CAMP Progress

Community Reported Air Quality Concerns

Air Quality Concern Prioritization

Strategies and Proposed Actions for Reported Air Quality Concerns (Part I)

Draft of Air Monitoring Plan available for public input, submit to CARB staff

Draft Air Monitoring Plan

Draft Community Emissions Reduction Plan

Areas where CSC has provided input

Revise CAMP

Begin Monitoring July 1st

Governing Board Hearing

November December January February March April May June July August September
The Major Elements in the CAMP and Appendix Documents

Community Air Monitoring Plans

- Background and CAMP Objectives
- Existing Monitoring Programs in each AB 617 Community
- Air Quality Concerns, Pollutants of Interest, Monitoring Equipment, and Monitoring Methods
- Community Air Monitoring Approach
- Data Reporting

Appendix Document

- Available Field and Laboratory Instruments
- Air Monitoring Prioritization for each Community
- Monitoring Strategy for each Air Quality Concern
Ongoing CAMP Review and Revision Process

- CAMP and monitoring strategies and targets will constantly be evaluated and adjusted, based on:
  - Input from CSC and members of the public
  - Findings of community air monitoring
  - In support of CERP and enforcement actions
# Proposed General Monitoring Approach

<table>
<thead>
<tr>
<th>Pros</th>
<th>Mobile Monitoring</th>
<th>Fixed Monitoring</th>
<th>Sensor Networks</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Survey large areas in relatively short period of time</td>
<td>• More comprehensive source emission characterization</td>
<td>• Community education and engagement</td>
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<tr>
<td>• Source emission identification and characterization</td>
<td>• Community exposure assessment</td>
<td>• Long-term measurements</td>
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<tr>
<td>• Community exposure assessment</td>
<td>• Can support real-time data reporting</td>
<td>• Higher spatial coverage</td>
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<tr>
<td>• Identification of “hotspots” and unknown sources of emissions</td>
<td>• Support for more comprehensive list of air pollutants</td>
<td>• Community exposure assessment</td>
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<td></td>
<td>• Data quality</td>
<td>• Relatively low-cost</td>
<td></td>
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<td></td>
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<td>• Real-time data reporting</td>
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<tr>
<td>Cons</td>
<td>Mobile Monitoring</td>
<td>Fixed Monitoring</td>
<td>Sensor Networks</td>
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<tr>
<td>• Captures a “snapshot”</td>
<td>• Siting</td>
<td>• Data quality</td>
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<tr>
<td>• Mostly during the daytime</td>
<td>• Air quality information at a specific location</td>
<td>• Limited number of air pollutants</td>
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<td>• Data reporting is not in real-time</td>
<td>• Costs</td>
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| South Coast AQMD |
New Monitoring Technologies to be Used for AB 617 Community Air Monitoring

<table>
<thead>
<tr>
<th>Platform</th>
<th>Technology</th>
<th>Pollutants</th>
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</thead>
<tbody>
<tr>
<td>FluxSense Van</td>
<td>Optical Remote Sensing (ORS) technology</td>
<td>Alkanes, HCHO, NO$_2$, SO$_2$, methane, ammonia, BTEX, styrene, etc.</td>
</tr>
<tr>
<td>South Coast AQMD Mobile Platform</td>
<td>Fast response regulatory grade, research grade, and consumer-grade</td>
<td>PM mass and number, CO, NO$_2$, O$_3$, black carbon</td>
</tr>
<tr>
<td>South Coast AQMD Trailer</td>
<td>Regulatory grade, research grade, and consumer-grade monitors</td>
<td>Most comprehensive list of pollutants</td>
</tr>
<tr>
<td>South Coast AQMD VOC Mobile Platform</td>
<td>Highly sensitive research grade monitors (PTR-MS)</td>
<td>Hundreds of VOCs, including air toxics and odorous compounds</td>
</tr>
</tbody>
</table>
New Monitoring Methods to be Used for AB 617 Community Air Monitoring by 3rd Party Contractors

Aerospace Research
- ORS technologies
- Gaseous air pollutants and air toxics

Aclima Mobile Platform
- Fast response regulatory grade and low-cost sensors
- PM mass and number, CO, black carbon, VOCs

Aerodyne Research Mobile Platforms
- Highly sensitive research grade monitors (PTR-MS)
- Hundreds of VOCs, including air toxics and odorous compounds
Community Air Monitoring Examples
All Communities

Flight-Based Air Toxics Measurements
Aerospace Corporation

- **July 10th and 11th**
- Survey large areas
  - All three communities
- Historical data
- Detect plumes and emissions
- Identify hotspots and unknown sources
- Focus ground-based efforts
Community Air Monitoring Examples
All Communities

Mobile Measurements for Diesel PM Precursors
South Coast AQMD & Aclima

- Diesel emissions are one of the major concerns at all AB 617 communities and in the South Coast Basin
- Mobile monitoring will include measurement of criteria pollutants and air toxics, with a focus on diesel PM and its precursors
- Monitoring purpose:
  - Identify “hotspots”
  - Assess the impact of idling truck emissions on community exposure
  - Near-road measurements (e.g. freeways and busy roadways, transportation corridors)
  - To support development of emission and exposure reduction strategies
- South Coast AQMD to provide support to CARB for their Automated License Plate Reader and PEAQS programs
Community Air Monitoring Examples
WCWLB Community

Concentration Mapping in Communities
FluxSense Inc.

Solar Occultation Flux (SOF) measurements of alkanes. Blue areas correspond to Oil wells, Cisterns and Derricks and purple areas to treatment plants and tank farms.

- Mobile monitoring:
  - Begins on July 1st through July 20th
  - Suite of optical instrumentation on a mobile platform
    - To measure multiple air toxics
  - Ideal tool for assessing the impact of large emission sources (e.g. refineries) and large area sources (e.g. tank farms)

- Fixed monitoring:
  - Diesel PM precursors
  - Air toxics
Community Air Monitoring Examples
SBM Community

Mobile and fixed monitoring at or near Alessandro Elementary School

- CSC identified Omnitrans as a source of pungent natural gas odors
- Odors could be a combination of methane (CH$_4$) and hydrogen sulfide (H$_2$S) and mercaptan that is added to natural gas to make it easier to detect

- Monitoring (early July):
  - Fixed monitor:
    - Picarro CH$_4$ and H$_2$S Analyzer
    - Sensors for particulate matter
  - Mobile monitoring:
    - Surveys with a focus on VOCs and diesel PM precursors
    - Highly sensitive VOC analyzer

Wind rose obtained from data collected at the South Coast AQMD San Bernardino air monitoring station in 2018
Community Air Monitoring Examples
ELABHWC Community

Mobile monitoring for odors and air toxics
Aerodyne Research

Location of the Concerns Related to odors

- Measurements to begin before July 1st
- CSC identified several source of odors as some of the main air quality concerns in this community:
  - Waste facilities and rendering plants
  - Odors are difficult to measure even with modern air monitoring techniques and the human nose is often more sensitive
- New measurement capabilities:
  - Highly sensitive Proton Transfer Reaction – Mass Spectrometer (PTR-MS): measurement of hundreds of VOCs in parts-per-trillion levels
  - Continuous metals measurements: tbd
- Measurement purpose:
  - Monitoring of air toxics, PM and VOCs
  - Identifying hotspots and pinpointing emission sources
  - Community impact assessment