

PM_{2.5} FEM Update and Planning AAMSC Meeting December 2, 2010

Summary of PM_{2.5} FEMs:

Method Description	Method Code	Monitors Reporting to AQS – Nov. '10	Status of Consensus SOP
Met One BAM-1020	170	67	Available. May need to improve validation, add section on reconciling DQOs.
Thermo 8500C FDMS	181	24	Development of SOP in progress
Thermo 1405-DF FDMS	182	1	Available. Needs to be updated with changes and insights from Thermo engineering modifications.
Thermo 5014i or FH62C14-DHS	183	0	
Thermo 5030 SHARP	184	2	

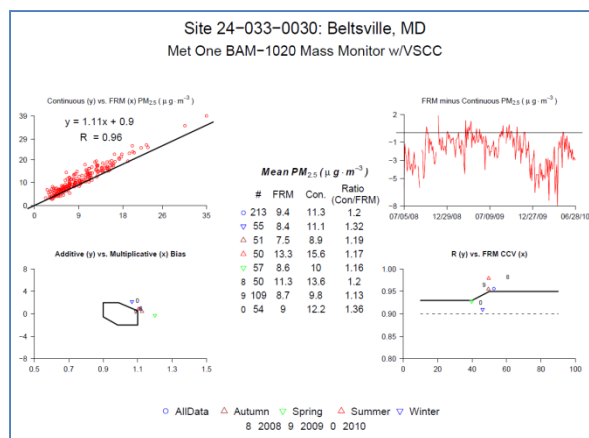
Assessments:

- Detailed one-page per site assessments have been prepared by OAQPS for all FEMs reporting to AQS

Communications:

What Planning and Communications have taken Place?

- EPA – OAQPS and ORD have been meeting to review recently available data assessments
- Pre-AAMSC meeting call on 11/18 with OAQPS, MD, BAAQMD, NYS



What Planning and Communications need to be scheduled?

- Need to reach out to FEM users and instrument companies with information on assessments
- Need to make assessment information available to monitoring agencies contemplating purchase of new FEMs

What information would be useful to collect from users to help inform this process?

- Key setup, maintenance, and internal diagnostic information (e.g., RH on Met One BAM from periods of high bias when weather was warm/hot).

Technical Information:

Concerns and issues raised in pre-meeting call:

1. Positive bias (relative to FRM) of FEMs in environments with apparently high volatiles
2. Use of FEM's in near-roadway environment
3. Varying FEM data quality when evaluating multiple sites operated by the same monitoring agency
4. Validation of data for parameters such as RH in the Met One BAM 1020
5. How to determine when a monitor should be sent back to the instrument company for repair or replacement. For instance, your operator is doing everything they are supposed to do; the monitor is located at a site similar to other locations where the method performs well, but this monitor is not performing well.

Potential Action Items:

1. Need to schedule call with FEM users to communicate results of assessments; should be a joint call with EPA and the monitoring agencies.
2. Need to reach out to instrument manufactures to inform them of mixed data quality and ask for input on how to best resolve issues that can be resolved.
3. Need for quick assessment that an agency can initiate on the quality of their data compared to DQOs and Part 53 FEM criteria?
4. Develop confidence interval around NAAQS decision given FEM data quality as found.
5. Development of a concise and straightforward document on what to do if your data quality is suspect or not acceptable?
 - a. e.g., on the Met One BAM what are the things you can look to investigate if your slope is acceptable and your intercept is unacceptable?
 - i. verify zero test data was entered correctly in instrument
 - ii. check to make sure that if using analog connections you are accounting for the appropriate range of the electrical signal to match the range of the concentrations
6. Solicit detailed FEM operational information through technical survey. Would need to be implemented by NACAA.
7. Longer term - develop instrument specific Technical Systems Audit (TSA) checklists.
8. Reach out to Canada for input on their experiences with the GRIMM.
9. Can a statistic be developed to inform the confidence interval around the daily NAAQS (i.e., 35 $\mu\text{g}/\text{m}^3$)?
10. Other?