



Air Resources Board



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QUALITY ASSURANCE BULLETIN-007

**Flow Rate Verification
October 2016**

Introduction

This bulletin is to provide clarification for ambient air monitoring organizations within the California Air Resources Board Primary Quality Assurance Organization regarding the reporting requirements for PM10, PM2.5, and Pb flow rate verifications (FRV) to the U.S. Environmental Protection Agency's (U.S. EPA) Air Quality System (AQS) database.

Issue

As of April 27, 2016, U.S. EPA is requiring that the PM10, PM2.5, and Pb FRV data be reported to AQS. Reporting FRVs has been required for PM10 continuous samplers, and the new rule expands the requirements to cover PM10 Hi-Vol, PM2.5, and Pb. These requirements are stated in Appendix A to 40 CFR Part 58 which can be found in its entirety here:

http://www.ecfr.gov/cgi-bin/retrieveECFR?n=40y6.0.1.1.6#se40.6.58_13

Policy

The relevant sections of Appendix A to 40 CFR Part 58 are quoted below:

3.2.1 Flow Rate Verification for PM2.5. A one-point flow rate verification check must be performed at least once every month (each verification minimally separated by 14 days) on each monitor used to measure PM2.5. The verification is made by checking the operational flow rate of the monitor. If the verification is made in conjunction with a flow rate adjustment, it must be made prior to such flow rate adjustment. For the standard procedure, use a flow rate transfer standard certified in accordance with section 2.6 of this appendix to check the monitor's normal flow rate. Care should be used in selecting and using the flow rate measurement device such that it does not alter the normal operating flow rate of the monitor. Report the flow rate of the transfer standard and the corresponding flow rate measured by the monitor to AQS. The percent differences between the audit and measured flow rates are used to assess the bias of the monitoring data as described in section 4.2.2 of this appendix (using flow rates in lieu of concentrations).

3.3.1 Flow Rate Verification for PM10 Low Volume Samplers (less than 200 liter/minute). A one-point flow rate verification check must be performed at least once every month (each verification minimally separated by 14 days) on each monitor used to measure PM10. The verification is made by checking the operational flow rate of the monitor. If the verification is made in conjunction with a flow rate adjustment, it must be made prior to such flow rate adjustment. For the standard procedure, use a flow rate transfer standard certified in accordance with section 2.6 of this appendix to check the monitor's normal flow rate. Care

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should be taken in selecting and using the flow rate measurement device such that it does not alter the normal operating flow rate of the monitor. The percent differences between the audit and measured flow rates are reported to AQS and used to assess the bias of the monitoring data as described in section 4.2.2 of this appendix (using flow rates in lieu of concentrations).

3.3.2 Flow Rate Verification for PM10 High Volume Samplers (greater than 200 liters/minute). For PM10 high volume samplers, the verification frequency is one verification every 90 days (quarter) with 4 in a year. Other than verification frequency, follow the same technical procedure as described in section 3.3.1 of this appendix.

3.4.1 Flow Rate Verification for Pb-PM10 Low Volume Samplers (less than 200 liter/minute). A one-point flow rate verification check must be performed at least once every month (each verification minimally separated by 14 days) on each monitor used to measure Pb. The verification is made by checking the operational flow rate of the monitor. If the verification is made in conjunction with a flow rate adjustment, it must be made prior to such flow rate adjustment. For the standard procedure, use a flow rate transfer standard certified in accordance with section 2.6 of this appendix to check the monitor's normal flow rate. Care should be taken in selecting and using the flow rate measurement device such that it does not alter the normal operating flow rate of the monitor. The percent differences between the audit and measured flow rates are reported to AQS and used to assess the bias of the monitoring data as described in section 4.2.2 of this appendix (using flow rates in lieu of concentrations).

3.4.2 Flow Rate Verification for Pb High Volume Samplers (greater than 200 liters/minute). For high volume samplers, the verification frequency is one verification every 90 days (quarter) with 4 in a year. Other than verification frequency, follow the same technical procedure as described in section 3.4.1 of this appendix.

Note: FRVs must be collected at the minimum frequency outlined in the CFR, or at a greater frequency if required by an agency's SOP.

If ARB uploads your district's data to AQS, please provide Harnek Nijjar (email: harnek.nijjar@arb.ca.gov) your FRV data within 75 days after the end of each quarter.

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