# Air Resources Board

**Mary D. Nichols, Chairman**
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**Matthew Rodriquez**
*Secretary for*
*Environmental Protection*

**Edmund G. Brown Jr.**
*Governor*


March 3, 2014

MAILED
3/6/14 CK

Mr. William Chevalier
Monterey Bay Unified Air Pollution Control District
24580 Silver Cloud Court
Monterey, CA 93940

Dear Mr. Chevalier:

The purpose of this letter is to formalize the roles and responsibilities of both the California Air Resources Board (ARB) and local monitoring organizations (MO) that are under the auspices of ARB Primary Quality Assurance Organization (PQAO) to ensure compliance with State and federal air monitoring requirements.

As defined in the U.S. Environmental Protection Agency's (U.S. EPA) Title 40 Code of Federal Regulations (40 CFR) Part 58, a PQAO is a monitoring organization or a coordinated aggregation of such organizations that is responsible for a set of stations that monitors the same pollutant(s) and for which data quality assessments can logically be pooled. Each criteria pollutant sampler/monitor at a monitoring station in the State and Local Air Monitoring Stations network must be associated with one, and only one, PQAO.

ARB is the governmental agency delegated under federal law with the authority and responsibility for collecting ambient air quality data as directed by the Clean Air Act. The ambient air monitoring network in California is operated by a combination of ARB and local MOs. It is critical that ARB and local MOs work together, through formalized roles and responsibilities, to collect consistent and reliable ambient air quality data.

Under ARB's PQAO, ARB and MOs should strive to collaboratively address the following common factors to the extent practical:

a) Operation by a common team of field operators according to a common set of procedures;

b) Use of a common Quality Assurance Project Plan and Standard Operating Procedures for State and federally mandated air monitoring projects;

c) Common calibration facilities and standards;

d) Oversight by a common quality assurance organization; and

e) Support by a common management, laboratory, or headquarters.

In order to address these common factors, ARB has worked collaboratively with the Monterey Bay Unified Air Pollution Control District and U.S. EPA to define each agency's roles and responsibilities with regard to the operation of the State's ambient air monitoring network (see attached). The goal of the roles and responsibilities document is to ensure the generation of high quality, legally defensible data in a collaborative manner.

ARB appreciates the collaborative efforts of the District to define the roles and responsibilities and looks forward to working with them to ensure their effective implementation.

Please contact Mr. Patrick Rainey at (916) 327-4756 or prainey@arb.ca.gov or myself at (916) 322-0960 or mmiguel@arb.ca.gov, if you have any questions.

Sincerely,

Michael Miguel, Chief
Quality Management Branch
Monitoring and Laboratory Division

Attachment

cc. see next page

cc. Richard Stedman, Air Pollution Control Officer
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Dr. Michael T. Benjamin, Chief
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Patrick Rainey
Monitoring and Laboratory Division

Attachment

# PRIMARY QUALITY ASSURANCE ORGANIZATION ROLES AND RESPONSIBILITIES FOR THE CALIFORNIA AIR RESOURCES BOARD AND MONTEREY BAY UNIFIED AIR POLLUTION CONTROL DISTRICT

Five common factors have been identified by the U.S. Environmental Protection Agency (U.S. EPA) that should be considered in defining a Primary Quality Assurance Organization (PQAO). Under the Air Resources Board (ARB) PQAO, ARB and Monitoring Organizations (MO) will strive to collaboratively address the following common factors to the extent practical. ARB has defined the roles and responsibilities of ARB and MOs within ARB's PQAO in regard to operation of the PQAO ambient air monitoring network in order to ensure the generation of high quality, legally defensible data.

1. Operation by a common team of field operators according to a common set of procedures

ARB recognizes the unique air monitoring challenges that face California and that field operations by a common team may not be feasible. ARB and MOs acknowledge the need to strive for uniformity of procedures, thus both parties agree to work together toward employing consistent and reliable field operations.

ARB Responsibilities:

a) Maintain and disseminate a Quality Management Plan (QMP). ARB will regularly request input from MOs within ARB's PQAO and agrees to review and update the QMP as needed. ARB will communicate updates to MOs accordingly;
b) Review and approve alternative QMPs prepared by MOs seeking ARB and U.S. EPA approval;
c) Maintain a PQAO contact list and working webpage to disseminate information;
d) Serve as a liaison between MOs within ARB's PQAO;
e) Provide adequate training on key air monitoring fundamentals related to operations, maintenance, quality assurance/quality control, and data management procedures;
f) Facilitate Ambient Monitoring Technical Advisory Committee (AMTAC) meetings and information updates. Topics may include field, laboratory, quality assurance, and data management related items; and
g) Participate in California Air Pollution Control Officers Association Monitoring Committee meetings and other informational forums.

Monterey Bay Unified Air Pollution Control District (APCD) Responsibilities:

a) Utilize and follow ARB's QMP. Any deviations from ARB's QMP will be specified in an addendum and submitted to ARB for review and approval;
b) Provide a supervisory level PQAO Point-of-Contact to ARB (or designee – if non-supervisory level). The PQAO contact will be added to a list serve to allow for effective and timely dissemination of information;

c) Participate in ARB and U.S. EPA sponsored ambient air monitoring training;
d) Participate in AMTAC meetings and review information updates; and
e) Participate in CAPCOA Monitoring Committee meetings and other informational forums.

2. Use of a common Quality Assurance Project Plan (QAPP) and Standard Operating Procedures (SOP) for state and federally mandated air monitoring projects

ARB Responsibilities:

a) Maintain and disseminate an ARB and/or U.S. EPA QAPP for state and federally mandated air monitoring projects or programs;
b) Maintain and disseminate SOPs for air monitoring and analysis. These SOPs may also include forms (i.e., check sheets, calibration forms, maintenance forms, etc.);
c) Provide notification of updates/revisions, as they occur, to ARB's QAPPs and SOPs via the PQAO point-of-contact list; and
d) Review and approve alternative QAPPs and SOPs prepared by MOs.

Monterey Bay Unified APCD Responsibilities:

a) Utilize and follow an ARB and U.S. EPA approved MO QAPP for the particulate matter (PM2.5) monitoring program. The MO will review and update its QAPP as needed and provide the updated QAPP to ARB for approval. The MO may adopt ARB's QAPP for PM2.5 at a later date;
b) Utilize and follow ARB's QAPPs for the nitrogen dioxide (NO2), carbon monoxide (CO), ozone (O3), particulate matter (PM10), and meteorological monitoring programs. Any deviations from ARB's QAPPs will be specified in an addendum and submitted to ARB for review and approval;
c) Utilize and follow ARB approved MO SOPs for CO and O3 monitoring. The MO will review and update its SOPs as needed and provide the updated SOPs to ARB for approval;
d) Utilize and follow ARB's SOPs for NO2, meteorological, continuous PM10, and filter-based and continuous PM2.5 monitoring. Any deviations from ARB's SOPs will be specified in an addendum and submitted to ARB for review and approval. MO may develop SOPs for NO2, meteorological, and PM2.5 monitoring in the future;
e) MO may develop SOPs for analysis of CO and NO utilizing Thermo i-series instrumentation in the future. If so, MO will work closely with U.S. EPA and ARB to develop and approve the documents;
f) District management will review District practices on an established schedule to ensure compliance with applicable QAPPs and SOPs; and

g) Make available to ARB a record of quality assurance related documents (QMP, QAPP, SOP, training plan, etc.) being utilized by the MO's ambient air monitoring network.

If Monterey Bay Unified APCD conducts a special purpose monitoring (SPM) program funded by U.S. EPA, the MO will seek quality assurance assistance from U.S. EPA or ARB's Quality Management Branch. Such monitoring is required to be covered by quality assurance documents prior to sample collection.

3. Common calibration facilities and standards

MOs within ARB's PQAO are encouraged to utilize the services provided by ARB's Standards Laboratory for certifications, calibrations, and verifications. Organizations choosing to utilize external calibration facilities or vendor produced standard materials, will provide documentation of traceability upon request by ARB or U.S. EPA.

ARB Responsibilities:

a) Provide timely certification, calibration, and verification services that meet or exceed Title 40, Code of Federal Regulations (CFR), Part 58 requirements via ARB's Standards Laboratory upon request.

Monterey Bay Unified APCD Responsibilities:

a) Utilize ARB certification, calibration, and verification services for O3 transfer standards, barometric pressure sensors, compressed gas cylinders, and both high and low-volume flow standards;
b) Utilize National Institute of Standards and Technology traceable standards for certification, calibration, and verification of temperature sensor standards, and maintain a record of traceability;
c) Provide the names of facilities being used for certification, calibration, and verification services and a record of traceability to NIST; and
d) Maintain a schedule and record of certification dates that will be available to ARB or U.S. EPA upon request.

Additionally, ARB may provide equipment acceptance testing, repair, and field calibration services to Monterey Bay Unified APCD upon prior or mutual agreement, which may depend upon budget feasibility and staff availability.

4. Oversight by a common quality assurance organization

ARB Responsibilities:

a) Identify pollutants that are included in ARB's PQAO;
b) Conduct Performance Evaluation (PE) audits of MO monitoring sites as required in 40 CFR Part 58, Appendix A, including Section 3.2.2 (annual PE audits for SO2, NO2, O3, and CO), and Section 3.2.4 (semiannual flow rate audit for Particulate Matter (PM10 and PM2.5 samplers), as well as, meteorological audits, and lead sampler audits;
c) Conduct annual siting evaluations at each air monitoring station to determine compliance with 40 CFR Part 58, Appendix E, and consistency with current Air Quality System (AQS) parameters;
d) If an instrument or analyzer is found to be outside acceptable limits, ARB will initiate Air Quality Data Action (AQDA) requests. The AQDA will request the MO to correct the identified deficiencies and ensure associated ambient air data are verified to be good quality data. To ensure compliance, ARB will conduct a re-audit to verify the corrective action once the problem has been resolved and will review data in AQS to ensure any recommended data action has been taken (i.e., flagging, invalidation, etc.);
e) Conduct technical systems audits (TSA) of all MOs within ARB's PQAO on an estimated schedule of every 3-5 years;
f) Maintain a database, Corrective Action Notification (CAN), to be used by ARB and monitoring agencies to report operational problems, instrument malfunctions, and/or any items needing corrective action or investigation. ARB will follow-up to verify that appropriate action has been taken to close the CAN and will perform an annual review of the CAN database for systematic issues;
g) Provide procedures and criteria for data acceptability and corrective action determination;
h) Provide procedures and criteria for data validation and verification to be performed prior to upload to AQS;
i) Provide training on data verification and validation procedures during the PQAO air monitoring training; and
j) Perform an annual evaluation of the statistical summaries of quality assurance and quality control data from all MOs in ARB's PQAO, and distribute results.

Monterey Bay Unified APCD Responsibilities:

a) Review and verify pollutants on an annual basis that are included in ARB's PQAO;
b) Participate in annual gaseous (NO2, CO, and O3) and meteorological, and semi-annual particulate (PM10 and PM2.5) PE audits;

c) Participate in U.S. EPA required technical system audits conducted either by ARB or U.S. EPA;
d) Utilize and follow MO procedures to validate NO2, CO, O3, meteorological, continuous PM10, and filter-based and continuous PM2.5 data quality against ARB or U.S. EPA established acceptance criteria prior to submittal to AQS;
e) Upload validated O3, CO, NO2, meteorological, continuous PM10, and filter-based and continuous PM2.5 data to AQS within 90 days following the end of each quarter;
f) Participate in data verification and validation training provided by ARB and/or U.S. EPA;
g) Review data in AQS on a quarterly basis to verify accuracy and completeness (AMP 255 and 430 reports);
h) Review data in AQS (AMP 600 and 450 NC reports) on an annual basis to verify accuracy and completeness of data for certification purposes. Provide a letter to U.S. EPA certifying the data quality in AQS by May 1 of each year;
i) Upload air quality data to AQS in accordance with U.S. EPA requirements;
j) Utilize ARB's CAN process to notify ARB of instrument malfunctions, operational problems, any items needing corrective action or investigation, and/or impending data actions in U.S. EPA's AQS within 45 days of determination of issue. MO management will use appropriate discretion to determine issues deemed to be anomalous versus routine occurrences and report appropriately;
k) Resolve AQDAs and TSA findings, or develop corrective action plan as appropriate, within 45 days of issuance; and
l) Utilize ARB's CAN process to communicate to ARB when MO data in AQS has been altered or modified.

Data collected from SPM sites using federal reference methods, federal equivalent methods, or approved regional methods should be evaluated against the requirements in 40 CFR Part 58.11, Part 58.12, and Appendix A; and submitted to AQS according to 40 CFR Part 58.16, as applicable.

5. <u>Support by a common management, laboratory or headquarters</u>

Operating California's complex ambient air monitoring network requires ARB to work collaboratively with each MO. In order to accurately assess the MO's monitoring network, both parties will document and evaluate potential or scheduled modifications to the air monitoring network.

ARB Responsibilities:

a) Participate in annual meeting/teleconference during the network review period to discuss ARB PQAO monitoring network status; and

b) Provide laboratory analytical support as required (i.e., PM2.5 and PM10 mass analysis, toxics analysis, speciation, etc.) upon prior or mutual agreement.

Monterey Bay Unified APCD Responsibilities:

a) Coordinate all site changes (i.e., openings, closures, relocations), not mentioned in the annual network plan to U.S. EPA and ARB. Notify ARB of anticipated changes before they occur and obtain approval of the change before executing it, barring exceptional circumstances;
b) Participate in ARB's PQAO monitoring network status meetings/teleconferences; and
c) Submit an annual network plan by the required timeframe. Update the state-wide monitoring network database prior to completion of each year's annual network plan.

Monterey Bay Unified APCD will continue to submit plans directly to U.S. EPA with a copy provided to ARB's Air Quality Planning and Science Division to utilize during the statewide network assessment.

If circumstances should arise that prevent either ARB and/or Monterey Bay Unified APCD from meeting the above mentioned responsibilities, the agencies will work collaboratively to ensure that the common goal of generating legally and scientifically defensible data throughout ARB's PQAO monitoring network is met. As needed, the agencies will work with U.S. EPA Region 9 to assist in meeting the PQAO requirements.