Attachment – A: Vendor Profile

1. **Identify the Company Name, address, city, state, and zip code, telephone.**

   South Coast Air Quality Management District (South Coast AQMD)
   21865 Copley Drive, Diamond Bar, CA 91765
   (909) 396-2000

2. **Identify the name, title, address, phone number, and email address of the primary contact person for this RFI.**

   Jason Low, Deputy Executive Officer, Monitoring and Analysis Division
   21865 Copley Drive, Diamond Bar, CA 91765
   jlow@aqmd.gov
   (909) 396-2269

3. **Provide a brief overview of your company including number of years in business, number of employees, nature of business, and description of clients.**

   The South Coast AQMD was formed in 1976 and is the regulatory agency responsible for improving air quality in all of Orange County and the urban portions of Los Angeles, Riverside and San Bernardino counties, as well as the Coachella Valley. South Coast AQMD is responsible for controlling emissions primarily from stationary sources of air pollution. South Coast AQMD develops and adopts an Air Quality Management Plan (AQMP), which serves as the blueprint to bring the region served by the agency into compliance with federal and state clean air standards. South Coast AQMD employs more than 800 people.

4. **Identify any parent corporation and/or subsidiaries, if applicable.**

   N/A

5. **Give a brief description of your company's product(s), platform(s), service(s), etc. that may be relevant to this RFI.**

   South Coast AQMD currently operates a fleet of five mobile monitoring platforms to measure a wide range of criteria and air toxic pollutants. These include:

   - A Diesel PM Mobile Platform for continuous measurements of PM, particle number, black carbon, NO2, CO2, CH4, H2S and wind data (e.g., truck traffic and railyards surveys)
   - A Multi-Metal Mobile Platform for continuous measurements of metals and wind data (e.g., metal-processing facilities and auto body shops surveys)
   - An Optical Remote Sensing Platform for continuous measurements of BTEX, Total Alkanes, SO2, HCHO, CH4 (e.g., refineries and oil wells surveys)
   - A PTR-MS Mobile Platform for continuous measurements of VOCs (e.g., rendering, waste facilities and auto body shops surveys)
   - A Sensor Testing Platform with "reference" instruments for mobile testing of air quality sensors

6. **List and briefly describe the projects and/or activities your company was engaged within the last ten (10) years that are similar to the project identified in the RFI.**

   Below are a few relevant examples of mobile monitoring activities and projects that South Coast AQMD has been leading during the past ten years:

   - In 2015, South Coast AQMD worked with FluxSense, Inc. (contractor) to demonstrate the capabilities of their optical remote sensing (ORS) mobile monitoring platform for estimating fugitive emission of VOCs (including benzene) from refineries, oil wells, gas stations, and other small sources, and the Los Angeles Port in the South Coast Air Basin

(https://www.aqmd.gov/ors-study). In 2019, the South Coast AQMD purchased a similar ORS Mobile Laboratory (ORS-ML) from FluxSense and since then it has been conducting mobile measurements of VOCs and air toxics in AB 617 communities (Wilmington, Carson, West Long Beach; and South Los Angeles)

- In 2015 – 2017, South Coast AQMD conducted routine mobile monitoring of methane in the Porter Rach community and SoCalGas Aliso Canyon natural gas storage facility using a Licor Li700 optical methane analyzer and a Global Positioning System mounted on a hybrid vehicle (https://www.aqmd.gov/home/news-events/community-investigations/aliso-canyon-update/air-sampling/mobile-methane-measurement-surveys). These mobile surveys were instrumental in characterizing methane concentration levels and concentration gradients within the community during and after the Aliso Canyon methane leak event
- South Coast AQMD staff developed a Diesel PM Mobile Platform for hyperlocal, near-source monitoring of air pollutants. This platform, which is capable of measuring particle mass and number concentration, black carbon, NO2, CO2, CH4, H2S and wind data, has been primarily used in AB 617 communities (e.g., East Los Angeles, Boyle Heights, and West Commerce, Wilmington, Carson, and West Long Beach, and San Bernardino and Muscoy) of the South Coast Air Basin to characterize emissions from vehicular traffic, railyards, a bus yard, and cement batch plants
- South Coast AQMD staff designed and developed a multi-metals mobile platform for hyperlocal, near-source monitoring of particulate metals. This platform is capable of measuring particulate elements/metals, particle mass and number concentration, black carbon, NO2, and wind data. This platform has been primarily used in AB 617 communities (e.g., East Los Angeles, Boyle Heights, and West Commerce, Southeast Los Angeles, and South Los Angeles) of the South Coast Air Basin to characterize particulate metal emissions from metal processing facilities and auto body shops, as well as other sources of emissions such as exhaust and non-exhaust vehicular emissions.
- South Coast AQMD worked with Aerodyne Research, Inc. to develop a mobile platform having a Proton Transfer Reaction – Mass Spectrometry (PTR-MS) to be used for hyperlocal, very sensitive measurements of hundreds of VOCs in AB 617 communities. This platform has been used to characterize VOCs at different facility types the communities identified as being of concern, such as rendering plants, auto body shops, and waste transfer stations. This platform has also been used to characterize the distribution of ethylene oxide concentrations near sterilization facilities, three of the largest are located in or near the AB 617 communities.
- South Coast AQMD Air Quality Sensor Performance Evaluation Center (AQ-SPEC) developed a mobile platform for the purposes of testing low-cost air quality sensor performance when deployed in non-stationary applications. This mobile platform is outfitted with reference monitors that measure PM1, PM2.5, PM10, ultrafine particle counts, O3, NO2, CO, and CO2. Reference monitors sample from a double-shrouded particle probe or from a gas probe mast elevated above the vehicle roofline. Low-cost air quality sensors are tested in various deployment scenarios, including in-cabin use and rooftop installation with various degrees of shelter. AQ-SPEC's mobile testing protocol can be found at: https://www.aqmd.gov/docs/default-source/aq-spec/protocols/aq-spec-mobile-sensor-evaluation-protocol.pdf?sfvrsn=6)

  For more information on South Coast AQMD's AQ-SPEC program please visit: https://www.aqmd.gov/aq-spec

7. **Are there any of the requirements described in the Proposed Environment section not technologically feasible with your existing service(s), product(s), platform(s)?**

No.

Attachment – B: Vendor Questions

I. General Questions

1. **What scale of operation would be required to bid on a future RFP of the concept described here? Are there any minimum requirements necessary at which below you would not be interested in bidding on a proposal of this nature?**

   South Coast AQMD has been conducting mobile monitoring activities in six AB 617 and multiple environmental justice communities of the South Coast Air Basin. The use and application of mobile monitoring platforms is projected to increase in the near-future and South Coast AQMD would be interested in bidding on RFPs that would fully support one or more aspects of mobile monitoring including instrument replacement, development/purchase of additional mobile platforms, evaluation of air quality sensors and research-grade monitors for non-stationary applications, and addition of new staff (or reimbursement for work performed by existing staff).

2. **What types of monitoring objectives have you explored using your company's mobile monitoring approaches?**

   South Coast AQMD's mobile monitoring platforms have been used to satisfy multiple mobile monitoring objectives including community monitoring surveys, air pollution hotspot identification, source identification and characterization, emission estimations, other.

3. **What are the advantages and limitations of your company's mobile monitoring services?**

   Main advantages: ability to measure a wide array of criteria and air toxic pollutants over a large area. All mobile platforms can be deployed on a short notice to satisfy very specific air monitoring needs.
   Main limitations: all mobile platforms are outfitted with very sophisticated equipment and advanced instrumentation that require highly skilled staff to operate. Data validation, analysis and interpretation can be time consuming. Also, mobile monitoring currently is not a replacement for monitoring purposes that require ongoing air measurements at one location or to meet regulatory criteria pollutant requirements.

II. Engagement and Coordination

1. **Describe your interpretation of what community engagement should look like throughout the process of conducting mobile air monitoring in communities.**

   Community engagement and involvement are of primary importance when planning to conduct mobile monitoring activities in environmental justice areas, as community members have detailed knowledge of the specific issues impacting their communities. Most of mobile monitoring surveys are conducted through the community-driven AB 617 program with a direct input from the Community Steering Committee (CSC) for each of the communities.

2. **What experience do you have with community and public engagement? Is any of this experience directly related to air monitoring activity and data dissemination?**

   Through its AB 617 program, South Coast AQMD has been working very closely with the CSC and community members in six different environmental justice communities to identify their air quality priorities and develop Community Air Monitoring Plans (CAMPs) and Community Emission Reduction Plans (CERPs) to address these specific air quality concerns. Input from community members has been gathered prior to selecting the appropriate mobile monitoring platform(s) that would allow to address relevant air quality priorities, defining priority areas for mobile monitoring, and assessing how monitoring data can be used to support the CERPs and achieve emission and/or exposure reduction. Mobile monitoring has been an important part of

characterizing air quality in these communities and fully implements their respective CAMPs/CERPs. For additional information on Community Air Monitoring in AB 617 communities of the South Coast Air Basin please visit: https://www.aqmd.gov/nav/about/initiatives/environmental-justice/ab617-134/ab-617-community-air-monitoring

3. **What is your experience coordinating with community members, CBOs, regulated industry, academia, and governmental agencies when planning monitoring objectives and data analysis and communication.**

   South Coast AQMD has extensive experience in coordinating with community members, CBOs, related industry, academia, and governmental agencies when planning monitoring and the subsequent data analysis, interpretation, and communication. South Coast AQMD is available to discuss specific examples and shared lessons learned.

4. **Please provide the number and size ($) of technical projects previously managed for coordination and communication with both community and technical contractors.**

   Please contact South Coast AQMD to discuss.

5. **How would you apply your engagement and coordination model on a statewide scale?**

   AB 617 is a community-driven statewide program that include participation from other California air quality agencies, other public agencies, and communities. The mobile monitoring model described earlier would apply to other environmental justice communities in California and has already served a current best practice in the nation.

III. Mobile Monitoring Technologies and Capabilities

1. **How many mobile monitoring platforms do you currently own and operate? How long have these platforms been in operation? a. What areas/sources/locations do you have experience conducting mobile monitoring? b. Has collected data been used to support community emission reduction, enforcement, or other actions? Please provide examples.**

   A detailed description of the five (5) mobile monitoring platforms currently used and operated by the South Coast AQMD has been provided earlier. Below is additional information on each of these vehicles:

   - Diesel PM Mobile Platform
     - Operated since 2015
   - Multi-Metal Mobile Platform
     - Operated since 2021
   - Optical Remote Sensing Platform
     - Operated since 2019. Note: this platform has been used extensively to identify potential leaks from oil and gas wells in the Wilmington, Carson, West Long Beach, and South Los Angeles areas. When appropriate, South Coast AQMD's Compliance and Enforcement Division conducted inspection at oil well facilities that were suspected to be responsible for the measured emissions. This, at times, led to enforcement action. This process would normally take days or weeks depending on the source(s) being monitored
   - PTR-MS Mobile Platform
     - Operated since 2022
   - Sensor Testing Platform
     - Operated since 2022

2. **Please provide operational information on your company's current mobile monitoring capabilities. This should answer the following questions:**

a. What frequency can platforms be deployed?
Frequency of deployment depends on the specific requirements of a monitoring project, staff and resource availability and other factors. However, all mobile platforms can be deployed on a short notice to satisfy very specific air monitoring needs.

b. What days/hours are the platforms generally in use?
Mainly during daytime.

c. What pollutants can be monitored and with what frequency?
Addressed earlier.

d. What types of instrumentation do you use? Describe all relevant methodologies.
Addressed earlier. Please contact South Coast AQMD for additional information.

e. What level of coverage or scale of monitoring can be accomplished within a community? (For example, how would you approach characterizing emissions from a source or identifying a leak? How long would that take?)

Addressed earlier.

f. How do you determine that you've adequately characterized a given area?

This would vary based on the specific purpose(s) of mobile monitoring. For example, for multiple small sources (e.g., oil wells) adequate coverage/characterization would be established based on the number of wells to be monitored in the area(s) of interest and proximity to a residential area. In order to quantify concentration levels a significantly higher number of surveys through the same route is needed to gather a statistically significant number of data points. South Coast AQMD staff has developed internal guidelines to determine adequate characterization for a given source/area, based on monitoring objective(s). Please contact South Coast AQMD for additional information.

g. What workflow processes or software do you have for managing mobile monitoring?

Custom software provided by the manufacturer of the instrumentation installed on the mobile platform(s) or software tools developed in house. Please contact South Coast AQMD for additional information.

3. **Describe your usual approach or strategy to mobile monitoring. Include, if possible:**
   a. Drive plan and operational logistics
   b. Staffing
   c. Power requirements (e.g. battery powered, requires generator, etc.)
   d. Consumables
   e. Quality control procedures
   f. Performance and acceptance criteria (e.g. precision, bias, limit of detection)
   g. Data logging and storage
   h. Notifications and communication

   Please contact South Coast AQMD for information and details as it varies with project and mobile platform.

4. **Please provide an estimated cost to operate all applicable mobile monitoring platforms as a function of time (e.g. 1 week of monitoring) deployed and/or measurements taken.**
   a. These cost estimates should include all costs associated with mobile monitoring operation. This includes but is not limited to:

i. Direct costs – instrumentation consumables and repairs, vehicle operation costs, staff cost to operate platforms, recharging requirements.
ii. Indirect costs – support staff costs, associated insurance for operation, administrative overhead, any required permits.
iii. Data Management – costs to move data from raw data collected by instrumentation to the final data products requested by CARB.

b. How often are invoices and payments typically required?

Please contact South Coast AQMD for information and details.

5. **If an RFP is developed based on the information provided here, how much preparation time is required to deploy the platforms and begin monitoring?**
   a. Do you have recommendations for a minimum timeline to achieve potential monitoring objectives described here?
   b. What is the maximum number of platforms that you could deploy by early 2025?

   South Coast AQMD is using its mobile monitoring fleet to satisfy the needs of several community air monitoring projects. Staff and resource availability depend upon fulfilling current and future commitments. South Coast AQMD can deploy all five platforms by early 2025, provided that the level of funding that will result from this RFP process is appropriate.

6. **Do you have experience developing Community Air Monitoring Plans (CAMPs) as defined by the CARB Community Air Protection Program Blueprint or similar? Please provide examples of community-focused monitoring plans or similar.**

   As mentioned earlier, South Coast AQMD has extensive experience developing and implementing Community Air Monitoring Plans (CAMPs) to support Community Emission Reduction Plans (CERPs) in six AB 617 communities (i.e., East Los Angeles, Boyle Heights, and West Commerce (ELABHWC), Wilmington, Carson, and West Long Beach (WCWLB), and San Bernardino and Muscoy (SBM), Southeast Los Angeles (SELA), Eastern Coachella Valley (ECV), and South Los Angeles (SLA)). A total of six CAMPs have been developed, one for each community. These CAMPs include commitments for mobile monitoring to address different air quality priorities, including truck traffic, oil wells, refineries, metal processing facilities, auto body shops, and rendering plants. The CAMP for each of the six communities that are part of the South Coast AQMD AB 617 program can be found here: https://www.aqmd.gov/nav/about/initiatives/environmental-justice/ab617-134/ab-617-community-air-monitoring/communities

7. **Do you have existing standard operating procedures (SOPs) or quality assurance project plans (QAPPs) for your mobile monitoring approach?**

   Below is a link to the Quality Assurance Project Plan (QAPP) document South Coast AQMD developed for its AB 617 Community Air Monitoring Program. It addresses all modes of monitoring, including mobile monitoring: https://www.aqmd.gov/docs/default-source/ab-617-ab-134/camps/qapp-for-ab-617-community-air-monitoring-program-(100620).pdf?sfvrsn=6.
   This is a live document and is being updated as more data are gathered through program implementation. Also, AQ-SPEC's mobile testing protocol can be found at: https://www.aqmd.gov/docs/default-source/aq-spec/protocols/aq-spec-mobile-sensor-evaluation-protocol.pdf?sfvrsn=6). For more information, please contact South Coast AQMD.

IV. Data Collection, Storage, Reporting

1. **In what format do you generally provide data to your clients? What is your final data product?**

   Data is typically analyzed after a mobile monitoring survey has been completed. Data and results to community members are primarily reported as progress reports, interactive dashboards, and presentation slides, all involving a combination of concentration maps and time-series of pollutants measured by different mobile platforms. Mobile monitoring survey data is generally not provided in raw format.

3. **Do you have off-the-shelf, or modifiable-off-the-shelf, data management products compatible with mobile monitoring data?**

   Some groups within the Monitoring and Analysis Division of South Coast AQMD have developed R/Python scripts to automatically perform some processing of mobile monitoring data collected by the platforms, which could be readily used for the pertinent platform. This includes scripts for data verification and validation, data analysis, and data visualization (e.g., concentration maps)

3. **What is your experience in mobile monitoring data analysis and visualization? Specifically, do you have any experience using ESRI products to manage and visualize data?**

   Most groups within the Monitoring and Analysis Division of South Coast AQMD use tools other than ArcGIS to visualize the data; R, Python, JMP, and Igor. These software packages/tools have been proven more efficient for analysis and visualizing large dataset obtained by performing mobile monitoring surveys. ArcGIS tools can be used mainly for data visualization purposes, once data verification, validation, and analysis are done.

4. **What is your experience in public dissemination of complex information? To what extent have you generated data visualization for the public?**

   South Coast AQMD staff have extensive experience with public dissemination of air monitoring data. Particularly, as part of the implementation of AB 617 program and incident response events, staff have been periodically providing updates to the community members and the public on the results of mobile monitoring surveys. Tools and interactive dashboards have also been created as part of public dissemination of the data. This includes data dashboards for dissemination of real-time air monitoring data, as well as data visualization and summary tools and interactive progress reports.

5. **What suggestions do you have for handling large amounts of data from a variety of sources (e.g. multiple mobile monitoring platforms) into cohesive data visualizations?**

   South Coast AQMD has been working with a contractor to build a cloud-based platform to consolidate all the monitoring data (including mobile data) measured across different programs under the same umbrella. This project is still ongoing. It should be noted that data visualization and reporting needs/requirements may vary on a case by case basis based on the specific mobile monitoring objectives of a particular study or project.

<u>V. Feedback</u>

1. **Provide input on the requirements or areas listed in this RFI. Specifically, CARB is looking for:**
   a. Availability of existing systems that perform all or a portion of the requirements in Section II – C. New systems cannot be built using funds in a potential RFP.

   While South Coast AQMD has five different mobile monitoring platforms, additional mobile monitoring capabilities are needed to conduct survey measurements in communities near small and large sources of air pollution. For example, South Coast AQMD has been conducting mobile monitoring surveys near oil wells in the Wilmington/Carson for almost five years. However, there are more than 500 oil wells in that area (and hundreds more in other communities in east, southeast and south Los Angeles) and surveying all these sources on a periodic basis would require the operation of multiple ORS-ML systems and additional staff resources. It should be

noted that smaller air quality agencies may not have the resources necessary to purchase or develop mobile monitoring capabilities. For these reasons, CARB should consider the possibility of dedicating part of these funds for the purchase and/or development of new mobile monitoring systems.

b. Questions, suggested modifications, or additions to the proposed environment that would allow or encourage potential bidders. Please include justifications for any suggested changes and concept modifications.

No additional questions, suggested modifications, or additions.

Attachment – C: Rough Order of Magnitude Cost Estimate

Rough Order of Magnitude

- **Estimated range of cost per month of full-time monitoring. This may be costs associated with conducting monitoring, engagement activities to support monitoring, or both. If this is not applicable, please specify a different time range or more appropriate metric to quantify your capabilities. Please describe what "full-time monitoring" looks like for you and itemize costs with as much specificity as possible.**

  The cost of operating one of South Coast AQMD's mobile platforms (inclusive of staff time, data validation and data analysis) varies between $2,500 to $6,500 per day, depending on the mobile platform used. Note that these estimates do not include costs associated with engagement activities to support monitoring. For more information, please contact South Coast AQMD.

- **Estimated range of cost to complete a full year of monitoring.**

  Annual costs depend on the number of mobile monitoring surveys conducted each week, month, etc., but can be assessed based on the cost estimate for a single day of measurements (provided above). For more information, please contact South Coast AQMD.

Answers and Assumptions Used in Cost Estimate

Please answer, in as much detail as possible, the State's questions (1-4) below. Also, please provide details pertaining to the assumptions, expectations, and/or performance parameters used as the basis of the cost estimate.

THE STATE's QUESTIONS and VENDOR'S RESPONSE/ANSWERS:

1. **What is the timeline for your mobile platform(s) (that is, how many platforms do you have operational right now, and what is your timeline for launching more)? Will your platform(s) depend on additional funding to reach and sustain maximum planned capacity?**

   South Coast AQMD currently owns and operates a total of five mobile monitoring platforms. Additional mobile monitoring in AB 617 and other environmental justice communities could be conducted only if funding was available for the purchase of additional staff resources and/or equipment.

2. **Approximately how much monitoring can be accomplished in the period of a month? A year?**

   This varies depending on the source(s) and pollutant(s) being monitored and specific goals and objectives of a specific project. Please contact South Coast AQMD to discuss specific details.

3. **Are there any requirements that would preclude you from competing should an RFP be released? If yes, what suggested changes would allow you to compete?**

   While South Coast AQMD is very interested in applying for the RFP that will result from this RFI process, the time/resources needed for additional mobile monitoring activities will have to be assessed based on existing air monitoring commitments in existing AB 617 and other environmental justice communities. CARB should consider dedicating part of this funding to

allow for the applicants to develop or purchase additional resources and/or equipment (including staff).

4. **Are any of the goods, products, or services you've identified in your RFI response available on a Federal GSA or State of CA LPA? If yes, please identify the contract type, name, and number. VENDOR'S ASSUMPTIONS: What assumptions have you made in preparing a response to this RFI?**

   To the best of our knowledge, none of the goods, products, or services identified in the RFI response are available on a Federal GSA or State of CA LPA.