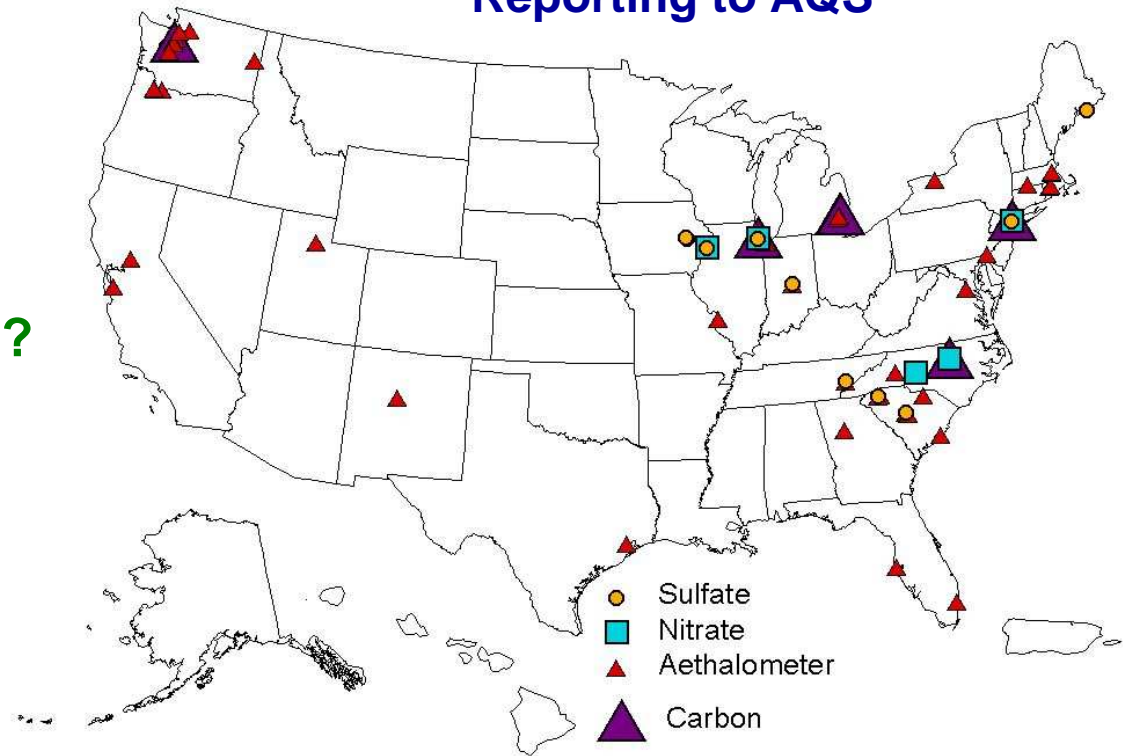


# Update on Continuous PM<sub>2.5</sub>

- First PM<sub>2.5</sub> FEM Approved
- Project on development of Method/SOP for approved FEMs
- Reporting PM<sub>2.5</sub> Continuous Federal Equivalent Method (FEM) or Approved Regional Method (ARM) Data
- Review of PM<sub>2.5</sub> Continuous Mass Data Reported to AQS
- Continuous Speciation?

## Continuous Speciation Monitors Reporting to AQS



**Does your agency use a Continuous Speciation Method?  
We are looking for data.**

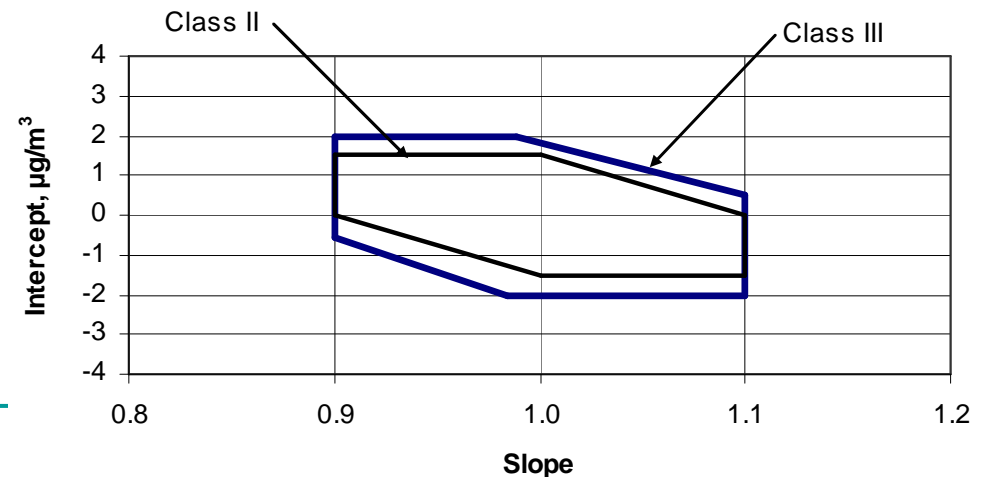
# PM<sub>2.5</sub> FEMs

- EPA's Office of Research and Development designated the Met One BAM 1020 as the first PM<sub>2.5</sub> Federal Equivalent Method (FEM) on March 12, 2008.
- Designation number "EQPM-0308-**170**"

## Met One BAM 1020



Acceptance Limits for Slope and Intercept for PM<sub>2.5</sub> Methods



# Project on development of Method/SOP for approved PM<sub>2.5</sub> FEMs

- PM<sub>2.5</sub> FEM SOP Project:
  - Desire to have consistent well performing methods that meet DQO's
  - Provide for technology transfer across agencies that have expertise in methods
  - Document best practices for method in SOP
    - Installation, operation, maintenance, QA/QC, validation, data reporting
    - Include troubleshooting and insights provided by experts
  
- Sonoma Technologies has been contracted to bring together a handful of State and local experts on each FEM/potential FEM and deliver an SOP on each method
  - Project has just started
  - Request for agencies that have experts on methods to provide SOP and offer time for a few conference calls. (email: [hanley.tim@epa.gov](mailto:hanley.tim@epa.gov))
  - A handful of national experts at the State and local level will be invited to participate in workshop; likely in California sometime in late winter.
  - Instrument companies will also be invited to participate

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# Reporting PM<sub>2.5</sub> Continuous Federal Equivalent Method (FEM) or Approved Regional Method (ARM) Data

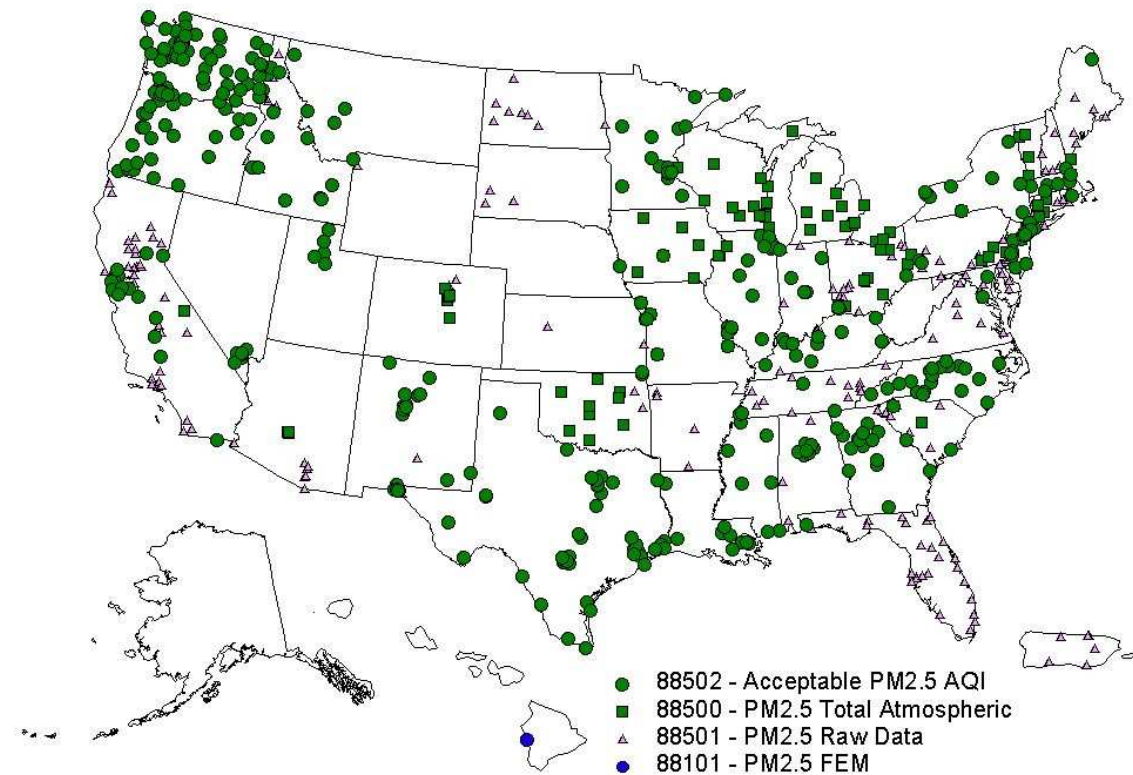
- On July 24, 2008 EPA-OAQPS issued a technical note on “Use of PM<sub>2.5</sub> FEMs and ARMs in State or Local Air Monitoring Station (SLAMS) networks”
- TTN has the technical note available in two places:
  - AQS - <http://www.epa.gov/ttn/amtic/datamang.html>
  - AMTIC - <http://www.epa.gov/ttn/airs/airsaqs/memos/>
- Technical note explains relevant monitoring rules, practical issues of implementing a new method, and AQS data reporting for approved FEM and ARM PM<sub>2.5</sub> continuous methods.

# Implementing a PM<sub>2.5</sub> Continuous FEM or ARM – Agencies have options

- Monitoring agency wishes to install and use data right away:
  - Can be designated as the stations “primary monitor”
  - Can be designated as a “collocated monitor”
- Monitoring agency wants to evaluate the method
  - Agencies that have experience with a method
    - Short “burn-in” period may be warranted to
    - Burn in period should be relatively short (e.g., a few weeks to a few months) but no more than 90 days.
    - **During burn-in period data are not expected to be reported to AQS**
  - Monitoring agency that may be new to a method and wants to perform an evaluation
    - Evaluation may begin and end at any time during the year
    - Normally expect to run for 12 months; however, in accordance with 40 CFR Part 58.20, agencies may use up to 24 months when designated as a Special Purpose Monitor (SPM). Under this provision data are not used for NAAQS comparisons.
    - **Report data to AQS with parameter code 88101, monitor type “Special Purpose”, POC 3.**
    - See technical note for more details

# Review of PM<sub>2.5</sub> Continuous Mass Data Reported to AQS

- Most States Reporting as 88502 “Acceptable PM2.5 AQI”
- A number of States only reporting as 88501 “PM2.5 Raw Data”
- EPA-OAQPS analysis of reported AQS data coming soon



# Parameter Codes for Reporting PM<sub>2.5</sub> Data to AQS

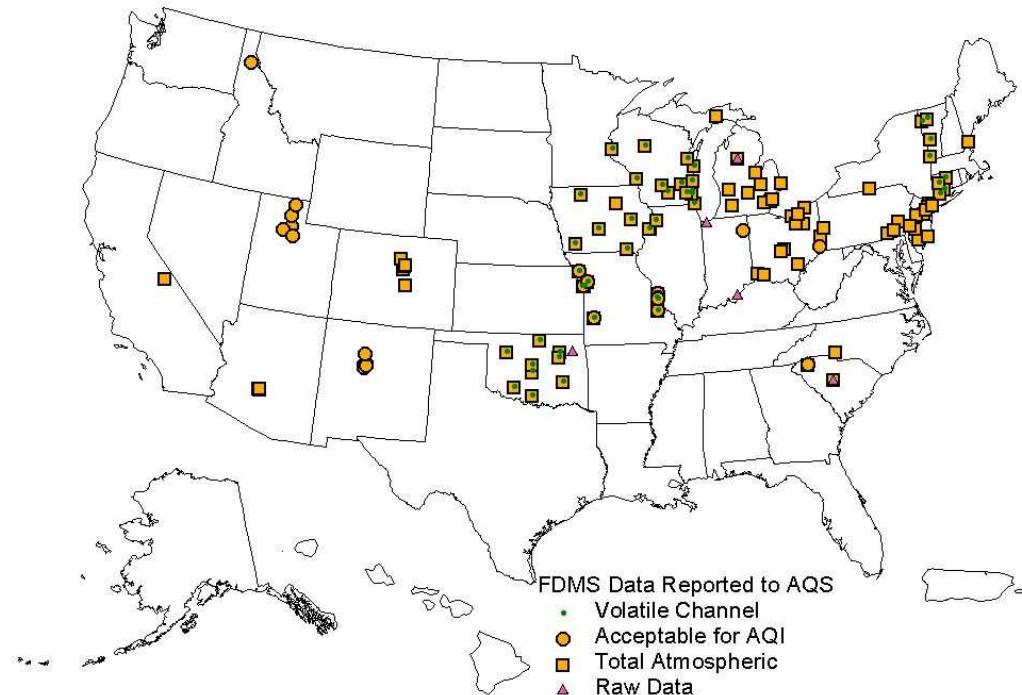
Parameter Name	Parameter Code	Purpose
PM2.5 LOCAL CONDITIONS	88101	Appropriate code for all FRM/FEM/ARMS
PM2.5 TOTAL ATMOSPHERIC	88500	Valid data from methods measuring total PM <sub>2.5</sub> aerosols in the atmosphere, including those that can be volatilized from the FRM
PM2.5 RAW DATA	88501	Valid uncorrected data that <u>does not</u> reasonably match the FRM
ACCEPTABLE PM2.5 AQI & SPECIATION MASS	88502	Valid data that <u>does</u> reasonably match the FRM with or without correction, but not to be used in NAAQS decisions
PM2.5 VOLATILE CHANNEL	88503	Store important related data such as the FDMS reference channel



# Continuous PM<sub>2.5</sub> FDMS Data in AQS

- Growing number of stations using the FDMS
- Request reporting:
  1. Base and Reference to 88500
  2. Concentrations used in AQI reports, if different than 88500 to 88502
  3. PM<sub>2.5</sub> volatile channel to 88503

## Stations Reporting FDMS Data to AQS



AQS		FDMS (i.e., 8500 series)		Notes
Parameter Name	Parameter Code	Description	Program Register Code	
PM2.5 TOTAL ATMOSPHERIC	88500	1-Hour Mass Concentration	008 or 057	Depends how data are logged – all output throughout an hour or just a calculated hour.
PM2.5 RAW DATA	88501	Reporting “PM2.5 Raw Data” is not expected from the FDMS		
ACCEPTABLE PM2.5 AQI & SPECIATION MASS	88502	1-hour Mass Concentration or Base MC or calculated channel	(008 or 057) or 102 or calculated	If meeting DQO’s, data can be reported here regardless of whether its only base or some form of raw or corrected
PM2.5 VOLATILE CHANNEL	88503	Reference MC	104	May be most useful to use digital data acquisition to receive multiple channels from one monitor



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# Summary of Requests on PM<sub>2.5</sub> Continuous Data Reporting

- Every agency should be working towards:
  1. Using a PM<sub>2.5</sub> continuous method that is appropriate to report the AQI for their network
  2. Reporting these data to parameter code 88502 – Acceptable PM<sub>2.5</sub> AQI
- Request agencies using FDMS to report:
  - Base and Reference channel as 88500
  - What ever combination of channels or calculations used in AQI reports to 88502; could be:
    - Base only
    - Base and reference
    - Base and with equation for reference based on temperature
  - Volatile channel as parameter code 88503