Air Resources Board

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MAILED
8/9/16

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FROM: Mike Miguel, Chief
Quality Management Branch

DATE: August 8, 2016

SUBJECT: ARB ROLES AND RESPONSIBILITIES

The purpose of this letter is to formalize the roles and responsibilities between the Air Resources Board's (ARB) Monitoring and Laboratory Division (MLD) and Air Quality Planning and Science Division (AQPSD) to ensure compliance with State and federal air monitoring requirements.

As defined in the U.S. Environmental Protection Agency's (U.S. EPA) Code of Federal Regulations (40 CFR Part 58), a Primary Quality Assurance Organization (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.

The 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 monitoring organizations (MO). It is critical that ARB's MLD and AQPSD work together, through formalized roles and responsibilities, to collect consistent and reliable ambient air quality data.

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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Under ARB's PQAO the MLD and AQPSD 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; and

e) Support by a common management, laboratory, or headquarters.

In order to address these common factors, ARB has worked collaboratively between MLD, AQPSD 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 MLD and AQPSD to define their roles and responsibilities, and it looks forward to working together to ensure the effective implementation of these roles and responsibilities.

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.

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Attachment

PRIMARY QUALITY ASSURANCE ORGANIZATION ROLES AND RESPONSIBILITIES FOR THE CALIFORNIA AIR RESOURCES BOARD

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): operation by a common team of field operators or according to a common set of procedures, use of a common Quality Assurance Project Plan (QAPP) and Standard Operating Procedures (SOP) for state and federally mandated air monitoring projects, common calibration facilities and standards, oversight by a common quality assurance organization, and support by a common management, laboratory or headquarters. The Air Resources Board (ARB) has defined the roles and responsibilities within its ambient air monitoring network PQAO. ARB's roles and responsibilities are shared between multiple branches: the Air Quality Planning and Science Division (AQPSD), Air Quality Surveillance Branch (AQSB), Northern Laboratory Branch (NLB), and Quality Management Branch (QMB). These branches will work collaboratively to address the roles and responsibilities listed below:

Responsibilities for All ARB Branches Involved in Ambient Air Monitoring:

1) Follow ARB's Quality Management Plan (QMP).
2) Maintain and follow approved QAPPs and SOPs for State and federally mandated monitoring programs. Review and update QAPPs and SOPs on an established schedule to ensure they are consistent with actual practices. Document permanent deviations in an addendum and provide to QMB for review. Once the updated quality management (QM) document has joint approval from QMB and AQSB or NLB, it will be uploaded to the webpage.
3) Participate in ARB and U.S. EPA sponsored ambient air monitoring training.
4) Prepare bulletins clarifying ARB practices and policies for various air monitoring issues.
5) Follow quality assurance and technical bulletins to ensure consistency in the monitoring network.
6) Participate in California Air Pollution Control Officers Association's (CAPCOA) air monitoring committee meetings, and other technical air monitoring meetings, as needed.
7) Utilize and follow ARB's SOPs for the Corrective Action Notification (CAN) and Air Quality Data Action request (AQDA) processes to document, investigate, correct, and reduce the recurrence of ambient air monitoring or data issues that may impact or potentially impact data quality, completeness, storage, or reporting.
8) Attempt to resolve AQDAs and CANs within 45 days of issuance. Provide documentation of corrective action implemented to address AQDAs and CANs (Air Quality System (AQS) printouts, etc.).
9) Participate in technical system audits (TSA) conducted by U.S. EPA.

10) Participate in meetings/teleconferences during the network review period to discuss ARB's PQAO monitoring network status.
11) Coordinate all site changes (i.e., openings, closures, relocations) and monitor/sampler modifications, as appropriate, with the other branches and with any affected District.

Additional AQPSD Responsibilities (Air Quality Planning Branch and Consumer Products and Air Quality Assessment Branch):

1) Work directly with monitoring organizations (MO) on assignments for which AQPSD is responsible and has preexisting communication or working relationships, and include the appropriate ARB PQAO liaison in the communications.
2) Perform upload of validated data to AQS for which AQPSD has submittal authority within 90 days following the end of each quarter.
3) Review recent MO data when requested for anomalous or outlier data events, points, and trends to be further investigated as part of ARB's TSA process.
4) Update ambient concentration data and metadata in AQS for instruments for which AQPSD has AQS submittal authority, as directed by the affected district, as appropriate.
5) Upon receipt of data certification letters from ARB and districts for whom AQPSD has AQS submittal authority, prepare annual data certification package and submit to U.S. EPA by May 1 of each year.
6) Coordinate all site changes (i.e., openings, closures, relocations) with the other branches and with the affected District.
7) Collaborate with and assist in the preparation of analyses and recommendations supporting site/monitor closures, as appropriate.
8) Assist in the preparation of analyses and recommendations supporting the flagging of data for exceptional events, as appropriate.
9) Prepare Annual Network Plans and Five-Year Network Assessments for ARB and MOs included in these documents. Evaluate whether the ARB PQAO includes all pollutant monitoring for federal criteria pollutants as required under federal regulations. Work with other Branches and districts to develop strategies for addressing any identified monitoring deficiencies, as needed.

Additional AQSB Responsibilities:

1) Work directly with MOs on assignments for which AQSB is responsible and has preexisting communication or working relationships, and include the appropriate ARB PQAO liaison in the communications.
2) Coordinate and facilitate technical air monitoring training (e.g., Thermo 2000i/2025i, EBAM, DMS, field sample media handling, quality assurance, etc.), as needed.

3) Provide timely, documented notification, coordination, and collaboration amongst AQSB, NLB, QMB, AQPSD, and affected districts for changes and/or additions on regular air monitoring network and special purpose monitoring programs prior to implementation of the air monitoring project.
4) Prepare quality assurance documents, as appropriate, for special purpose and non-regulatory monitoring programs prior to sample collection.
5) For those standards that ARB's Standards Laboratory can certify, utilize ARB's services for certifications, calibrations, and verifications. If an external calibration facility or vendor produced standard materials are used, ensure documentation of traceability to National Institute of Standards and Technology (NIST) is provided.
6) Maintain a schedule and record of certification dates and a record of traceability to NIST.
7) 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. Calibration reports should be provided to MOs in a timely manner.
8) Provide samples along with reviewed and properly documented sample reports within established timelines. Level 1 verification/validation of sample reports should be performed by field monitoring staff prior to submittal to the laboratory. Levels 2 and 3 validation should be performed during review of the monthly data packages by AQSB staff and management, and data submitted to NLB within 45 days following the end of the month.
9) Participate in Performance Evaluation (PE) audits for ambient air programs, as appropriate, including gaseous, particulate matter, and meteorological programs.
10) Verify and validate criteria pollutant data using the following procedures:
a) Follow ARB's procedure to validate data for quality against established acceptance criteria prior to AQS upload within 90 days following the end of each quarter.
b) Review data in AQS on a quarterly basis to verify accuracy and completeness (AMP 256 and 430 reports).
c) Review data in AQS (AMP 600 and 450 NC reports) on an annual basis to verify accuracy and completeness for certification purposes.
11) Perform upload of validated ambient and QC data to AQS for which AQSB has submittal authority within 90 days following the end of each quarter.
12) Perform post-AQS screening of data submitted by AQSB to identify possible issues.
13) Review and update concentration data and metadata in AQS for instruments that AQSB operates, as appropriate. Communicate to NLB changes made in AQS that involve samplers that NLB has AQS submittal authority (e.g., media-based samplers).
14) Perform annual certification of data for which AQSB has AQS submittal authority, and submit a letter certifying the data to ARB's Consumer Products and Air Quality Assessment branch by April 15 of each year.

Note: Data collected from Special Purpose Monitors 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.

Additional NLB Responsibilities:

1) Work directly with MOs on assignments for which NLB is responsible and has preexisting communication or working relationships, and include the appropriate ARB PQAO liaison in the communications.
2) Maintain and follow a Laboratory Quality Control Manual and SOPs detailing the quality system policies and procedures to ensure consistent quality assurance and validation of data.
3) Provide revisions or updates of the Laboratory Quality Control Manual to QMB for review and approval, and upload them to the web once they are approved.
4) Prepare quality assurance documents, as appropriate, for laboratory support of special purpose and non-regulatory monitoring programs. Coordinate with field operations groups to ensure documents are completed prior to collection and analysis of samples.
5) Utilize a qualified vendor for the certification, calibration, and verification of laboratory instrumentation and standards. Maintain documentation of the schedule and traceability.
6) Participate in laboratory PE audits for PM2.5 and PM10 mass analysis laboratories, and other analytical programs, as appropriate.
7) Verify and validate the laboratory portion of ambient air data generated by NLB according to the Laboratory Quality Control Manual and SOPs prior to AQS submittal.
8) Perform upload of validated data to AQS for which NLB has submittal authority within 90 days following the end of each quarter. Data uploaded to AQS is verified using the AQS Raw Data Inventory report generated after data submittal.
9) When appropriate, data, including metadata, may be amended according to an approved CAN or AQDA.
10) Provide notification of AQS data submittals to MOs in a timely manner.
11) Communicate all laboratory-issued Null and Quality Assurance flagged samples to the field operator or designated MO contact.
12) Provide appropriate documentation for annual certification of data for which NLB has AQS submittal authority. Documentation should state that analyses were performed in accordance with approved laboratory procedures and data submitted to AQS is accurate and complete to the best of their knowledge. Documentation should be provided to applicable MOs and ARB's Consumer Products and Air Quality Assessment branch by April 15 of each year.

13) Prepare and disseminate an annual laboratory quality control report summarizing sample anomalies, lab issues and implemented corrective action, and any departures from SOPs.
14) Provide multi-level validated sample media and documentation (i.e., chain-of-custody, media preparation dates and times, mass analysis criteria, filter conditioning criteria, etc.) to field staff within established timeframes.
15) Provide laboratory analytical support (i.e., PM2.5 and PM10 mass analysis, etc.) for ARB air monitoring programs as required, and provide support to local MOs upon prior or mutual agreement.

Additional QMB Responsibilities:

1) Maintain ARB's QMP. QMB will regularly request input from other ARB branches and local MOs within ARB's PQAO, and agrees to review and update the QMP as needed.
2) Review and approve alternative QMPs prepared by local MOs.
3) Coordinate the development and maintenance of ARB QAPPs.
4) Review and approve alternative QAPPs and SOPs prepared by local MOs.
5) Maintain the ARB PQAO's Quality Management Document Repository located at arb.ca.gov/aaqm/qa/pqao/repository/qm_docs.htm.
6) Maintain a PQAO contact list (at arb.ca.gov/aaqm/qa/pqao/pqao-poc.pdf) and webpage (at arb.ca.gov/aaqm/qa/qa.htm) to disseminate information.
7) Provide prompt notification of updates/revisions to QAPPs and SOPs via the PQAO point-of-contact list.
8) Serve as a liaison for local MOs within ARB's PQAO (to ensure concerted action, cooperation, etc.).
9) Coordinate and facilitate training on air monitoring fundamentals related to operations, maintenance, quality assurance/quality control, and data management procedures. Coordinate other technical training forums, as appropriate.
10) Maintain SOPs for the CAN and AQDA processes.
11) Provide timely certification, calibration, and verification services that meet or exceed Title 40, Code of Federal Regulations (40 CFR) Part 58 requirements, upon request (information on available services can be found at arb.ca.gov/aaqm/qa/stdslab/stdslab.htm).
12) Maintain a schedule and record of certification dates and a record of traceability to NIST.
13) Provide detailed reports showing the calculations and results of the certification, calibration, and verification services performed.
14) Conduct annual PE audits of monitoring sites including carbon monoxide, nitrogen dioxide, ozone, sulfur dioxide, 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. Additional PE audits may include meteorological and laboratory analytical programs, as appropriate.

15) Conduct annual siting evaluations at each air monitoring station to determine compliance with 40 CFR Part 58, Appendix E, and consistency with current AQS pollutants.
16) Initiate an AQDA request if an instrument or analyzer is found to be outside acceptable limits. The AQDA will request the responsible party to correct the identified deficiencies. QMB 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.), as appropriate.
17) Collaborate with U.S. EPA to conduct TSAs of all MOs within the ARB PQAO on a schedule of every three to six years. As part of these TSAs, conduct data audits to evaluate anomalous or outlier data events, points, data gaps, and trends to be further investigated.
18) Maintain the CAN database for operational problems, instrument malfunctions, and/or any items needing corrective action or investigation, and perform an annual review of the CAN database for systematic issues. QMB will follow-up to verify that appropriate action was taken to close CANs.
19) Perform an annual statistical evaluation of quality assurance and quality control data from all monitoring organizations in the ARB PQAO, and distribute results via ARB's Data Quality Report.

If circumstances should arise that prevent any of the ARB branches from meeting the aforementioned responsibilities, the branches will collaboratively ensure that the common goal of generating legally and scientifically defensible data throughout the PQAO monitoring network is met.

This document outlining the roles and responsibilities of the ARB branches can be found at arb.ca.gov/aaqm/qa/pqao/repository/rr_docs.htm.