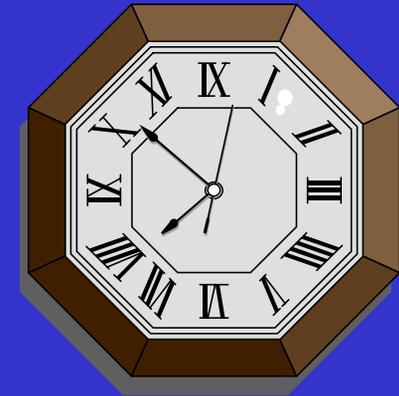


May 2004 Air Quality
Monitoring & Data Analysis
National Conference

Draft Monitoring Regulatory
Changes as a result of the
National Monitoring Strategy

Status of Monitoring Regulatory Changes



- Working draft of preamble and regulatory changes has been written
 - April 2004
 - Lee Byrd goes to DC, leaves copy of package on my desk :(
- Preamble working draft has been reviewed by internal OAQPS-EMAD legal counsel
 - Many changes and additions suggested
 - For items where we cannot develop consensus may need to propose multiple options and solicit comment

Part 50 and 53 Monitoring Regulation Changes

- Part 50 - Standards and reference methods
 - Only change is to reduce PM_{2.5} data reporting requirements
 - retain flags for flow rate, ambient T, elapsed time.
 - retain T and BP averages for sample period only.
- Part 53 - Testing of Reference and Equivalent Methods
 - Equivalency for PM_{2.5} continuous methods
 - Network DQO's have been tied to equivalency criteria
 - Working on how to define correlation

Part 58 Overall Changes

- NAMS/SLAMS goes to National Core (NCore) levels 2 & 3
- Emphasis on multiple objectives rather than just attainment/non-attainment
- Phased in approach from now through 2007
- More reliance on use of performance based measurement systems
- Transition from routine criteria gases (CO, SO₂, NO₂) to trace level boxes
- Use of new (2000) US census definitions

Summary of Part 58.xx changes

- Monitoring Plans – Assessments
 - Due 2 years after final publication
 - Repeats on 5 year basis
- Data Certification by May 1, each year
- Phased in AQS data reporting requirements:
 - 60 days in '07
 - 45 days in '09
- Special Purpose Monitoring (SPM)
 - Language provides for consistency in use of SPM's across criteria pollutants
 - Many interpretations on relationship to NCore have been offered
- Sample Frequency
 - PM_{2.5} (1/3) - (1/6)
 - PM₁₀ & Pb (1/6)

Appendix A - Quality Assurance

- Applies to NCore levels 2, 3 and PSD
- QMPs, QAPPs, DQOs, Quality Assurance Lead, Systems Audits
- Statistics - DQO's for O₃ identified
- Redefines reporting organization and quality assurance organization. An additional field in AQS may be necessary.
- Modifies gaseous precision and bias statistics
- Lots of detail in changes to Appendix A - See QA Workgroup site on AMTIC



Appendix C - Methodology

- For continuous PM_{2.5} as “Regional Approved”
 - Statistical Requirements
 - 10% CV (of same make and model), 10% total bias from collocated FRM
 - Minimum correlation coefficient = 0.93 ($r^2=0.87$)
 - May change to same as Part 53, once developed
 - Sites for testing
 - One site per CBSA/CSA up to first 2 CBSA/CSAs
 - One rural or small CBSA
 - Duration of Testing
 - One full year
 - Can be by season
 - 90 valid samples / year, 20 valid / season
 - Applications
 - First application of a method approved by the Administrator (ORD)
 - Once ORD approves a method, subsequent applications are handled by the appropriate Regional Administrator

Appendix C - Methodology

- Regional Approved Continuous Method Implementation
 - 30% collocation with FRM
 - Minimum of 1/network
 - FRM's are placed - one each in the largest CBSA, then the next largest...until all are placed.
 - Collocation with 2nd continuous at 7.5% of sites
 - Consistent with Appendix A...
 - FRM data are to be substituted for any quarter in which the PM_{2.5} continuous data is incomplete

Appendix C - Methodology

- PM2.5 Regional Approved Continuous Examples:
 - 5 sites
 - 5 continuous, 2 FRM's, 1 collocated FRM, 1 collocated continuous
 - 10 sites
 - 10 continuous, 3 FRM's, 1 collocated FRM, 1 collocated continuous
 - 20 sites
 - 20 continuous, 6 FRM's, 1 collocated FRM, 2 collocated continuous
- Requirements for NCore level 2 - CO, SO2, NO2, and O3 methods
 - must be automated reference or equivalent, or
 - an alternative method described in the network description and approved by the administrator

Appendix D – Network Design

- Three major objectives - which are all valued (not prioritized)
 - Provide air pollution data to the general public in a timely manner
 - Support NAAQS compliance, emissions strategy development, and trends
 - Support for air pollution research studies

Appendix D

- NCore Level 2
 - One site per state
 - CA, FL, IL, MI, NY, NC, OH, PA, and TX (1-2 additional sites)
 - Urban scale in general – Long Term
 - Limited number of rural sites
 - Administrator approval needed
 - Pollutants Measured (10 sites with Pb)
 - PM2.5 continuous and filter, O3, Trace level (TL) SO2, TL CO, TL NO/NOy, NH3 (ammonia), HNO3 (nitric acid), WS, WD, RH, T
 - Trend Speciation / NATTS

NCore Level 3 - Ozone

CBSA, CSA or county population for areas outside of a CBSA/CSA	Most recent 3 year Design Value Concentrations > 115% of any O3 NAAQS		Most recent 3 year Design Value Concentrations +/- 15% of any O3 NAAQS		Most recent 3 year Design Value Concentrations < 85% of any O3 NAAQS	
	3	6	4	8	2-3	6
>10 mil	3	6	4	8	2-3	6
4-10 mil	2	5	3	7	1-2	5
1-4 mil	2	4	2-3	6	1	4
350 k–1mil	2	2	2	3	1	2
200k-350k	1	1	1-2	2	0	1
<200k	1	1	1	1	0	0

NCore Level 3 – PM2.5

CBSA, CSA or county population for areas outside of a CBSA/CSA	Most recent 3 year Design Value Concentrations > 115% of any PM2.5 NAAQS	Most recent 3 year Design Value Concentrations +/- 15% of any PM2.5 NAAQS	Most recent 3 year Design Value Concentrations < 85% of any PM2.5 NAAQS
>1 mil	2-4	3-6	2
500k – 1mil	1-2	2-3	1
250k-500k	1	1-2	0
100k –250k	1	1-2	0
<100k	1	1	0

NCore Level 3 – PM10

CBSA, CSA or county population for areas outside of a CBSA/CSA	Most recent 3 year Design Value Concentrations >85% of any PM10 NAAQS	Most recent 3 year Design Value Concentrations ≤ 85% of any PM10 NAAQS
>1 mil	3-6	1
500k – 1mil	2-3	0
250k-500k	1-2	0
<250k	1	0

Appendix D

- NCore Level 3
 - Approval for all level 3 sites by the Regional Administrator
 - Sites for NO₂, SO₂, CO required when
 - Suspected or known areas of violation
 - One site – max concentration..
- Ozone Seasons - Still apply, identified in AQS, not Part 58
- PM_{2.5} continuous monitoring minimally required at 1/2 required NCore sites
- Reduction in PAMS requirements
- PM_{2.5} and PM₁₀ Filter Archiving for 1 year

Appendix E & G

- Appendix E
 - Separation from roadways slightly increased for O³ and N.
 - Inlet and probe materials
 - need to consider residence time and inlet design to accommodate through-the-probe audits
- Appendix G
 - AQI – CBSA's or CSA's with 350,000

Remaining Issues

- Concerns expressed about 5 year Network Assessments appearing as a relaxation to Network Reviews each year
- SPMs
 - Defining scope, applicability, use of data, and requirements (for example, time in operation) to become level 3 site.
- Sample frequency for PM_{2.5} FRM's 1/3, 1/6
- Finishing Part 53 statistical criteria
 - Correlation could use sliding scale based on population data; however, does this over complicate the process?
- Ozone Network design
 - Minimum number of sites?
- PM₁₀
- Census definitions applied in other parts of State
- Reconciling Part 50 and Part 58, App. C language on applicability of methods that are not reference and equivalent

Next Steps

- Edit/further develop preamble - Need support on this!
- Close on remaining issues with regulatory review workgroup
- May need to add more background information to docket
 - Documentation related to need/analysis/development of the strategy
- Deliver final working draft package to EPA reg staff

