



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

November 7, 2014

Ms. Monica Soucier
Imperial County Air Pollution Control District
150 South 9th Street
El Centro, California 92243

Dear Ms. Soucier:

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

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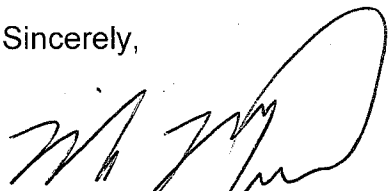
- b) Use of a common Quality Assurance Project Plan and Standard Operating Procedures for State and federally mandated air monitoring projects;
- c) Common calibration facilities and standards;
- d) Oversight by a common quality assurance organization; and
- e) Support by a common management, laboratory,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

In order to address these common factors, ARB has worked collaboratively with Imperial County 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

Attachments

cc: See next page.

Mr. Monica Soucier
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cc: Meredith Kurpius, Ph.D.
Air Quality Analysis Office, Manager
75 Hawthorne St., AIR-7
San Francisco, CA 94105

Gwen Yoshimura
Air Quality Analysis Office, Air Monitoring Team Lead
75 Hawthorne St., AIR-7
San Francisco, CA 94105

Dr. Michael T. Benjamin, Chief
Monitoring and Laboratory Division

Patrick Rainey
Monitoring and Laboratory Division

**PRIMARY QUALITY ASSURANCE ORGANIZATION
ROLES AND RESPONSIBILITIES FOR AIR RESOURCES BOARD AND
IMPERIAL COUNTY AIR POLLUTION CONTROL DISTRICT**

Five common factors have been identified by 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 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.
- g) Participate in California Air Pollution Control Officers Association (CAPCOA) Monitoring Committee meetings and other informational forums.

Imperial County 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) The District is developing a combination QMP and Quality Assurance Project Plan (QAPP). The document will be submitted to ARB for review and approval.

- c) Provide a supervisory level PQAQO Point-of-Contact to ARB (or designee – if non-supervisory level). The PQAQO contact will be added to a list serve to allow for effective and timely dissemination of information.
- d) Participate in ARB and U.S. EPA sponsored ambient air monitoring training.
- e) Participate in AMTAC meetings and review information updates.
- f) Participate in CAPCOA Monitoring Committee meetings and other informational forums.

2. Use of a common Quality Assurance Project Plan 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. Any deviations from ARB's QAPPs will be specified in an addendum and submitted to ARB for review and approval.
- 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 QAPPs and SOPs via the PQAQO point-of-contact list.
- d) Review and approve alternative QAPPs and SOPs prepared by MOs.

Imperial County APCD Responsibilities:

- a) Utilize and follow ARB's QAPPs for ozone (O₃), particulate matter (PM₁₀, PM_{2.5}), and meteorological programs. Any deviations to ARB's QAPPs will be specified in an addendum and submitted to ARB for review and approval.
- b) The District is developing a combination-QMP and QAPP. The document will be submitted to ARB for review and approval.
- c) Utilize and follow ARB SOPs for O₃, PM₁₀, PM_{2.5}, and meteorological programs. Any deviations to ARB's SOPs will be specified in an addendum and submitted to ARB for review and approval.
- d) The District is developing SOPs for O₃, NO₂, CO, PM₁₀, PM_{2.5}, and meteorological parameters. SOPs will be submitted to ARB for review and approval.
- e) District management will periodically review ARB's QAPP and SOPs to ensure they are consistent with MO practices.

- f) 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 and communicate any changes with ARB for review and approval.

If Imperial County APCD conducts a special purpose monitoring program (SPM) funded by U.S. EPA, the MO 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 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, must 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 the ARB's Standards Laboratory upon request.

Imperial County APCD Responsibilities:

- a) Utilize ARB's certification, calibration, and verification services for O3 transfer, low-volume flow (Chinook only), high-volume flow, compressed gas cylinder, and temperature sensor standards.
- b) Utilize a qualified outside vendor that uses National Institute of Standards and Technology (NIST) traceable standards for Delta Cal low volume flow and barometric pressure sensor standards.
- c) Maintain a schedule and record of certification providers and 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 MOs 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 quality network.
- b) Conduct Performance Evaluation (PE) audits of MO monitoring sites as required in 40 CFR Part 58, Appendix A, including Section 3.2.2 (PE audits for NO₂, O₃, and CO), and Section 3.2.4 (semiannual flow rate audit for PM₁₀ and PM_{2.5} samplers), as well as, meteorological audits for pollutants reported to AQS.
- 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 an Air Quality Data Action (AQDA). 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 a schedule of every 3-5 years.
- f) Maintain a database, Corrective Action Notification (CAN), to be used by 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 during the PQAO air monitoring training.
- j) Perform upload of MO validated data for NO₂, CO, O₃, PM₁₀, and meteorological programs to AQS within 90 days following the end of each quarter. [Note - San Diego County APCD is responsible for the upload of MO PM_{2.5} data and will provide a letter to ARB and Imperial County APCD verifying that validated data was uploaded in accordance with approved procedures.]
- k) Perform post-AQS screening of MO data submitted by ARB to identify possible issues.

- l) Perform annual certification of data for which ARB has AQS submittal authority, including PM2.5 data which San Diego County APCD uploads, by May 1 of each year.
- m) 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 to the MOs.

Imperial County APCD Responsibilities:

- a) Review and verify pollutant-specific parameters on an annual basis that are included in ARB's PQAO.
- b) Participate in PE audits for NO2, CO, O3, PM10, PM2.5, and meteorological programs.
- c) Participate in U.S. EPA required technical system audits conducted either by ARB or U.S. EPA.
- d) Utilize and follow ARB's procedures to validate NO2, CO, O3, PM10, PM2.5, and meteorological programs quality against ARB or U.S. EPA established acceptance criteria. Any deviations to ARB's procedures will be specified in an addendum and submitted to ARB for review and approval.
- e) The District is developing a combination QMP and QAPP which will include District-specific data validation procedures. The document will be submitted to ARB for review and approval.
- f) Submit validated data for NO2, CO, O3, PM10, and meteorological parameters to ARB in an AQS compatible txt. format (see Appendix 1) for upload to AQS within 75 days following the end of the quarter. MO will provide a letter stating that validation has been performed (see Appendix 2). [Note – MO will validate PM2.5 field collection operations that were performed in accordance with required procedures.]
- g) San Diego County APCD conducts PM2.5 mass analysis. Subsequently, San Diego County APCD will upload the data to AQS and provide a letter to ARB and Imperial County APCD verifying that validated data was uploaded in accordance with approved procedures.
- h) Participate in data verification and validation training provided by ARB and/or U.S. EPA.
- i) Review data in AQS on a quarterly basis to verify accuracy and completeness (AMP 256 and 430 reports).
- j) 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 verifying the data quality by April 15 of each year (see Appendix 3).
- k) Utilize ARB's CAN process to report instrument malfunctions, operational problems, and/or any items needing corrective action or investigation within

- 45 days of determination of issue. Management will use appropriate discretion to determine issues deemed to be anomalous versus routine occurrences.
- l) Resolve AQDAs, CANs, and TSA findings, or develop corrective action plan as appropriate, within 45 days of issuance.
 - m) Utilize the CAN process to communicate to ARB and San Diego County APCD (PM2.5) when data have been altered or modified after it has been submitted to AQS so ARB can adjust data in AQS accordingly.

Data collected from SPM sites using federal reference method (FRM), federal equivalent method (FEM), or approved regional methods (ARM) should be evaluated against the requirements in 40 CFR Part 58.11, 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 must 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 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 meeting/teleconference during the network review period (specify time period) to discuss ARB's PQAO monitoring network status.
- c) Provide laboratory analytical support as required (i.e., PM2.5 and PM10 mass analysis, Toxics analysis, speciation, etc.) upon prior or mutual agreement.

Imperial County APCD 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 MO's annual Network Monitoring Plan to ARB. The MO will notify ARB of anticipated changes before they occur and will obtain approval of the change before executing it, barring exceptional circumstances.

- c) Participate in ARB PQAO monitoring network status meetings/teleconferences.
- d) Provide timely sample return and proper documentation of field sample collection activities (i.e., chain-of-custody, sample collection dates and times, etc.).

If circumstances should arise that prevent either ARB and/or MO 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, both agencies will work with U.S. EPA Region 9 to assist in meeting the PQAO requirements.

Appendix 1

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EXTRA INFORMATION

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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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 letter 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