# Air Resources Board

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

**Matthew Rodriquez**
*Secretary for*
*Environmental Protection*

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


March 13, 2014

Mr. Robert A. Scaglione
Mendocino County AQMD
306 E. Gobbi Street
Ukiah, California 95482-5511

Dear Mr. Scaglione:

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.

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 Mendocino County 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 MOs 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. Meredith Kurpius, Ph.D.
U.S. EPA, Region 9
Air Quality Analysis Office, Manager
75 Hawthorne St., AIR-7
San Francisco, California 94105

Gwen Yoshimura
U.S. EPA, Region 9
Air Quality Analysis Office, Air Monitoring Team Lead
75 Hawthorne St., AIR-7
San Francisco, California 94105

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

Patrick Rainey, Manager
Monitoring and Laboratory Division

Attachment

# PRIMARY QUALITY ASSURANCE ORGANIZATION ROLES AND RESPONSIBILITIES FOR THE AIR RESOURCES BOARD AND MENDOCINO COUNTY 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 Program (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 the California Air Pollution Control Officers Association (CAPCOA) air monitoring committee meetings and other informational forums.

Mendocino County 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 (or designee if non-supervisory level) PQAO Point-of-Contact to ARB. 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.
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 PQAO point-of-contact list.
d) Review and approve alternative QAPPs and SOPs prepared by MOs.

Mendocino County AQMD Responsibilities:

a) Utilize and follow ARB's QAPPs for particulate matter (PM10 and PM2.5) and ozone (O3) air monitoring projects. 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's SOPs for PM10, PM2.5, and O3 air monitoring projects. Any deviations from ARB's SOPs will be specified in an addendum and submitted to ARB for review and approval.
c) Management will review ARB's QAPPs and SOPs on an established schedule to ensure consistency with Mendocino County AQMD's operating practices and notify ARB of any revisions as they occur.
d) Agree to make available to ARB a record or list of quality management documents (QMP, QAPP, SOP, training plan, etc.) utilized by Mendocino County AQMD's ambient air monitoring network.

If Mendocino County AQMD 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 (40 CFR), Part 58 requirements via ARB's Standards Laboratory upon request.

Mendocino County AQMD Responsibilities:

a) Utilize ARB's certification, calibration, and verification services for O3 transfer standards and low volume flow standards.
b) 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 Mendocino County AQMD 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 annual Performance Evaluation (PE) audits of MO monitoring sites as required in 40 CFR Part 58, Appendix A; including Section 3.2.2 for O3, and Section 3.2.4 semi-annual flow rate audits for PM10 and PM2.5, as appropriate.
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 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 Corrective Action Notification (CAN) database to be used by MOs 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 procedures and criteria for data verification and validation performed prior to upload to AQS.
i) Provide training on data verification and validation procedures as part of the PQAO air monitoring training.
j) Perform upload of MO validated data (O3, PM10, and PM2.5) to AQS within 90 days following the end of each quarter.
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 by May 1st of each year.
m) Perform an annual evaluation of the statistical summaries of quality assurance and quality control data for all MOs in ARB's PQAO and distribute results.

Mendocino County AQMD Responsibilities:

a) Review and verify pollutants on an annual basis that are included in ARB's PQAO.
b) Participate in gaseous criteria pollutant and particulate PE audits (PM10, PM2.5, and ozone).
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 for validating O3, PM10, and PM2.5 air monitoring data against ARB or U.S. EPA established acceptance criteria prior to submission to ARB for upload to AQS. Any deviations from ARB's procedures will be specified in an addendum and submitted to ARB for review and approval.
e) Submit validated O3, PM10, and PM2.5 data to ARB in an AQS compatible txt. format (See Appendix 1) within 75 days following the end of each quarter and provide a letter stating validation was performed (See Appendix 2).
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 ARB verifying data quality by April 15th of each year (See Appendix 3).
i) Utilize ARB's CAN process to notify ARB's Quality Management Branch of instrument malfunctions, operational problems, data quality issues, and/or any items needing corrective action or investigation. Management will use appropriate discretion to determine issues deemed to be anomalous verses routine occurrences.
j) Resolve AQDAs, CANs, and TSA findings, and develop corrective action plan as appropriate, within 45 days of issuance.
k) Utilize ARB's CAN process to communicate to ARB when data is altered or modified after submittal so ARB can review the justification and adjust data in AQS accordingly.

Data collected from SPM sites using a federal reference method, federal equivalent method, or approved regional method will be evaluated against the requirements in 40 CFR, Parts 58.11 and 58.12, and Appendix A; and submitted to AQS according to 40 CFR, Parts 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 network plans as required in 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 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.

Mendocino County 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 U.S. EPA and ARB, in a timely manner. Notify ARB of anticipated changes before they occur and obtain prior approval, barring exceptional circumstances.
c) Participate in ARB's PQAO monitoring network status meetings/teleconferences.
d) 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.

If circumstances should arise that prevent either ARB and/or Mendocino County AQMD 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 all applicable PQAO requirements.

# Appendix 1

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EXAMPLE FORMAT

# Appendix 2

# Air Resources Board

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

**Matthew Rodriquez**
*Secretary for*
*Environmental Protection*

**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

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# Appendix 3

# Air Resources Board

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

**Matthew Rodriquez**
*Secretary for*
*Environmental Protection*

**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

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