated as a federal reference method (FRM) PM₁₀ sampler or a non-reference PM_{2.5} sampler. Atmospheric Measurements staff operate several of these samplers at various locations and purchasing additional BGI samplers to be compatible with those currently in use will enhance particulate sampling capabilities. The cost of four (4) TSP samplers with these capabilities shall not exceed \$29,400 and is currently manufactured only by Mesa Laboratories Incorporated.

Testo Portable Emission Analyzers

Facilities with combustion sources subject to Rules 1110.2, 1146 and 1146.1 must perform diagnostic emission checks of NO_x emissions with a portable NO_x, CO and oxygen analyzer. Staff uses portable emission analyzers to determine compliance with emissions of NO_x and CO from combustion sources as required in these rules. Newer analyzers are needed to augment the existing ones, which are not as user friendly and have very limited concurrent testing abilities. The newer units are easier to use and can test up to six gases simultaneously. Staff will also use these units to conduct training and provide certification for operators of combustion equipment subject to these rules. Staff is proposing the purchase of two (2) Testo portable emission analyzers at a cost not to exceed \$12,000.

Pure Air Generators

Pure air generators are necessary to deliver contaminant-free air required for the operation of air monitoring equipment. On December 5, 2014, the Board released RFQ #Q2015-13 to solicit bids for pure air generators from qualified vendors and Teledyne was selected. SCAQMD's Procurement Policy and Procedure allows for awards based on prior bid, last price, if the conditions of the previous purchase are similar. The vendor has agreed to honor the same price for additional pure air generators. The cost for six (6) pure air generators from Teledyne is not to exceed \$45,000.

Outreach

In accordance with SCAQMD's Procurement Policy and Procedure, a public notice advertising the RFQs and inviting bids will be published in the Los Angeles Times, the Orange County Register, the San Bernardino Sun, and Riverside County's Press Enterprise newspapers to leverage the most cost-effective method of outreach to the South Coast Basin.

Additionally, potential bidders may be notified utilizing SCAQMD's own electronic listing of certified minority vendors. Notice of the RFQs will be emailed to the Black and Latino Legislative Caucuses and various minority chambers of commerce and business associations, and placed on the Internet at SCAQMD's website (<http://www.aqmd.gov>) where it can be viewed by making the selection "Grants & Bids."

Sole Source Justification

Section VIII.B.2 of the Procurement Policy and Procedure identifies four major provisions under which a sole source award may be justified. The request for sole source purchases through Arizona Instruments LLC, Mesa Laboratories Incorporated Testo, Inc. and Teledyne are made under Section VIII.B.2(1): The unique experience and capabilities of the proposed contractor or contractor team. The particulate samplers are available only from Mesa Laboratories Incorporated. Section VIII.B.2.d(6) of the SCAQMD's Procurement Policy and Procedure allows for sole source purchases in

which: “Other circumstances exist which in the determination of the Executive Officer require such waiver in the best interests of the SCAQMD. Such circumstances may include but are not limited to: Projects requiring compatibility with existing specialized equipment.” The purchase of the Jerome H2S Analyzer, portable emissions analyzers and TSP samplers are proposed under this section because Atmospheric Measurements already has these instruments in use.

Benefits to SCAQMD

The purchase of new laboratory and field equipment will provide for greater capability, capacity, efficiency and accuracy of data collection and reduced costs over time.

Resource Impacts

Up to \$835,400 will be transferred from the special revenue funds indicated in Tables 1 and 2 and appropriated to the Science & Technology Advancement FY 2015-16 Budget. These funds are adequate to cover the proposed Capital Outlay Major Object purchases listed in Tables 1 and 2. Of this \$835,400, total purchases through the RFQ process shall not exceed \$732,000 and total sole source purchases shall not exceed \$103,400. Additionally, up to \$148,200 will be transferred from the Air Toxics Fund (15) and appropriated to the Science & Technology Advancement FY 2015-16 Budget, Services and Supplies Major Object, as follows: Lab Supplies (\$75,000), Equipment Maintenance (\$65,000), and Rents & Leases Equipment (\$8,200).

Table 1
Proposed Purchases through RFQ Process

Description	Qty	Funding Source	Estimated Cost
Ozone Transfer Standard	1	Fund 35 (AES)	\$9,000
Gas Chromatograph/Mass Spectrometer (GC/MS)	2	Fund 44 (Rule 1173 Mitigation)	\$320,000
Analytical Balances	4	Fund 46 (BP ARCO)	\$27,000
Liquid Autosampler for a GC/MS/FID	1	Fund 44 (Rule 1173 Mitigation)	\$15,000
Thermogravimetric Analyzer	1	Fund 36 (Rule 1309.1 Priority Reserve)	\$85,000
Portable GC/MS with Laptop PC and Software	2	Fund 44 (Rule 1173 Mitigation)	\$270,000
NIST Library for Mass Spectral Data	1	Fund 44 (Rule 1173 Mitigation)	\$6,000
Total Proposed Purchases through RFQ Process			Not to Exceed \$732,000

Table 2
Proposed Purchases through Sole Source Purchase Orders

Description	Qty	Funding Source	Estimated Cost
Jerome H2S Analyzer	1	Fund 54 (Rule 1118 Mitigation)	\$17,000
BGI Particulate Samplers	4	Fund 36 (Rule 1309.1 Priority Reserve)	\$29,400
Testo Portable Emission Analyzers	2	Fund 44 (Rule 1173 Mitigation)	\$12,000
Pure Air Generators	6	Fund 35 (AES)	\$45,000
Total Proposed Purchases through Sole Source Purchase Orders			Not to Exceed \$103,400