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

Ms. Gretchen Bennitt
Northern Sierra Air Quality Management District
200 Litton Drive, Suite 320
Grass Valley, California 95945-2509

Dear Ms. Bennitt:

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 Northern Sierra 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

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
Monitoring and Laboratory Division

Attachment

PRIMARY QUALITY ASSURANCE ORGANIZATION ROLES AND RESPONSIBILITIES FOR THE AIR RESOURCES BOARD AND NORTHERN SIERRA 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 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 the 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 the 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 CAPCOA Monitoring Committee meetings and other informational forums.

Northern Sierra Air Quality Management District (AQMD) Responsibilities:

a) Utilize and follow ARB's QMP. Any deviations 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 (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.
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 QAPPs and SOPs via the PQAO point-of-contact list.
d) Review and approve alternative QAPPs and SOPs prepared by MOs.

Northern Sierra AQMD Responsibilities:

a) Utilize and follow ARB's QAPP for ozone (O3) and particulate matter (PM2.5). Any deviations to 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 O3, PM2.5 FRM, and PM2.5 continuous. Any deviations to 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 they are consistent with district practices.
d) Make available to ARB a record or list of quality assurance related documents (QMP, QAPP, SOP, training plan, etc.) being utilized by the District's ambient air monitoring network.

If Northern Sierra conducts a special purpose monitoring (SPM) program funded by U.S. EPA, they 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, standards, and equipment support

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.
b) Provide the following support for the Grass Valley, Truckee, Quincy, and Portola monitoring stations:
   - Sampler calibrations twice a year and after replacement or major repair of equipment.
   - Telephone support by ARB's Instrument Laboratory to assist with diagnosing instrument problems.
   - Replacement parts for ARB equipment when available. ARB has limited parts and may not have replacement parts for older equipment.
   - Instrument replacement if ARB's Instrument Laboratory has spare units available.
   - Acceptance testing by ARB's Instrument Laboratory.
   - Training on the operation of new equipment.

Northern Sierra AQMD Responsibilities:

a) Utilize ARB certification, calibration and verification services for the O3 transfer standard, and for low flow calibration devices.
b) Request calibration of instruments twice a year, and after replacement or major repair to an instrument.
c) Contact ARB's instrument repair shop within 48 hours after determining equipment is non-operational. Troubleshoot over the phone with ARB's instrument repair shop and vendor before requesting equipment replacement.
d) If replacement parts are not available from ARB's instrument repair shop, the District will be responsible for ordering parts from the vendor.
e) Request instrument replacement through ARB's repair shop. This step should only take place after the site operator and ARB's shop staff has completed troubleshooting.
f) Request shipment of replacement equipment or provide pickup from ARB's instrument repair shop.
g) Removal and installation of equipment.
h) Return of all repairable parts and equipment to ARB's warehouse.

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, Section 3.2.2. (O3), and Section 3.2.4 (semiannual flow rate audit for PM2.5).
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 recommended data action was 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 the Corrective Action Notification (CAN) database for tracking reported 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) Provide procedures and criteria for data verification and validation to be performed prior to upload to AQS.
j) Upload validated PM2.5 FRM mass analysis data to AQS within 90 days following the end of each quarter.
k) Perform post-AQS screening of the district's data to identify possible issues.
l) Perform annual certification of data for which ARB has AQS submittal authority by May 1st of each year. If changes are made after certification, data must be re-certified.
m) Perform an annual evaluation of the statistical summaries of quality assurance and quality control data from all monitoring organizations in ARB's PQAO, and distribute results to the monitoring organizations.

Northern Sierra AQMD Responsibilities:

a) Review and verify pollutants monitored at each site on an annual basis that are included in ARB's PQAO.
b) Participate in O3 and PM2.5 PE audits.
c) Conduct one-point QC checks and flow rate verifications at the required minimum frequency as defined in U.S. EPA's Quality Assurance Handbook for Air Pollution Measurements (Volume II) and 40 CFR 58, Appendix A (3.2, 3.3).
d) Participate in U.S. EPA required technical system audits conducted either by ARB or U.S. EPA.
e) Utilize and follow ARB's procedure to validate O3 and PM2.5 continuous data quality against ARB or U.S. EPA established acceptance criteria prior to submittal to AQS. Any deviations to ARB's procedure will be specified in an addendum and submitted to ARB for review and approval. (The District may develop an SOP for data validation in the future).
f) Upload validated O3 and PM2.5 continuous air quality data to AQS within 90 days following the end of each quarter in accordance with U.S. EPA requirements.
g) Participate in data verification and validation training provided by ARB and/or U.S. EPA.
h) Review data for O3 and PM2.5 continuous in AQS on a quarterly basis to verify accuracy and completeness (AMP 255 and 430 reports).
i) Review O3 and PM2.5 continuous data in AQS (AMP 600 and 450 NC reports) on an annual basis to verify accuracy and completeness, and certify the data annually by May 1st of each year.
j) Review PM2.5 mass 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 (See appendix 1).
k) Utilize ARB's CAN process to report instrument malfunctions, operational problems, any items needing corrective action or investigation, and/or impending data actions in U.S. EPA's Air Quality System (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.
m) Utilize ARB's 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.

Data collected from SPM sites using federal reference methods, federal equivalent methods, or approved regional methods should be evaluated against the requirement is 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 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 changes (i.e., new/removed instruments, site closures, new sites, contracted services, etc.) for MO's in ARB's PQAO that are not drafting their own annual 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 to discuss ARB's PQAO monitoring network status.
c) Provide laboratory analytical support as required (i.e., PM2.5, Speciation, etc.) upon prior or mutual agreement.

Northern Sierra 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. Notify ARB of anticipated changes before they occur and obtain prior approval of the change before executing it, barring exceptional circumstances.
c) Participate in ARB 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 NSAQMD 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

Air Resources Board

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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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