US Environmental Protection Agency
Science Advisory Board
Clean Air Scientific Advisory Committee
Technical Subcommittee on Fine Particle Monitoring
Teleconference Meeting
July 29, 1999 11:00 am - 2:00 pm

Agenda (7/29/99)

Thursday, July 29

11:00 am	Introduction and Purpose	Phil Hopke
11:15	ORD updates PM centers Methods Research	Vandenberg
11:35	Data Analysis Plans/Status	Guinnup
11:45	FRM Network Status	Lee Byrd
11:50	Supersites Program Status	Rich Scheffe
11:55	Initial Sites (Atlanta and Fresno)	Paul Solomon
12:05 pm	Speciation Program Status	Jim Homolya
12:20	Sampler Intercomparison Study	Paul Solomon
12:40	Public Comment (if any)	TBA
12:55	Open Discussion	All
1:50	Summary and Future Business	Phil Hopke
2:00	Adjourn	

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EPA Presentations

- FRM Network Status
- Supersites Status
- Speciation Program Status

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FRM Network Status

Lee Byrd
MQAG
919-541-5367
byrd.lee@epa.gov

FRM Network Status

- 863 $PM_{2.5}$ FRM sites are currently operating (~1,050-1,100 expected by 12/31/99).
- Remaining FRM samplers, continuous $PM_{2.5}$ monitors, and initial speciation samplers to be installed this year.
- Start-up issues we've encountered to date:
  - Sampler operations.
  - Site installation problems (leases, power, etc.).
  - Ability to hire field operators.
  - Data management challenges.

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Status of Supersites Program

Richard Scheffe
MQAG Leader
919-541-4650
scheffe.rich@epa.gov

Supersites Status (Events Chronology)

- Atlanta Investigators Meeting; 2/99.
- Fresno plans developed; 1-6/99.
- RFA released; 3/99.
- PM health effects colloquiem/Information meeting; 6/7/99.
- Fresno operations commence summer 99.
- Atlanta operations; 8/99.
- Proposals due 8/99.
- Awards late Fall 99.

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Implementing the Chemical Speciation Program

Jim Homolya
MQAG
919-541-4039
homolya.james@epa.gov

Major Elements of Routine Speciation Program

- Implementation guidance.
- National sampler contracts.
- National laboratory support contract.
- Quality assurance.
- Training.
- Data analysis.

Implementation Guidance

- Chemical speciation workgroup.
- EPA and State agency roles and responsibilities.
- Network design:
  - 54 trends sites (NAMS).
  - ~250 others (planning estimate-total number will be less due to increased sampling frequency, more detailed chemistry, etc.).
- Sampling and analysis methods.
- Quality assurance and data validation.
- Expert panel review.

Speciation Trends Network Basics

- 50 sites mandated by CFR:
  - ~25 sites located at PAMS Type 2 sites.
  - ~25 other sites.
- Sites to include collocated FRM.
- Sites to include 10 meter met tower.
- 5-6 sites to include collocated speciation samplers for QA purposes.

Sampling Frequency at Trends Sites

- 1 in 3 day sampling at 54 sites.
- Frequency sufficient to detect trends.
  - DQO process applied.
  - 8 decision makers (CA, CT, NY, Region 5, OAQPS).
  - Can detect annual trend of 3-5% within five years, with a power of 0.8.
- 10 of 54 sites to begin daily sampling in 2000.

Speciation Expert Review Panel Recommendations

- Reviews of Speciation Guidance Document - Seattle 5/98, Las Vegas 5/99.

- 1999 Panel Recommendations:
  - Selection of samplers should be based on performance criteria.
  - Implement trends network using samplers evaluated in the 4-city study and continue evaluation of nitrate and organics collection methodologies.
  - Establish a managerial and organizational structure for long term network operation and support.

Minitrends Study Implementation

- Speciation sampler intercomparison at 12 trends sites from 10/99-3/00.
- Objectives include cold weather operations, woodsmoke emissions areas, and states gaining hands-on experience and selection of samplers.
- Sample analysis supported by RTI under national contract.
- Participating states include: Arizona, Florida, Illinois, Massachusetts, Missouri, New York, North Dakota, Oregon, Pennsylvania, Texas, Utah, and Washington.
- Study planning 7/29/99, sampler purchases 8/99 and site installation 9-10/99.

National Laboratory Support Contract

- Research Triangle Institute to service trends and state networks -contract awarded 7/8/99:
  - Turn-key support (filter preps, sample transport, analysis, level 0/1 data validation, AIRS data entry).
  - Sample throughput managed by three EPA Regional Coordinators (Regions 2, 5, and 8).
  - Lab QA support provided by EPA Regional/OAR labs.

- Flexibility for States to seek additional lab support using SOPs and QA requirements outlined in speciation guidance.

Quality Assurance

- **Quality Assurance Program Plan for trends sites.**
  - Data quality objectives.
  - Serves as guideline for remaining speciation sites.
- **Data Quality Objectives guidance for state network design.**
- **Analytical labs QA audits provided by EPA Regional/OAR labs.**
  - Systems audits.
  - Performance evaluation samples-workgroups formed with EPA Region 1, ORIA-Montgomery, ORD-NERL, NIOSH and academia.
- **Data validation.**
  - Level 0/1-contract analytical labs.
  - Level 2/3-States and local agencies.
- **State network field QA audits.**

Training

- EPA Regional/OAR QA labs.
- Field sampling site operators.
- Data validation at states.

Data Analysis

- National trends-EPA.
- SIP development-States.
  - Air quality simulation modeling.
  - Source/receptor modeling.
  - Emissions inventory support.
- Health and exposure assessments-EPA and States.
  - Integration with Supersites and FRM networks.
  - Long-term air quality monitoring database.

Chemical Speciation Program Schedule