

DRAFT

Process for Establishing Appropriate MRR for Title V Permitting

The goal of this process is to determine the most appropriate monitoring, recordkeeping, and reporting requirements for each source category considering: 1) Source Size; 2) Burden/Cost; 3) Reasonableness; 4) Consistency; 5) Compliance Assurance; 6) Compliance Margin; and 7) Variability. To identify the most appropriate monitoring, the following steps are being followed:

1. Define Source Categories and Subcategories - In the first phase, the group attempts to clearly define the source category or subcategory to be investigated. If a category contains different emitting processes or controls, the category should be broken up into subcategories.

For particulate emissions from material handling operations, for example, five subcategories were initially identified as different emitting processes. These were:

- a. *Baghouses*
- b. *Vent filters*
- c. *Fugitive Emissions*
- d. *Cyclones*
- e. *Scrubbers*

Other differences that may ultimately warrant different MRR strategies may also be used to separate source categories into rational subcategories. Vent filters, for example, were further divided into two subcategories based on whether their operation was continuous or intermittent.

2. Preliminary Investigation – The next step toward establishing appropriate monitoring is for members of the group to discuss their understanding of the emissions processes and applicable requirements. The group may identify the need for additional information about the emitting processes or applicable requirements at this point.

One way to obtain additional information about emission units is to review standard reference materials. Another is to talk to experienced District Staff, CARB Staff, EPA staff, and source operators. By reaching a common understanding of the emitting processes and applicable requirements early, the group can avoid conflicts later.

3. Identify Example Sources – It is also helpful to perform analyses in the context of real world examples. District permit files contain information on thousands of actual source operations that may be used as examples.

The group should attempt to reach consensus that the examples are indeed representative. If the group cannot agree that the examples are representative, additional alternative examples should be identified.

For particulate emissions Material Handling emissions from baghouses, the group focussed on one large mineral processing operation in the South Coast AQMD.

The following information is generally useful for each example:

- a. Facility Name
- b. Facility Type
- c. Description of Emitting Operation including information regarding equipment type, equipment size, ratings, fuels, materials, control equipment, etc..
- d. Description of the Existing Monitoring
- e. Compliance Data from source tests, engineering evaluations, etc.
- f. Emissions data
- g. Emission Limit
- h. Margin of Compliance

4. Identifying Causes of Variation - Whenever possible, the group should identify any causes of excessive variability or noncompliance. Experienced District Staff, CARB Staff, EPA staff, and source operators may be able to help identify causes of variation.

For particulate emissions Material Handling emissions from baghouses, for example, failure of filter bags due to holes, tears, etc. was identified as the primary cause of noncompliance with opacity requirements and generic emission limits. This led the group toward considering parametric monitoring schemes that would identify bag leaks.

Again, it is important that the group achieve consensus on the validity of these determinations.

5. Data Collection – Although looking at one specific example is useful when analyzing monitoring needs, one example generally will not provide enough information regarding variability. This information may be obtained by reviewing source test data, reviewing compliance records, and by talking to experienced compliance or operations people.

6. Brainstorm Possible MRR Types – Next, the group should brainstorm potential monitoring proposals. Ideas for monitoring proposals may come from experience, be developed by applying technologies used for similar source categories, or they may be innovative.

For particulate emissions Material Handling emissions from baghouses, emissions calculation, one-time sources test, several parametric monitoring

schemes, annual source testing triboelectric monitoring, and continuous opacity monitors were identified as potential candidates.

7. Develop an Options Table for Each Example - The options table should contain one row for each potential monitoring option and the following five columns:

a) Monitoring Type – Briefly describe each monitoring option (e.g. one-time sources test, monthly opacity test by EPA method 9, etc.)

b) Cost – The estimated annual cost (or one-time cost) of performing the monitoring. Monitoring costs have been obtained from vendors, estimation programs, literature, and knowledgeable staff.

c) Reasonableness – For each monitoring option, the technical feasibility and burden to the permitting agency should be addressed under this heading.

d) Consistency – The consistency with existing regulations and permitting practices in California and in other regions is evaluated here.

e) Compliance – This section is used to address compliance assurance, margin of compliance and variability. One key question to be answered here is: “To what extent will the proposed monitoring method provide data for evaluating compliance on an ongoing basis?” Other relevant information may also be included.

An example options table from the Material Handling Group is attached.

8. Review options Table – The group should review the options table and openly discuss the relative merits of each option.

9. Choose MRR Method and Frequency- Choose the most appropriate monitoring method and frequency from the options table. Some of the criteria, such as technical feasibility and data necessary to determine compliance on an ongoing basis, are go/no go criteria. The group cannot choose a monitoring method that is not technologically feasible, or that will not provide necessary data. For other criteria such as cost and consistency, there is not a go/no go threshold. The group must consider the relative merits of each option with respect the criteria. If consensus cannot be reached based on the existing information in the options table, more data/information may be collected.

10. Evaluate the Scope to the Determination - The group must decide the scope of the determination (how it extends to other sources in the category). This may be accomplished by placing size or throughput limits on the determination, and identifying any exceptions where the determination may not apply and a different monitoring method or frequency is appropriate.

Example

Analysis of MRR options for Vent Filters

Monitoring Type	Cost (per unit)	Reasonableness	Consistency	Compliance
Calculation	Negligible	Technologically Feasible. Little or no additional burden to Permitting agency.	Routinely performed as part of District Evaluation for new and modified sources.	Would not provide ongoing data for compliance by detecting bag failures.
One-time Source Test	\$5000 (One-time Expense) plus cost to modify vent system for test.	Not Technologically Feasible without major modifications to equipment. Permitting Agency would need to review source test protocol, data, and observe source test.	Not required by any existing rules, regulations or under current permits	Would not provide data for ongoing compliance by detecting bag failures.
Ongoing Parametric				
Daily VE Check, Daily Pressure Drop Monthly Inspection, Monthly Check for Fugitives	\$4,998/yr	Parametric Monitoring can only occur during loading operation, which may occur infrequently. Permitting Agency would need to review records, deviation reports, etc.	Not required by any existing rules or regulations. Has been required under some current permits.	Would provide data for ongoing compliance by detecting bag failures.
Quarterly VE Check, Annual bag Inspection, Annual inspection for fugitives.	\$310/yr			
Annual VE Check, Annual bag Inspection, Annual inspection for fugitives.	\$288/yr			
Leak Detection Systems	\$3000/year plus cost to modify vent system.	Not technologically feasible without equipment modifications. Permitting Agency would need to review records, deviation reports, etc.	Required by some MACT standards for HAPs. (e.g. Lead Smelting Operations)	Would provide data for ongoing compliance by detecting bag failures at time of occurrence.
Annual Source Test	\$5000/yr plus cost to modify vent system for test.	Not Technologically Feasible without major modifications to equipment. Permitting Agency would need to review source test protocol, data, and observe source test.	Not required by any existing rules, regulations or under current permits	Would not provide ongoing data for compliance by detecting bag failures.
COMS	Very High.	Not Technologically Feasible without major modifications to equipment.	Not required by any existing rules, regulations or under current permits	Would provide data for ongoing compliance by detecting bag failures at time of occurrence.

All casual VE estimates assume \$100 annual training cost & 0.125 hours per test @ \$60/Hr
 Vent Filter Inspections assume 2 hr @ \$60/Hr
 Fugitive Inspections assume 1 hr @ \$60/Hr

