

Revisions to Ambient Air Monitoring Regulations

Summary Information
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For Discussion with the
National Ambient Air Monitoring Steering Committee
on October 18, 2005

and

For Discussion with the
EPA Region Office Air Program Managers
on October 20, 2005

EPA is preparing a Notice of Proposed Rulemaking to be signed by December 20, 2005. It will propose to revise the ambient air monitoring requirements for criteria pollutants. The proposed amendments would establish ambient air monitoring requirements in support of the proposed revisions to the National Ambient Air Quality Standards (NAAQS) for particulate matter (PM). The proposed amendments also would require States to establish NCore Level 2 sites to support an integrated, multi-pollutant approach to ambient air monitoring. Other proposed amendments would revise the requirements for reference and equivalent method determinations (including specifications and test procedures), quality assurance, and data reporting. The proposed amendments would enhance ambient air quality monitoring to serve current and future air quality management and research needs.

OUTLINE OF NPRM PREAMBLE

- I. General Information
- II. Overview
 - A. What is the purpose of today's proposal?
 - B. What are the proposed changes to EPA's ambient air monitoring regulations?
 - C. How did EPA develop the proposed amendments?
 - D. How would the proposed changes affect States, local governments, tribes, and other stakeholders?
 - E. How would EPA implement the new requirements?
- III. Background
 - A. What is the role of ambient air monitoring in air quality management?
 - B. What is the history of EPA's ambient air monitoring?
 - C. What revisions to the national ambient air quality standards for particulate matter are also proposed today?

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- IV. Proposed Amendments
 - A. What are the proposed terminology changes?
 - B. What are the proposed requirements for approval of reference or equivalent methods?
 - C. What are the proposed requirements for quality assurance programs?
 - D. What are the proposed monitoring methods for the NCore network?
 - E. What are the proposed requirements for the number and location of monitors to be operated by State and local agencies?
 - F. What are the proposed probe and monitoring path siting criteria?
 - G. What are the proposed data reporting, data certification, and sample retention requirements?
 - H. How would the monitoring data apply to attainment and nonattainment designations and findings?
- V. Statutory and Executive Order Reviews
 - A. Executive Order 12866: Regulatory Planning and Review
 - B. Paperwork Reduction Act
 - C. Regulatory Flexibility Act
 - D. Unfunded Mandates Reform Act
 - E. Executive Order 13132: Federalism
 - F. Executive Order 13175: Consultation and Coordination with Indian Tribal Governments
 - G. Executive Order 13045: Protection of Children from Environmental Health and Safety Risks
 - H. Executive Order 13211: Actions that Significantly Affect Energy Supply, Distribution, or Use
 - I. National Technology Transfer Advancement Act
 - J. Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations

Aspects of the NPRM Which Will Be Familiar

The NPRM planned for December 2005 will propose several changes which are essentially the same as discussed with EPA Regional Office and State/local officials during the development of the draft National Ambient Air Monitoring Strategy or which have been discussed/presented in other forums. These include the following items:

- Drop SLAMS/NAMS terminology.
- Require urban NCore Level 2 sites (rural NCore Level 2 sites will not be required by regulation, since not all States will be affected).
- Four changes for the FRM for PM_{2.5} (VSCC, alternative oil, filter recover time and transport temperature) - Will be part of the NAAQS FR notice.
- New criteria for approval of PM_{2.5} FEMs.
- New criteria for approved regional methods for PM_{2.5}.
- Consolidate NAMS/SLAMS and PSD QA requirements.
- New statistical formulas for calculation of precision and bias for SO₂, NO₂, CO, ozone, and lead.
- Modernize requirements for audit checks for NAAQS gases(frequency, concentrations, delete manual check option).
- Changes in minimum number of monitors for PM_{2.5} and ozone - Note that while the minimum numbers are changing, we do not anticipate or propose any reduction in the number of ozone monitors and only moderate reductions in PM_{2.5} FRM monitors. For ozone, areas above 350,000 population without a monitor will be required to establish a monitor.
- Reductions in PAMS requirements.
- New requirement for 5-year cycle of network assessments.
- Minor changes in probe/path siting criteria.
- Earlier annual certification of data (120 days from end of calendar year, versus current 180).

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Aspects of the NPRM Which Are New

As a result of subsequent developments and internal EPA coordination, there are several aspects of the NPRM which either will deal with issues not discussed with EPA Regional Office and State/local monitoring leaders during the development of the National Ambient Air Monitoring Strategy, or for which the proposal will be different than EPA staff contemplated and communicated during those discussions.

These provisions include the following:

PM Methods Items

- PM10-2.5 FRM (if a NAAQS for PM10-2.5 is proposed) - Will be part of the NAAQS FR notice.
- PM10-2.5 FEM approval criteria (if a NAAQS for PM10-2.5 is proposed)
- Speciation requirements for PM10-2.5 (if a NAAQS for PM10-2.5 is proposed)
- Network requirements for PM10-2.5, e.g., how many monitors, what urban areas, siting priorities/criteria, etc. (if a NAAQS for PM10-2.5 is proposed)
- Monitoring method(s) for a secondary PM2.5 NAAQS for a period shorter than 24-hours (if a visibility-related secondary PM2.5 NAAQS is proposed) - Will be part of the NAAQS FR notice.
- QA related to PM10-2.5 and secondary PM2.5

Data submission schedule requirements. Earlier, EPA staff floated the idea of requiring monitoring data to be submitted to AQS sooner than 90 days from the end of each quarter. We no longer intend to propose this acceleration. For ozone and PM2.5, the AIRNOW system is satisfying most needs for rapid data.

Data certification - EPA intends to clarify that precision and accuracy data must be submitted to AQS, and that annual data certification letters must be accompanied by summaries of that data and must reflect consideration of that data.

Independent audits - EPA intends to propose language that will require States to provide for the conduct of adequate, independent audits of the monitoring network for all NAAQS pollutants. This will replace a current requirement that States participate in audits conducted by EPA. While EPA intends to conduct PEP and NPAP audits using STAG funds in States that wish to provide for their independent audits by this mechanism, States that wish to obtain their independent audits from other providers may do so at their own expense.

Special Purpose Monitors (also known as Disincentives to Monitoring). In earlier

discussions, OAQPS staff floated a concept in which the first three years of data from a new monitor in excess of minimum requirements would not ever be used for regulatory purposes. We are changing direction on this issue. As a legal matter, EPA is unable to simply ignore valid FRM/FEM data when taking actions that are mandatory under the CAA. The preamble will likely say the following:

- (1) EPA encourages monitoring beyond minimum requirements to better understand air quality problems, causes, and possible solutions.
- (2) For PM, non-FRM/FEM methods will often be the type of additional monitoring needed to better understand air quality, and such data is not useable for designations or most other regulatory purposes.
- (3) EPA has discretion on whether to take certain types of regulatory action, including off-cycle designations. Therefore, data from new monitors showing exceedances of a NAAQS do not necessarily lead to near term "adverse" regulatory actions if the State is appropriately addressing the air quality problem.
- (4) For PM_{2.5}, the ambient monitoring regulations currently provide that a new special purposes monitor (one that is beyond minimum requirements) can be operated for two years without that data being used for regulatory purposes, if the monitor is then removed. The preamble will propose extending this to the other NAAQS pollutants.
- (5) New monitors which are beyond minimum requirements can be designated as special purpose when established. If so, no EPA concurrence is needed to discontinue them prior to the end of the 24th month of operation. Also, they do not need to meet siting criteria. They can use any method and sampling frequency, but must follow QA requirements in part 58 that apply to the method used. If they use an FRM or FEM and meet siting criteria or if the State has obtained a waiver of the siting criteria, the data must be reported to AQS.

Monitoring network changes. The draft National Ambient Air Monitoring Strategy envisions that NCORE Level 3 sites may be added and discontinued based on periodic network assessments, provided that the network continues to meet the revised minimum requirements for number of monitors and their placement.

Presently, the monitoring regulations require EPA approval of all network changes, at the Regional Office level for non-NAMS site changes and at the HQ level for NAMS site changes. The NPRM will likely propose some specific approval criteria in order to make EPA action on proposed changes more predictable and efficient. Certain types of changes would be assured approval by the Regional Office once the Regional Office verifies the facts of the situation.

Other changes would require HQ concurrence in the proposed Regional Office action. Criteria under consideration for "assured approval" include the following:

- (1) Any PM₁₀ monitor in excess of minimum requirements predicted to have a probability of less than X% for a future violation of the current NAAQS, based on the levels and variability observed over the last five years, can be removed.

(2) For pollutants other than PM10, any monitor in excess of minimum requirements predicted to have a probability of less than X% of exceeding a value of Y% of the current NAAQS, based on the levels and variability observed over the last five years, can be moved or removed. (“Y” is introduced to provide a margin of additional caution in light of the possibility that a NAAQS may be revised downward in the future.)

(3) For CO, lead, NO2, and SO2, a monitor in excess of minimum requirements can be moved or removed if another monitor in the same county and nonattainment area has been reading higher over the last five years.

(4) For any pollutant, the highest reading monitor in a county (in excess of minimum requirements for its metro area) may be moved or removed if an approved SIP revision provides another way to represent the air quality of that county for all regulatory purposes. This could be a specific monitor in another county, a specific approach to spatial interpolation, etc. EPA HQ would maintain a concurrence role in Regional Office approvals of such SIP revisions.

(5) For any pollutant, a monitor which EPA has determined cannot be compared to the NAAQS due to siting problems can be moved or removed, for example, a PM2.5 monitor that is not population oriented.

(6) Monitors which are designed to measure upwind background/transport concentrations may be moved.

(7) Monitors which must be moved due to siting logistical problems, where the new site is nearby and within the same scale of representation.

Annual monitoring reviews/plans and 5-year network assessments. EPA may propose that States make these documents available to the public and provide an opportunity to comment on any monitor movements/removals before submission to EPA. EPA may also propose that the State include an analysis of environmental justice impacts, if any, of proposed changes to the monitoring network. EPA may also propose that the State consider how discontinuing a site may affect other data users including nearby tribes and health effects researchers.

Another Possible Proposal for Discussion

OAQPS staff wish to consult with Regional Office and State/local monitoring managers and technical experts on the possibility of requiring submission of FRM blank mass data to AQS. This data is presently collected by monitoring agencies for purposes of quality monitoring, but is not required to be submitted to AQS. EPA staff believe that access to this data for all sampler models, regions, and climate conditions would make it possible to better estimate what is actually in the air, and to successfully compare PM monitoring data across methods and

samplers.