



Air Resources Board



Matthew Rodriguez
Secretary for
Environmental Protection

Mary D. Nichols, Chairman
1001 I Street • P.O. Box 2815
Sacramento, California 95812 • www.arb.ca.gov

Edmund G. Brown Jr.
Governor

June 10, 2015

MAILED
6/10/15 JC

Ms. Aleta Kennard
Sacramento Metropolitan Air Quality Management District
777 12th Street, 3rd Floor
Sacramento, California 95814

Dear Ms. Kennard:

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

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

Ms. Aleta Kennard
June 10, 2015
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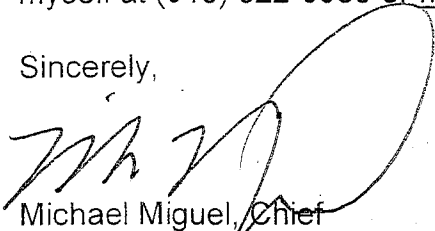
- c) Common calibration facilities and standards.
- d) Oversight by a common quality assurance organization.
- e) Support by a common management, laboratory, or headquarters.

In order to address these common factors, ARB has worked collaboratively with the Sacramento Metropolitan Air Quality Management District (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 attachment). 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 patrick.rainey@arb.ca.gov or myself at (916) 322-0960 or michael.miguel@arb.ca.gov, if you have any questions.

Sincerely,



Michael Miguel, Chief
Quality Management Branch
Monitoring and Laboratory Division

Attachment

cc. See next page.

Ms. Aleta Kennard
June 10, 2015
Page 3 of 3

cc. Larry Green, Air Pollution Control Officer
Sacramento Metropolitan Air Quality Management District
777 12th Street, 3rd Floor
Sacramento, California 95814

Janice Lam Snyder, Air Monitoring Program Coordinator
Sacramento Metropolitan Air Quality Management District
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Meredith Kurpius, Ph.D.
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Gwen Yoshimura
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Elfego Felix
Air Quality Analysis Office, District Liaison
U.S. Environmental Protection Agency, Region 9
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Dr. Michael T. Benjamin, Chief
Monitoring and Laboratory Division

Patrick Rainey, Manager
Monitoring and Laboratory Division

Carissa Ganapathy
Monitoring and Laboratory Division

**PRIMARY QUALITY ASSURANCE ORGANIZATION
ROLES AND RESPONSIBILITIES
FOR THE CALIFORNIA AIR RESOURCES BOARD AND
SACRAMENTO METROPOLITAN 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 (MOs) will strive to collaboratively address the following common factors to the extent practical. ARB has defined the roles and responsibilities of ARB and the MOs within ARB's PQAO in regard to operation of the 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 or 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 EPA approval.
- c) Maintain a PQAO contact list and 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.
- g) Participate in California Air Pollution Control Officers (CAPCOA) Monitoring Committee meetings and other informational forums.

Sacramento Metropolitan Air Quality Management District (AQMD) Responsibilities:

- a) Utilize and follow ARB's QMP. Any modifications to 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. The contact will receive list serve notices to provide the district with effective and timely communication.

- c) Participate in ARB and U.S. EPA sponsored ambient air monitoring training.
- d) Participate in AMTAC meetings and review information updates.
- 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 prompt notification of updates/revisions to ARB QAPPs and SOPs via the PQAO point-of-contact list.
- d) Review and approve alternative QAPPs and SOPs prepared by MOs.

Sacramento Metropolitan AQMD Responsibilities:

- a) Utilize and follow the ARB QAPPs for particulate matter (PM) PM_{2.5}, PM₁₀, carbon monoxide, nitrogen dioxide, ozone, sulfur dioxide, and meteorological monitoring. [Note: Operation of the Photochemical Assessment Monitoring Stations Network will be conducted according to approved procedures and are not part of this document].
- b) Utilize and follow District, ARB, and U.S. EPA SOPs as noted in ARB's document repository at www.arb.ca.gov/aaqm/qa/pqao/repository/qm_docs.htm. Any deviations from approved SOPs will be specified in an addendum and submitted to ARB for review and approval.
- c) District management will review/update SOPs on an established schedule to ensure they are consistent with district practices and notify ARB of any revisions made as they occur.
- d) Make available to ARB a record or list of quality assurance related documents (QMP, QAPP, SOP, training plan, etc.) utilized by the District's ambient air monitoring network.

If the District conducts a special purpose monitoring program funded by U.S. EPA, they will seek quality assurance assistance from the 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 the ARB PQAO are encouraged to utilize the services provided by ARB's Standards Laboratory for certifications, calibrations, and verifications to ensure uniformity and consistency. Organizations choosing to utilize external calibration facilities or vendor produced standard materials, will provide documentation of traceability to National Institute of Standards and Technology (NIST).

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 (information on available services can be found at www.arb.ca.gov/aaqm/qa/stdslab/stdslab.htm).

Sacramento Metropolitan AQMD Responsibilities:

- a) Utilize ARB's Standards Laboratory services for O3 transfer standards, compressed gas cylinders, temperature and low and high flow calibration, as needed.
- b) Utilize outside vendors for all other certification, calibration, and verification services, including for trace gases, low and high flow calibration, temperature, relative humidity, and barometric pressure devices.
- c) Maintain a schedule and record of certification dates and a record of traceability to NIST that are available to ARB or U.S. EPA upon request.

Additionally, ARB may provide equipment acceptance testing, repair, and field calibration services to SMAQMD 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) Ensure that ARB's PQAO includes all pollutants required by U.S.EPA for its ambient air monitoring network.
- b) Conduct annual Performance Evaluation (PE) audits of monitoring sites including SO2, NO2, O3, CO, meteorological, lead, and semiannual flow rate audits for particulate matter sampling devices as required in 40 CFR Part 58, Appendix A, Section 3.2.2 and Section 3.2.4.

- 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 District 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 recommended data action was 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 the Corrective Action Notification (CAN) database for 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 was 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 training on data verification and validation procedures during the PQAO air monitoring training.
- i) Perform upload of SMAQMD validated data for which ARB has AQS submittal authority to AQS within 90 days following the end of each quarter.
- j) Perform post-AQS screening of data submitted by ARB to identify possible issues.
- k) Perform annual certification of data for which ARB has AQS submittal authority by May 1st of each year.
- l) Perform an annual evaluation of the statistical summaries of quality assurance and quality control data from all monitoring organizations in the ARB PQAO, and distribute results.

Sacramento Metropolitan AQMD Responsibilities:

- a) Review and verify pollutant-specific parameters on an annual basis that are included in ARB's PQAO.
- b) Participate in criteria pollutant, particulate matter and meteorological PE audits for pollutants.
- c) Participate in laboratory PE audits for PM10 mass analysis. [Note: Laboratory PE audits for NCore program samples analyzed by RTI Laboratory in North Carolina will be conducted by the U.S. EPA.]
- d) Participate in EPA required technical system audits conducted by ARB or U.S. EPA.

- e) Participate in data verification and validation training provided by ARB and/or U.S. EPA.
- f) SMAQMD will verify and validate criteria pollutant data. ARB and SMAQMD will define validation procedures for the other pollutants monitored in a future document.
- g) For criteria pollutant data:
 - 1. Utilize and follow ARB's procedure to validate data for quality against ARB or U.S. EPA established acceptance criteria prior to submittal to ARB for AQS upload within 75 days following the end of each quarter in an AQS compatible format (Appendix 1). The District will provide a letter stating that validation was performed (Appendix 2).
 - 2. Review data in AQS on a quarterly basis to verify accuracy and completeness (AMP 256 and 430 reports).
 - 3. 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 ARB verifying the data quality by April 15th of each year (Appendix 3).
- h) Utilize the CAN process to communicate to ARB when data have been altered or modified after it has been submitted so ARB can review the justification and adjust data in AQS accordingly.
- i) Utilize ARB's CAN process to report instrument malfunctions, operational problems, impending data actions in U.S. EPA's AQS and/or any items needing corrective action or investigation within 45 days of determination of issue.
- j) Resolve AQDAs, and CANs, or develop corrective action plans as appropriate, within 45 days of issuance.

Data collected from Special Purpose Monitors (SPM) sites using Federal Reference Methods, Federal Equivalent Methods, or approved regional methods should be evaluated against the requirements in 40 CFR 58.11, 58.12, and Appendix A, and submitted to AQS according to 40 CFR 58.16.

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) Coordinate all site changes (i.e., openings, closures, relocations), not mentioned in the Annual Network Plan (ANP) to SMAQMD. Notify SMAQMD of anticipated changes before they occur, barring exceptional circumstances.

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

Sacramento Metropolitan AQMD Responsibilities:

- a) Coordinate all site changes (i.e., openings, closures, relocations), not mentioned in the Annual Network Plan (ANP) to ARB. Notify ARB of anticipated changes before they occur and obtain prior approval before executing it, barring exceptional circumstances.
- b) Participate in ARB's PQAO monitoring network status meetings/teleconferences.
- c) Provide sample return and proper documentation of field sample collection activities (i.e., chain-of-custody, sample collection dates and times, etc.) within established timeframes.

MO's submitting network plans directly to U.S. EPA will continue to submit plans directly 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 SMAQMD 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 the PQAO monitoring network is met. As needed, the agencies will work with U.S. EPA Region 9 to assist in meeting the PQAO requirements.

Appendix 1

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Appendix 2



Air Resources Board



Matthew Rodriguez
Secretary for
Environmental Protection

Mary D. Nichols, Chairman
1001 I Street • P.O. Box 2815
Sacramento, California 95812 • www.arb.ca.gov

Edmund G. Brown Jr.
Governor

(Insert Date)

Ms. Gayle Sweigert
California Air Resources Board
1001 I Street
Sacramento, California 95812

Dear Ms. Sweigert:

I have reviewed the appropriate quality control documents used by *(specify monitoring organization)* and attest that the air monitoring data for the time period of *(provide applicable date)* for *(specify applicable sites)* have been validated in accordance with the criteria established in the ARB procedures *(or specify district approved procedures if applicable)* for data validation and are acceptable for upload to AQS.

(This letter does not validate the following data as noted below)

Examples:

Jerseydale

The 8800 data logger at Jerseydale was replaced with an 8832 on June 2, 2013. There were some initial setup problems with regard to configuring the ozone channels on the 8832 causing a loss of ozone data. This resulted in a loss of the ozone data for the period June 2, 2013 hour 1700 through June 7, 2013 hour 1500 *(include total hours impacted)*.

(Data exceptions may include, but are not limited to, instrument downtime, missing or invalid data, calibration/audit events, maintenance, and other events impacting data capture or quality. Documentation should include notation of required flags and justification for data flagging)

Sincerely,

(District monitoring manager or APCO)

cc: *(District monitoring staff or management)*

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

Appendix 3



Air Resources Board



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

Edmund G. Brown Jr.
Governor

(Insert Date)

Ms. Gayle Sweigert
California Air Resources Board
1001 I Street
Sacramento, California 95812

Dear Ms. Sweigert:

The *(specify district)* is responsible for submitting air quality and precision data to the Air Resources Board (ARB) for submittal to the Air Quality System (AQS) for those monitors that are under the control of the District. In support of the requirements in Title 40, Code of Federal Regulation (40 CFR), Part 58, this letters certifies that the District has reviewed the ambient concentration data and the quality assurance data for the *(specify year)* and attests that the ambient data are accurate and complete to the best of our knowledge taking into consideration the quality assurance findings. We recommend the data for certification.

At this time the District is not recommending certification of the following data: (specify pollutants, site name, AQS #, and reason for not recommending certification)

Specify any other data that the District has partial/shared responsibility for generating (filter-based PM10, PM2.5, toxics, etc.) and identify the agency responsible for generating and submitting the data to AQS.

Copies of the AQS data certification report (AMP 600) and the AQS Quick Look Report (AMP 450NC, if applicable) are attached.

Sincerely,

(Authorized District monitoring manager or APCO)

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