



Air Resources Board



Matthew Rodriguez
Secretary for
Environmental Protection

Mary D. Nichols, Chairman
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Sacramento, California 95812 • www.arb.ca.gov

Edmund G. Brown Jr.
Governor

January 24, 2014

Mr. Chris Collins
Mojave Desert Air Quality Management District
14306 Park Avenue
Victorville, CA 92392

Dear Mr. Collins:

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's 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;

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our website: <http://www.arb.ca.gov>.

California Environmental Protection Agency

Mr. Chris Collins
January 24, 2014
Page 2 of 3

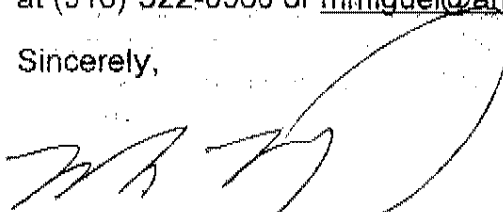
- b) Use of a common Quality Assurance Project Plan and Standard Operating Procedures for State and federally mandated air monitoring projects;
- c) Common calibration facilities and standards;
- d) Oversight by a common quality assurance organization; and
- e) Support by a common management, laboratory, or headquarters.

In order to address these common factors, ARB has worked collaboratively with Mojave Desert Air Quality Management District, Antelope Valley Air Quality Management 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.

Mr. Chris Collins
January 24, 2014
Page 3 of 3

cc: Eldon Heaston, Executive Director
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Meredith Kurpius, Ph.D.
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Dr. Michael T. Benjamin, Chief
Monitoring and Laboratory Division

Patrick Rainey
Monitoring and Laboratory Division

**PRIMARY QUALITY ASSURANCE ORGANIZATION
ROLES AND RESPONSIBILITIES FOR THE AIR RESOURCES BOARD,
MOJAVE DESERT AIR QUALITY MANAGEMENT DISTRICT, AND
ANTELOPE VALLEY AIR QUALITY MANAGEMENT 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/or 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 (CAPCOA) Monitoring Committee meetings and other informational forums.

Mojave Desert/Antelope Valley Air Quality Management District (AQMD)
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 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 PQAQO point-of-contact list; and
- d) Review and approve alternative QAPPs and SOPs prepared by MOs.

Mojave Desert/Antelope Valley AQMD Responsibilities:

- a) Utilize and follow ARB's QAPPs for sulfur dioxide (SO₂) (Mojave Desert only), nitrogen dioxide (NO₂), carbon monoxide (CO), ozone (O₃), particulate matter (PM₁₀), PM_{2.5}, and meteorological parameters. Any deviations from ARB's QAPPs will be specified in an addendum and submitted to ARB for review and approval;
- b) Utilize and follow ARB SOPs for NO₂, CO, O₃, PM₁₀, PM_{2.5}, meteorological parameters, and for PM₁₀ and PM_{2.5} mass analysis. Any deviations from ARB's SOPs will be specified in an addendum and submitted to ARB for review and approval;
- c) District management will review ARB's QAPPs and SOPs on an established schedule to ensure consistency with Mojave Desert/Antelope Valley's operating practices;
- d) Mojave Desert will develop an alternative SOP for SO₂ and submit it to ARB for review and approval by the end of March 2014; and
- e) 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 Mojave Desert/Antelope Valley conduct a special purpose monitoring program funded by U.S. EPA, MOs 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 (40 CFR), Part 58 requirements via ARB's Standards Laboratory upon request.

Mojave Desert/Antelope Valley AQMD Responsibilities:

- a) Utilize ARB certification, calibration, and verification services for O3 transfer standard, high-volume flow standards, low-volume flow standards, and temperature sensors;
- b) Utilize ARB certification, calibration, and verification services in the future for relative humidity and barometric pressure sensors;
- c) Utilize a qualified outside vendor that uses National Institute of Standards and Technology (NIST) traceable standards for certification or verification of compressed gas cylinders;
- d) Utilize a qualified outside vendor for the certification, calibration, and verification of the mass analysis laboratory balance, mass weights, and relative humidity/temperature sensors; and
- e) Maintain a schedule and record of certification dates that are available to ARB or U.S. EPA upon request.

Additionally, ARB may provide equipment acceptance testing, repair, and field calibration services to Mojave Desert/Antelope Valley 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 the ARB 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 annual mass analysis laboratory 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) pollutants;
 - 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 the ARB PQAO on a 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 verification and validation to be performed prior to upload to AQS;
 - i) Provide training on data verification and validation procedures as part of 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.

Mojave Desert/Antelope Valley AQMD Responsibilities:

- a) Review and verify pollutants on an annual basis that are included in ARB's PQAO;
- b) Participate in criteria pollutant, particulate, and meteorological PE audits for SO2 (Mojave Desert only), NO2, O3, CO, PM10, PM2.5, and meteorological parameters;
- c) Participate in laboratory PE audits for the PM2.5 and PM10 mass analysis laboratory;
- d) Participate in U.S. EPA required technical system audits conducted either by ARB or U.S. EPA;
- e) Utilize and follow ARB procedures to validate SO2 (Mojave Desert only), NO2, O3, CO, PM10, PM2.5, and meteorological data quality against ARB or U.S. EPA established acceptance criteria prior to submittal to AQS within 90 days of end of the quarter. Any deviations from ARB's procedures will be specified in an addendum and submitted to ARB for review and approval;

- f) Upload validated data for SO₂ (Mojave Desert only), NO₂, O₃, PM₁₀, PM_{2.5}, and meteorological parameters to AQS in accordance with U.S. EPA requirements within 90 days following the end of each quarter;
- g) Participate in data verification and validation training provided by ARB and/or U.S. EPA;
- h) Review data in AQS on a quarterly basis to verify accuracy and completeness (AMP 255 and 430 reports);
- i) Review data in AQS (AMP 600 and 450 NC reports) on annual basis to verify accuracy and completeness of data for certification purposes;
- j) Submit a data certification package to U.S. EPA by May 1 of each year for SO₂ (Mojave Desert only), NO₂, CO, O₃, PM₁₀, PM_{2.5}, and meteorological parameters;
- k) 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. Management will use appropriate discretion to determine issues deemed to be anomalous versus routine occurrences and report appropriately;
- l) Resolve AQDAs, CANs and TSA findings, or develop corrective action plan as appropriate, within 45 days of issuance; and
- m) Utilize ARB's CAN process to communicate to ARB when data has been altered or modified in AQS.

Data collected from special purpose monitoring (SPM) sites using federal reference methods (FRM), federal equivalent methods (FEM), or approved regional methods (ARM) 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. Support by a common management, laboratory or headquarters

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) Provide and review an annual survey questionnaire regarding planned changes to the air monitoring network (i.e., new/removed instruments, site closures, new sites, contracted services, etc.) for MOs in ARB's PQAO that are not drafting their own annual monitoring network plans as required by 40 CFR Part 58.10. ARB will review completed questionnaires within 30 days of receipt and provide feedback, as necessary;

- b) Participate in annual meetings/teleconferences during the network review period to discuss ARB PQAO monitoring network status; and
- c) Provide laboratory analytical support as required (i.e., PM2.5 and PM10 mass analysis, toxics analysis, speciation, etc.) upon prior or mutual agreement.

Mojave Desert/Antelope Valley AQMD Responsibilities:

- a) Complete the annual questionnaire regarding monitoring network changes within 30 days of receipt from ARB;
- b) Coordinate all site changes (i.e., openings, closures, relocations), not mentioned in the annual questionnaire to ARB and U.S. EPA, before they occur. Notify ARB of anticipated changes before they occur and obtain prior approval of the change before executing it, barring exceptional circumstances; and
- c) Participate in ARB's PQAO monitoring network status meetings/teleconferences.

If circumstances should arise that prevent either the ARB and/or Mojave Desert/Antelope Valley to meet 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, both agencies will work with U.S. EPA Region IX to assist in meeting the PQAO requirements.