PART 52—[AMENDED]

1. The authority citation for part 52 continues to read as follows:

Authority: 42 U.S.C. 7401–7671q.

Subpart G—Colorado

2. Section 52.322 is added to read as follows:

§ 52.322 Extensions.

The Administrator, by authority delegated under section 188(d) of the Clean Air Act, as amended in 1990, extends for one year (until December 31, 1995) the attainment date for the Denver, Colorado, PM–10 nonattainment area.

[FR Doc. 95–24508 Filed 10–5–95; 8:45 am]
BILLING CODE 6560–50–P

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40 CFR Part 58

[FRL–5304–9]

RIN 2060–AF88

Ambient Air Quality Surveillance Siting Criteria for Open Path Analyzers

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: EPA is amending its regulations to define the appropriate ambient air monitoring criteria for open path (long-path) analyzers. These revisions to the Ambient Air Quality Surveillance regulations define the siting requirements for open path analyzers used as State and Local Air Monitoring Stations (SLAMS), National Air Monitoring Stations (NAMS) and Photochemical Assessment Monitoring Stations (PAMS), as well as general quality assurance procedures for this technology. These changes provide the ambient air monitoring community with criteria needed to effectively use open path analyzers and associated data for regulatory purposes.

EFFECTIVE DATE: This final rule and all contained regulatory changes except for appendix D, section 2.2, are effective on October 6, 1995. The 40 CFR part 58, appendix D, section 2.2 requirements are not effective until the Office of Management and Budget approves the information requirements contained in them and the EPA publishes a document announcing their approval in the Federal Register.

ADDRESSES: Copies of the comments received on the notice of proposed rulemaking, supporting documentation, and the response to public comments document may be obtained from: Air Docket (LE–131), Attention: Docket Number A–93–44, U.S. Environmental Protection Agency, room M–1500, 401 M Street, SW., Washington, D.C. 20460. Docket Number A–93–44, containing supporting information used in developing these revised regulations, is available for public inspection and copying between 8:30 a.m. and 12 noon, and between 1:30 p.m. and 3:30 p.m., Monday through Friday, at the EPA's Air Docket Section at the address noted above. As provided in 40 CFR part 2, a reasonable fee may be charged for copying.

FOR FURTHER INFORMATION CONTACT: Lee Ann B. Byrd (919) 541–5367, Monitoring and Quality Assurance Group (MD–14), Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711.

SUPPLEMENTARY INFORMATION:

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I. Authority

Sections 110, 301(a), 313, and 319 of the Clean Air Act as amended 42 U.S.C. 7410, 7601(a), 7613, 7619.

II. Background

A new technique for monitoring pollutants in ambient air has been developed and introduced to the EPA. Instruments based on this new technique, called open path (or long-path) analyzers, use ultraviolet, visible, or infrared light to measure nitrogen dioxide (NO_2), ozone (O_3), carbon monoxide (CO), sulfur dioxide (SO_2), and other gaseous pollutant concentrations over a path of several meters up to several kilometers. The measurements obtained by these open path analyzers are path-integrated values from which path-averaged concentrations are obtained. In contrast, traditional point analyzers measure pollutant concentrations at one specific point by extracting an air sample from the atmosphere through an inlet probe.

Due to the fundamental difference in the measurement principles of open path and point analyzers, there may be tradeoffs in using each type of instrument for certain applications. Because of the ability of open path analyzers to measure pollutant concentrations over a path, these new techniques are expected to provide better spatial coverage, and thereby a better assessment of a general population's exposure to air pollutants for certain applications. However, due to this same path-averaging characteristic, open path analyzers could underestimate high pollutant concentrations at specific points within the measurement path for other ambient air monitoring situations. The applicability of either technique to a particular monitoring scenario is dependent on a number of factors including plume dispersion characteristics, monitoring location, pollutant of interest, population density, site topography, and monitoring objective. The EPA has considered these factors in evaluating the advantages and disadvantages of using open path analyzers for the various ambient air monitoring applications detailed in 40 CFR part 58.

The EPA has assessed the performance of an open path analyzer as candidate equivalent methods for measuring ozone, sulfur dioxide, and nitrogen dioxide under part 53. This open path analyzer was formally designated as an equivalent method for each of the three pollutants in a Federal Register notice, volume 60, number 84 on May 2, 1995. In parallel with this effort, the EPA developed these part 58 siting and quality assurance criteria for open path analyzers, which were published on August 18, 1994 as a notice of proposed rulemaking.

The intended purpose of these revisions to part 58 is to define first the conceptual framework of network design and siting which is equally relevant to open path and point types of ambient air monitoring sites, followed by the practical implications that flow from the conceptual approach. Comments received in response to the notice of proposed rulemaking have been carefully considered. Improvements to the network design and siting criteria were identified from these comments, and, as appropriate, were incorporated into the regulatory text as detailed in this action. Copies of the specific EPA responses to each comment received are available in the docket as noted previously.

III. Discussion of Regulatory Revisions and Major Comments on Proposal

A. Section 58.1 Definitions

Today's action adds several new definitions to part 58 which are needed to clearly define the proposed new requirements for open path analyzers. Definitions for ''point analyzer'' and ''open path analyzer'' have been added to define these two types of automated instruments and to clarify the distinction between them, since the various new and existing requirements may apply to one or the other or both types of analyzers. A new definition for ''probe'' is added to specify the inlet where an air sample is extracted from the atmosphere for delivery to a sampler or point analyzer. Similarly, a new definition is added for ''monitoring path'' to describe the path in the atmosphere over which an open path analyzer measures and averages a pollutant concentration. Closely associated with the term ''monitoring path'' are new definitions for ''monitoring path length,'' to describe the scalar length of the monitoring path, and ''optical measurement path length,'' to describe the actual length of the optical beam of an open path instrument. The length of the optical beam may be two or more times the length of the monitoring path when one or more mirrors are used to cause the optical beam to pass through the monitoring path more than once. One public comment recommended changes to the language of the two former definitions to clarify the differences between path integrated values and path-averaged concentrations. The EPA concurs with this recommendation and clarifying language has been added.

To help describe the new requirements for data quality assessment procedures, the term ''effective concentration'' is defined. This term refers to the ambient concentration of a pollutant over the monitoring path that would be equivalent to a much higher concentration of the pollutant contained in a short calibration cell inserted into the optical beam of an open path analyzer during a precision test or accuracy audit. Specifically, effective concentration is defined as the actual concentration of the pollutant in the test cell multiplied by the ratio of the optical measurement path length of the test cell to the optical measurement path length of the atmospheric monitoring path. Also, when a calibration cell is inserted into the actual atmospheric measurement beam of an open path analyzer for a precision or accuracy test, the resulting measurement reading would be the sum of the pollutant concentration in the calibration cell and the pollutant concentration in the atmosphere. The atmospheric pollutant concentration must be measured separately and subtracted from the test measurement to produce a ''corrected concentration,'' which would be the true test result. Thus, the term ''corrected concentration'' is defined as the result of such a precision or accuracy assessment test after correction of the test measurement by subtracting the atmospheric pollutant concentration.

Finally, a formal definition of ''monitor'' is provided to clarify its use in the regulations as a generic term to refer to any type of ambient air analyzer or sampler that is acceptable for use in a SLAMS monitoring network under appendix C of this part. A monitor could thus be a point analyzer, an open path analyzer, or a sampler.

B. Appendix A—Quality Assurance Requirements for SLAMS

Appendix A describes both general quality assurance requirements applicable to SLAMS air monitoring as well as specific procedures for assessing the quality of the monitoring data obtained in SLAMS monitoring networks. While the general quality assurance requirements (in section 2) are directly applicable to open path analyzers without change, the more specific data quality assessment procedures (in section 3) must be modified somewhat to apply to open path analyzers. Accordingly, changes to these procedures are provided to incorporate appropriate data quality assessment tests applicable to open path monitoring instruments. To the extent possible, the new requirements are similar or parallel to the existing requirements for point analyzers.

For both the precision test (section 3.1) and the accuracy audit (section 3.2), the new requirements specify that an optical calibration or test cell containing a pollutant concentration standard must be inserted into the optical measurement beam of the open path analyzer. Both theory and testing indicate that the use of such a calibration or test cell is equivalent in accuracy to measurement of the equivalent pollutant concentration in air over the entire monitoring path of an open path analyzer. Each concentration standard must be selected such that it produces an ''effective concentration'' equivalent to a specified ambient concentration over the monitoring path. As noted previously, effective concentration is defined as the actual concentration of the pollutant in the test cell multiplied by the ratio of the optical measurement path length of the test cell to the optical measurement path length of the atmospheric monitoring path. The effective concentrations specified for the precision and accuracy tests for open path analyzers are the same as the test concentrations currently specified in these procedures for point analyzers.

Ideally, precision and accuracy assessments should test a monitoring instrument in its normal monitoring configuration. Therefore, the new test procedures require that the test or calibration cell containing the test pollutant concentration standard be inserted into the actual atmospheric measurement beam of the open path analyzer. The resulting test measurement of the pollutant concentration is thus the sum of the test concentration in the cell and the pollutant concentration in the atmosphere, because the measurement beam would pass through both the test cell and the atmospheric monitoring path. Accordingly, a correction for the atmospheric concentration is required to obtain the true test result. In the new procedures, the atmospheric pollutant concentration is measured immediately before and again immediately after the precision or accuracy test, and the average of these two measurements is subtracted from the test concentration measurement to produce a ''corrected concentration,'' which is reported as the test result. One comment was received regarding the former correction procedure which indicated a concern that a second, point analyzer would be needed to complete the accuracy audit and precision check procedures described in the proposal. The accuracy audit and precision check procedures defined in this action do not require the use of a second point analyzer. It is intended that the ambient air concentration measurements needed to correct the test readings would be obtained by the open path analyzer under test. The language of the procedures has been changed to clarify this requirement.

The corrected concentration reported for a precision or accuracy test may not be accurate if the atmospheric pollutant concentration changes during the test. When the ambient concentration is variable, the average of the pre- and post-test measurements may not be an accurate representation of the ambient pollutant concentration during the test.

The proposed test procedures recommend that these tests should be carried out, if possible, during periods when the atmospheric pollutant concentration is low and steady. The lower the atmospheric pollutant concentration, the steadier the concentration is likely to be and the better the pre- and post-test measurements will represent the actual atmospheric concentration during the test measurement. Further, the procedures provide that if the pre- and post-test measurements of the atmospheric concentration differ by more than 20 percent of the effective concentration of the test standard, the test result is discarded and the test repeated.

Two comments were received regarding the recommendation that pre- and post-test measurements be taken when the atmospheric pollutant concentration is low and steady, such as during early morning or late evening hours. These comments illustrated a concern that it may be difficult for a monitoring agency to conduct the accuracy audits and precision checks at such specific times. In amending the monitoring regulations to permit the use of open path analyzers, the EPA is not suggesting that the use of open path analyzers is necessarily cost effective or even necessarily advantageous. The EPA is permitting their use, at the discretion of the monitoring agency, for whatever benefit the agency may believe to accrue. The recommendation cited is intended to point out that the precision and accuracy test results may be better if carried out during periods when concentration levels are more likely to be low and steady, and therefore the timing of these tests as to the time of day or the meteorological conditions of the day should be considered—to the extent practicable—by the monitoring agency scheduling these tests.

A comment was received which recommended that accuracy limits on the measurement of the optical measurement path length be incorporated into the regulation. This issue of the determination of the optical measurement path length is particularly important because an error in this parameter would not normally be compensated for in the calibration or be evident in the results of the accuracy audit procedures for open path analyzers. Therefore, the accuracy audit procedure has been revised to include reverification of this parameter.

It is recognized that the new tests for precision and accuracy for open path analyzers, as well as the existing tests for point analyzers, are described in very general terms, and that additional, more detailed information and guidance are usually necessary for an analyzer operator to carry out these tests properly. Accordingly, section 3 of appendix A is amended by adding an explicit indication that supplemental information and guidance to assist the analyst in conducting these tests may be available in the publication, ''Quality Assurance Handbook for Air Pollution Measurement Systems, Volume II'' (EPA–600/4–77–027a, identified as Reference 3 at the end of appendix A), or in the operation or instruction manual associated with the particular monitor being used.

The techniques for precision and accuracy assessment of open path analyzers are based largely on consultations with the manufacturer, along with EPA tests, of the differential optical absorption spectrometer that is currently under consideration by the EPA for possible designation as equivalent methods under 40 CFR part 53. However, it is desirable that the techniques be generic in nature, if possible, so that they would be applicable to other types of open path monitoring instruments as well. In addition, for some types of open path instruments or for some installations or configurations, there may be technical reasons why the new techniques for precision and accuracy assessment may not be feasible, appropriate, or advisable. As a result, these procedures allow for the use of an alternate local light source or an alternate optical path that does not include the normal atmospheric monitoring path, if such an alternate configuration is permitted by the operation or instruction manual associated with the analyzer. Since the analyzer operation or instruction manual would be subject to approval as part of the requirements for EPA designation of an open path analyzer as an equivalent method, the EPA would thereby have control over the alternate configurations that would be allowable for the precision and accuracy assessment tests.

One comment was received recommending more details be provided within the regulation defining the limitations and conditions under which an alternative light source could be used. Because it is impossible to anticipate the variety of open path analyzers and audit techniques that could eventually be used, it is difficult, if not impossible, to define specific limits and conditions under which an alternative light source could be permitted for accuracy audits and precision checks. The specific authorization to use an alternate light source will be determined on a case-by-case basis for each specific open path analyzer subject to an equivalent method determination under part 53. Then, if permitted, the analyzer-specific conditions and limitations for its use would be described in detail in the associated operation/instruction manual. This manual is approved as part of the formal designation of the analyzer as an equivalent method, and the EPA can make sure that the procedures and conditions are addressed adequately in the manual before a candidate method is designated as an equivalent method.

C. Appendix B—Quality Assurance Requirements for Prevention of Significant Deterioration (PSD) Air Monitoring

Appendix B sets forth both general quality assurance requirements for PSD monitoring as well as specific procedures for assessing the quality of the monitoring data obtained in PSD monitoring networks. The amendments and procedures proposed for appendix B to extend the existing requirements to open path analyzers are essentially identical to the changes proposed for appendix A. Similarly, changes to the regulatory language resulting from public comments received on appendix A apply equally to appendix B.

D. Appendix D—Network Design for State and Local Air Monitoring Stations (SLAMS), National Air Monitoring Stations (NAMS), and Photochemical Air Monitoring Stations (PAMS)

Changes to appendix D were not recommended with the original proposal associated with this action. Public comments indicated the need for the EPA to consider the comparability of data collected by point analyzers and data collected by open path analyzers, particularly in situations of nonuniform pollutant concentrations. This issue also raises an additional concern over introducing new ambient air monitoring technologies into the Nation's monitoring program which is currently based on traditional point-specific monitoring techniques, and its impact on existing air quality management programs.

In response to these issues, the EPA has modified appendix D with criteria and requirements intended to help agencies determine what, if any, impacts the introduction of this technology may have on their local air quality management programs. These criteria include investigations into the specific technology selected for a chosen application, the site location with respect to the monitoring objective, and a requirement for concurrent monitoring when replacing an existing monitor with one using a different ambient air monitoring technique. The intent of the latter requirement is to provide a bridge between the two types of ambient air monitoring data (point and path-averaged values).

The EPA recognizes that these appendix D requirements can be more effectively and efficiently used to improve an ambient air monitoring network if consideration for the particular monitoring site, objective, and related conditions is included in the network analysis. As a result, these requirements are presented in general terms, with waiver provisions provided as appropriate.

E. Appendix E—Probe and Path Siting Criteria for Ambient Air Quality Monitoring

This action amends appendix E by adding new siting criteria applicable to open path analyzers for monitoring of SO_2, O_3, NO_2, CO, and O_3 precursors (defined in the PAMS program as volatile organic compounds, oxides of nitrogen, and selected carbonyls). Because of the substantial similarity in the siting criteria for SO_2, O_3, and NO_2 (both the existing criteria for point monitors and proposed new criteria for open path analyzers), the siting requirements for these three pollutants are combined, consolidated, and set forth in section 2 of appendix E. As a result, the existing criteria for SO_2, O_3, and NO_2 in sections 3, 5, and 6 are deleted, and those sections are reserved. As noted below, the criteria for CO monitoring are somewhat different, so they are retained in a separate section 4. Siting criteria for measuring O_3 and its precursors as part of a PAMS network are included in section 10. In all cases, the new open path provisions have been incorporated into the existing provisions, as appropriate.

The new open path siting requirements largely parallel the existing requirements for point analyzers, with the revised provisions applicable to either a ‘‘probe’’ (for point analyzers), a ‘‘monitoring path’’ (for open path analyzers), or both, as appropriate. Accordingly, criteria for the monitoring path of an open path analyzer are described for horizontal and vertical placement, spacing from minor sources, spacing from obstructions, spacing from trees, and spacing from roadways. The open path requirements apply to most of the monitoring path—generally 80 or 90 percent—but not to the entire monitoring path, to allow some needed flexibility in siting open path analyzers. For example, using the proposed 80 percent requirement, a monitoring path may be sited across uneven terrain, where up to 20 percent of the monitoring path may not fall within the proposed 3- to-15 meter specification for height above ground.

Two comments were received on the optical obstructions, or physical interferences (e.g., rain, snow, fog) criteria discussed in sections 2.3, 4.2, and 10.2 of the proposed rule. The specific open path analyzer currently under consideration for designation as an equivalent method calculates the level of uncertainty for each data value obtained based on several factors including diminished light levels due to optical obstructions. These uncertainty levels may be used to invalidate data that are outside of established error acceptance levels. Invalidating these data will have an effect on the data capture percentages, and potentially, on the database’s ability to properly characterize air quality for a given region. Because of this possibility, recommendations for conducting analyses of obscuration potential and its resulting effect on the representativeness of the data record have been included in sections 2.3, 4.2, and 10.2 of appendix E.

In addition to the criteria common to both point and open path analyzers mentioned above, two new provisions, applicable only to open path analyzers, are included which limit the maximum length of the monitoring path and the cumulative interferences on the path. The maximum monitoring path length limit helps to ensure that open path monitoring data represent the air volume that they are intended to measure according to the monitoring objectives of the spatial scale identified for the site. Similarly, the limit for the cumulative interferences on the monitoring path controls the total amount of interference from minor sources, roadways, obstructions, and other factors that might unduly influence the monitoring data collected by an open path analyzer. This limit is necessary because a long monitoring path presents a much greater opportunity to be affected by multiple interferences.

In the consolidation of current sections 3, 5, and 6 to section 2, Tables 2 and 3, which list the minimum separation distances between O_3 and NO_2 stations and nearby roadways, are combined and redesignated as Table 1. As a result, Table 1 (in section 3), Table 4 (in section 7), Table 5 (in section 10), and Table 6 (in section 12) are renumbered as Tables 2, 3, 4, and 5, respectively. Finally, the summary of all the general siting requirements in renumbered Table 5 is modified to include the new criteria for monitoring paths.

IV. Administrative Requirements

A. Administrative Designation

1. Executive Order 12866

Under Executive Order 12866 (58 FR 51735 (October 4, 1993)) the Agency must determine whether the regulatory action is ‘‘significant’’ and therefore subject to Office of Management and Budget (OMB) review and to the requirements of the Executive Order. The Order defines ‘‘significant regulatory action’’ as one that is likely to result in a rule that may:

(1) Have an annual effect on the economy of $100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities;

(2) Create a serious inconsistency or otherwise interfere with an action taken or planned by another Agency;

(3) Materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations or recipients thereof; or

(4) Raise novel legal or policy issues arising out of legal mandates, the President’s priorities, or the principles set forth in the Executive Order.

It has been determined that this rule is not a ‘‘significant regulatory action’’ under the terms of Executive Order 12866 and is therefore not subject to OMB review.

2. Enhancing the Intergovernmental Partnership Under Executive Order 12875

In compliance with Executive Order 12875, we have involved State and local governments in the development of this rule. To accomplish this effort, we have presented information on the new open path analyzer technology at various national and international technical symposiums, such as the Air and Waste Management Association specialty conferences, which were attended by several State and local agencies. We have presented information and solicited comment from State and local ambient air monitoring agencies on the use of this new technology and the contents of this rule through forums such as the Standing Air Monitoring Work Group. This work group, which consists of various State and local agency and EPA representatives, is designed to provide a strategic vision and direction for the ambient air monitoring programs within the nation.

In evaluating open path analyzers, we have conducted joint methodology experiments in various locations with the States of Connecticut, Georgia, Florida, and Texas.

B. Reporting and Recordkeeping Requirements

The information collection requirements contained in this rule have been submitted for approval to OMB under the Paperwork Reduction Act, 44 U.S.C. 3501 *et seq.* An Information Collection Request document has been prepared by the EPA (ICR No. 0940.12) and a copy may be obtained from Sandy Farmer, Information Policy Branch, EPA, 401 M Street S.W., Mail Code 2136, Washington, D.C. 20460; or by calling (202) 260–2740. These requirements are not effective until OMB approves them and a technical amendment to that effect is published in the Federal Register.

This collection of information has an estimated reporting burden averaging 300 hours per response and an estimated annual recordkeeping burden averaging 24 hours per respondent. These estimates include time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to Chief, Information Policy Branch, EPA, 401 M Street S.W., Mail Code 2136, Washington, D.C. 20460, and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, D.C. 20503, marked ''Attention: Desk Officer for EPA.

C. Regulatory Flexibility Act

Pursuant to section 605(b) of the Regulatory Flexibility Act, 5 U.S.C. 605(b), the Administrator certifies that this rule will not have a significant economic impact on a substantial number of small entities. This rulemaking package does not impose any additional requirements on small entities, rather, it is this action's intent to provide all entities with the option to choose the most suitable ambient air method for their particular application. This proposal provides the appropriate siting and quality assurance criteria for a new ambient air monitoring technology (open path analyzers) as they are used in various applications. The criteria listed in this rulemaking package parallel existing requirements and vary only as necessary due to technological differences between measurement techniques. It is possible that a beneficial impact may be encountered by some small entities that use this new technology in certain scenarios.

D. Unfunded Mandates Reform Act of 1995

Under sections 202, 203 and 205 of the Unfunded Mandates Reform Act of 1995 (''Unfunded Mandates Act''), signed into law on March 22, 1995, the EPA must undertake various actions in association with proposed or final rules that include a Federal mandate that may result in estimated costs of $100 million or more to the private sector, or to State, local, or tribal governments in the aggregate.

The EPA's final action does not impose any federal intergovernmental mandate, as defined in section 101 of the Unfunded Mandates Act, upon any State, local, or tribal government. This action gives these entities an opportunity to choose the most suitable ambient air quality monitoring method for their program, but does mandate any particular method. Finally, the EPA has determined that this action does not include a mandate that may result in estimated costs of $100 million or more to State, local, or tribal governments in the aggregate. This action does not directly affect the private sector.

List of Subjects in 40 CFR Part 58

Environmental Protection, Air pollution control, Ambient air monitoring, Ambient air pollutant measurements, Ambient air monitoring networks and siting criteria, Ambient data, Intergovernmental relations, National ambient air monitoring program, Open path analyzers, Optical sensing, Quality assurance requirements, Reporting and recordkeeping requirements, State and local agency ambient air monitoring programs.

Dated: September 21, 1995.

Carol M. Browner,

Administrator.

For reasons set forth in the preamble, title 40, chapter I, part 58 of the Code of Federal Regulations is amended as follows:

PART 58—[AMENDED]

1. The authority citation for part 58 continues to read as follows:

Authority: 42 U.S.C. 7410, 7601(a), 7613, and 7619.

2. In § 58.1 paragraphs (aa) through (ii) are added to read as follows:

§ 58.1 Definitions.

* * * * *

(aa) *Point analyzer* is an automated analytical method that measures pollutant concentration in an ambient air sample extracted from the atmosphere at a specific inlet probe point and that has been designated as a reference or equivalent method in accordance with part 53 of this chapter.

(bb) *Probe* is the actual inlet where an air sample is extracted from the atmosphere for delivery to a sampler or point analyzer for pollutant analysis.

(cc) *Open path analyzer* is an automated analytical method that measures the average atmospheric pollutant concentration in situ along one or more monitoring paths having a monitoring path length of 5 meters or more and that has been designated as a reference or equivalent method under the provisions of part 53 of this chapter.

(dd) *Monitoring path* for an open path analyzer is the actual path in space between two geographical locations over which the pollutant concentration is measured and averaged.

(ee) *Monitoring path length* of an open path analyzer is the length of the monitoring path in the atmosphere over which the average pollutant concentration measurement (path-averaged concentration) is determined. See also, optical measurement path length.

(ff) *Optical measurement path length* is the actual length of the optical beam over which measurement of the pollutant is determined. The path-integrated pollutant concentration measured by the analyzer is divided by the optical measurement path length to determine the path-averaged concentration. Generally, the optical measurement path length is:

(1) Equal to the monitoring path length for a (bistatic) system having a transmitter and a receiver at opposite ends of the monitoring path;

(2) Equal to twice the monitoring path length for a (monostatic) system having a transmitter and receiver at one end of the monitoring path and a mirror or retroreflector at the other end; or

(3) Equal to some multiple of the monitoring path length for more complex systems having multiple passes of the measurement beam through the monitoring path.

(gg) *Effective concentration* pertains to testing an open path analyzer with a high-concentration calibration or audit standard gas contained in a short test cell inserted into the optical measurement beam of the instrument. Effective concentration is the equivalent ambient-level concentration that would produce the same spectral absorbance over the actual atmospheric monitoring path length as produced by the high-concentration gas in the short test cell. Quantitatively, effective concentration is equal to the actual concentration of the gas standard in the test cell multiplied by the ratio of the path length of the test cell to the actual atmospheric monitoring path length.

(hh) *Corrected concentration* pertains to the result of an accuracy or precision assessment test of an open path analyzer in which a high-concentration test or audit standard gas contained in a short test cell is inserted into the optical measurement beam of the instrument. When the pollutant concentration measured by the analyzer in such a test includes both the pollutant concentration in the test cell and the concentration in the atmosphere, the atmospheric pollutant concentration must be subtracted from the test measurement to obtain the corrected concentration test result. The corrected concentration is equal to the measured concentration minus the average of the atmospheric pollutant concentrations measured (without the test cell) immediately before and immediately after the test.

(ii) *Monitor* is a generic term for an instrument, sampler, analyzer, or other device that measures or assists in the measurement of atmospheric air pollutants and which is acceptable for use in ambient air surveillance under the provisions of appendix C to this part, including both point and open path analyzers that have been designated as either reference or equivalent methods under part 53 of this chapter and air samplers that are specified as part of a manual method that has been designated as a reference or equivalent method under part 53 of this chapter.

3. Appendix A is amended as follows:

a. The fourth paragraph of section 3 introductory text is revised.

b. Section 3.1 is revised.

c. The text preceding the table in the second paragraph, and the seventh, and eighth paragraphs of section 3.2 are revised; and a new paragraph is added between the seventh and eighth paragraphs.

d. Table A–1 is revised.

Appendix A—Quality Assurance Requirements for State and Local Air Monitoring Stations (SLAMS)

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3. Data Quality Assessment Requirements

* * * * *

Assessment results shall be reported as specified in section 4. Concentration and flow standards must be as specified in sections 2.3 or 3.4. In addition, working standards and equipment used for accuracy audits must not be the same standards and equipment used for routine calibrations. Additional information and guidance in the technical aspects of conducting these tests may be found in Reference 3 or in the operation or instruction manual associated with the analyzer or sampler. Concentration measurements reported from analyzers or analytical systems (indicated concentrations) should be based on stable readings and must be derived by means of the same calibration curve and data processing system used to obtain the routine air monitoring data (see Reference 1 and Reference 3, section 2.0.9.1.3(d)). Table A–1 provides a summary of the minimum data quality assessment requirements, which are described in more detail in the following sections.

3.1 Precision of Automated Methods

A one-point precision check must be carried out at least once every two weeks on each automated analyzer used to measure SO_2, NO_2, O_3, and CO. The precision check is made by challenging the analyzer with a precision check gas of known concentration (effective concentration for open path analyzers) between 0.08 and 0.10 ppm for SO_2, NO_2, and O_3 analyzers, and between 8 and 10 ppm for CO analyzers. To check the precision of SLAMS analyzers operating on ranges higher than 0 to 1.0 ppm SO_2, NO_2, and O_3, or 0 to 100 ppm for CO, use precision check gases of appropriately higher concentration as approved by the appropriate Regional Administrator or the Regional Administrator's designee. However, the results of precision checks at concentration levels other than those specified above do not need be reported to the EPA. The standards from which precision check test concentrations are obtained must meet the specifications of section 2.3.

Except for certain CO analyzers described below, point analyzers must operate in their normal sampling mode during the precision check, and the test atmosphere must pass through all filters, scrubbers, conditioners, and other components used during normal ambient sampling and as much of the ambient air inlet system as is practicable. If permitted by the associated operation or instruction manual, a CO point analyzer may be temporarily modified during the precision check to reduce vent or purge flows, or the test atmosphere may enter the analyzer at a point other than the normal sample inlet, provided that the analyzer's response is not likely to be altered by these deviations from the normal operational mode.

If a precision check is made in conjunction with a zero or span adjustment, it must be made prior to such zero or span adjustments. Randomization of the precision check with respect to time of day, day of week, and routine service and adjustment is encouraged where possible.

Open path analyzers are tested by inserting a test cell containing a precision check gas concentration into the optical measurement beam of the instrument. If possible, the normally used transmitter, receiver, and, as appropriate, reflecting devices should be used during the test, and the normal monitoring configuration of the instrument should be altered as little as possible to accommodate the test cell for the test. However, if permitted by the associated operation or instruction manual, an alternate local light source or an alternate optical path that does not include the normal atmospheric monitoring path may be used. The actual concentration of the precision check gas in the test cell must be selected to produce an ‘‘effective concentration’’ in the range specified above. Generally, the precision test concentration measurement will be the sum of the atmospheric pollutant concentration and the precision test concentration. If so, the result must be corrected to remove the atmospheric concentration contribution. The ‘‘corrected concentration’’ is obtained by subtracting the average of the atmospheric concentrations measured by the open path instrument under test immediately before and immediately after the precision check test from the precision test concentration measurement. If the difference between these before and after measurements is greater than 20 percent of the effective concentration of the test gas, discard the test result and repeat the test. If possible, open path analyzers should be tested during periods when the atmospheric pollutant concentrations are relatively low and steady.

Report the actual concentration (effective concentration for open path analyzers) of the precision check gas and the corresponding concentration measurement (corrected concentration, if applicable, for open path analyzers) indicated by the analyzer. The percent differences between these concentrations are used to assess the precision of the monitoring data as described in section 5.1.

3.2 Accuracy of Automated Methods

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The audit is made by challenging the analyzer with at least one audit gas of known concentration (effective concentration for open path analyzers) from each of the following ranges that fall within the measurement range of the analyzer being audited: * * *

* * * * *

For point analyzers, the audit shall be carried out by allowing the analyzer to analyze the audit test atmosphere in its normal sampling mode such that the test atmosphere passes through all filters, scrubbers, conditioners, and other sample inlet components used during normal ambient sampling and as much of the ambient air inlet system as is practicable. The exception provided in section 3.1 for certain CO analyzer does not apply for audits.

Open path analyzers are audited by inserting a test cell containing the various audit gas concentrations into the optical measurement beam of the instrument. If possible, the normally used transmitter, receiver, and, as appropriate, reflecting devices should be used during the audit, and the normal monitoring configuration of the instrument should be modified as little as possible to accommodate the test cell for the audit. However, if permitted by the associated operation or instruction manual, an alternate local light source or an alternate optical path that does not include the normal atmospheric monitoring path may be used. The actual concentrations of the audit gas in the test cell must be selected to produce ‘‘effective concentrations’’ in the ranges specified in this section 3.2. Generally, each audit concentration measurement result will be the sum of the atmospheric pollutant concentration and the audit test concentration. If so, the result must be corrected to remove the atmospheric concentration contribution. The ‘‘corrected concentration’’ is obtained by subtracting the average of the atmospheric concentrations measured by the open path instrument under test immediately before and immediately after the audit test (or preferably before and after each audit concentration level) from the audit concentration measurement. If the difference between the before and after measurements is greater than 20 percent of the effective concentration of the test gas standard, discard the test result for that concentration level and repeat the test for that level. If possible, open path analyzers should be audited during periods when the atmospheric pollutant concentrations are relatively low and steady. Also, the monitoring path length must be reverified to within ±3 percent to validate the audit, since the monitoring path length is critical to the determination of the effective concentration.

Report both the audit test concentrations (effective concentrations for open path analyzers) and the corresponding concentration measurements (corrected concentrations, if applicable, for open path analyzers) indicated or produced by the analyzer being tested. The percent differences between these concentrations are used to assess the accuracy of the monitoring data as described in section 5.2.

* * * * *

TABLE A–1.—MINIMUM DATA ASSESSMENT REQUIREMENTS

Method	Assessment method	Coverage	Minimum frequency	Parameters reported
Precision:				
Automated methods for SO_2, NO_2, O_3, and CO.	Response checks at concentration between .08 & .10 ppm (8 & 10 ppm for CO)[2].	Each analyzer	Once per 2 weeks	Actual concentration[2] & measured concentration.[3]
Manual methods including lead.	Collocated samplers	1 site for 1–5 sites; 2 sites for 6–20 sites; 3 sites> 20 sites (sites with highest conc.).	Once per week	Two concentration measurements.
Accuracy:				
Automated methods for SO_2, NO_2, O_3, and CO.	Response checks at: .03–.08 ppm;[1,2] .15–.20 ppm;[1,2] .35–.45 ppm;[1,2] .80–.90 ppm;[1,2] (If applicable).	1. Each analyzer. 2. 25% of analyzers (at least 1).	1. Once per year. 2. Each calendar quarter	Actual concentration[2] & measured (indicated) concentration[3] for each level.
Manual methods for SO_2 and NO_2.	Check of analytical procedure with audit standard solutions.	Analytical system	Each day samples are analyzed, at least twice per quarter.	Actual concentration & measured (indicated) concentration for each audit solution.
TSP, PM–10	Check of sampler flow rate	1. Each sampler. 2. 25% of samplers (at least 1).	1. Once per year. 2. Each calendar quarter	Actual flow rate and flow rate indicated by the sampler.
Lead	1. Check sample flow rate as for TSP. 2. Check analytical system with Pb audit strips.	1. Each sampler. 2. Analytical system	1. Include with TSP. 2. Each quarter	1. Same as for TSP. 2. Actual concentration & measured (indicated) concentration of audit samples (µg Pb/strip).

[1] Concentration times 100 for CO.
[2] Effective concentration for open path analyzers.
[3] Corrected concentration, if applicable, for open path analyzers.

* * * * *

4. Appendix B is amended as follows:

a. The first paragraph of section 3 is revised.

b. Section 3.1 is revised.

c. The text preceding the table in the first paragraph, and the third, and fourth paragraphs of section 3.2 are revised. A new paragraph is added between the third and fourth paragraphs.

d. Table B–1 is revised.

Appendix B—Quality Assurance Requirements for Prevention of Significant Deterioration (PSD) Air Monitoring

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3. Data Quality Assessment Requirements

All ambient monitoring methods or analyzers used in PSD monitoring shall be tested periodically, as described in this section 3, to quantitatively assess the quality of the data being routinely collected. The results of these tests shall be reported as specified in section 6. Concentration standards used for the tests must be as specified in section 2.3. Additional information and guidance in the technical aspects of conducting these tests may be found in Reference 3 or in the operation or instruction manual associated with the analyzer or sampler. Concentration measurements reported from analyzers or analytical systems must be derived by means of the same calibration curve and data processing system used to obtain the routine air monitoring data. Table B–1 provides a summary of the minimum data quality assessment requirements, which are described in more detail in the following sections.

3.1 Precision of Automated Methods

A one-point precision check must be carried out at least once every two weeks on each automated analyzer used to measure SO_2, NO_2, O_2, and CO. The precision check is made by challenging the analyzer with a precision check gas of known concentration (effective concentration for open path analyzers) between 0.08 and 0.10 ppm for SO_2, NO_2, and O_3 analyzers, and between 8 and 10 ppm for CO analyzers. The standards from which precision check test concentrations are obtained must meet the specifications of section 2.3. Except for certain CO analyzers described below, point analyzers must operate in their normal sampling mode during the precision check, and the test atmosphere must pass through all filters, scrubbers, conditioners and other components used during normal ambient sampling and as much of the ambient air inlet system as is practicable. If permitted by the associated operation or instruction manual, a CO point analyzer may be temporarily modified during the precision check to reduce vent or purge flows, or the test atmosphere may enter the analyzer at a point other than the normal sample inlet, provided that the analyzer's response is not likely to be altered by these deviations from the normal operational mode.

Open path analyzers are tested by inserting a test cell containing a precision check gas concentration into the optical measurement beam of the instrument. If possible, the normally used transmitter, receiver, and, as appropriate, reflecting devices should be used during the test, and the normal monitoring configuration of the instrument should be altered as little as possible to accommodate the test cell for the test. However, if permitted by the associated operation or instruction manual, an alternate local light source or an alternate optical path that does not include the normal atmospheric monitoring path may be used. The actual concentration of the precision check gas in the test cell must be selected to produce an ''effective concentration'' in the range specified above. Generally, the precision test concentration measurement will be the sum of the atmospheric pollutant concentration and the precision test concentration. If so, the result must be corrected to remove the atmospheric concentration contribution. The ''corrected concentration'' is obtained by subtracting the average of the atmospheric concentrations measured by the open path instrument under test immediately before and immediately after the precision check test from the precision test concentration measurement. If the difference between these before and after measurements is greater than 20 percent of the effective concentration of the test gas, discard the test result and repeat the test. If possible, open path analyzers should be tested during periods when the atmospheric pollutant concentrations are relatively low and steady.

If a precision check is made in conjunction with a zero or span adjustment, it must be made prior to such zero or span adjustment. The difference between the actual concentration (effective concentration for open path analyzers) of the precision check gas and the corresponding concentration measurement (corrected concentration, if applicable, for open path analyzers) indicated by the analyzer is used to assess the precision of the monitoring data as described in section 4.1. Report data only from automated analyzers that are approved for use in the PSD network.

3.2 Accuracy of Automated Methods

Each sampling quarter, audit each analyzer that monitors for SO_2, NO_2, O_3, or CO at least once. The audit is made by challenging the analyzer with at least one audit gas of known concentration (effective concentration for open path analyzers) from each of the following ranges that fall within the measurement range of the analyzer being audited:

* * *

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For point analyzers, the audit shall be carried out by allowing the analyzer to analyze the audit test atmosphere in the same manner as described for precision checks in section 3.1. The exception given in section 3.1 for certain CO analyzers does not apply for audits.

Open path analyzers are audited by inserting a test cell containing an audit gas concentration into the optical measurement beam of the instrument. If possible, the normally used transmitter, receiver, and, as appropriate, reflecting devices should be used during the audit, and the normal monitoring configuration of the instrument should be modified as little as possible to accommodate the test cell for the audit. However, if permitted by the associated operation or instruction manual, an alternate local light source or an alternate optical path that does not include the normal atmospheric monitoring path may be used. The actual concentrations of the audit gas in the test cell must be selected to produce ''effective concentrations'' in the range specified in this section 3.2. Generally, each audit concentration measurement result will be the sum of the atmospheric pollutant concentration and the audit test concentration. If so, the result must be corrected to remove the atmospheric concentration contribution. The ''corrected concentration'' is obtained by subtracting the average of the atmospheric concentrations measured by the open path instrument under test immediately before and immediately after the audit test (or preferably before and after each audit concentration level) from the audit concentration measurement. If the difference between these before and after measurements is greater than 20 percent of the effective concentration of the test gas standards, discard the test result for that concentration level and repeat the test for that level. If possible, open path analyzers should be audited during periods when the atmospheric pollutant concentrations are relatively low and steady. Also, the monitoring path length must be reverified to within ±3 percent to validate the audit, since the monitoring path length is critical to the determination of the effective concentration.

The differences between the actual concentrations (effective concentrations for open path analyzers) of the audit test gas and the corresponding concentration measurements (corrected concentrations, if applicable, for open path analyzers) indicated by the analyzer are used to assess the accuracy of the monitoring data as described in section 4.2. Report data only from automated analyzers that are approved for use in the PSD network.

* * * * *

TABLE B–1.—MINIMUM PSD DATA ASSESSMENT REQUIREMENTS

Method	Assessment method	Coverage	Frequency	Parameters reported
Precision:				
Automated Methods for SO_2, NO_2, O_3, and CO.	Response check at concentration between .08 & .10 ppm (8 & 10 ppm for CO)[2].	Each analyzer	Once per 2 weeks	Actual concentration[2] & measured concentration.[3]
TSP, PM_{10}, Lead	Collocated samplers	Highest concentration site in monitoring network.	Once per week or every 3rd day for continuous sampling.	Two concentration measurements.
Accuracy:				
Automated Methods for SO_2, NO_2, O_3, and CO.	Response check at: .03–.08 ppm;[1,2] .15–.20 ppm;[1,2] .35–.45 ppm;[1,2] .80–.90 ppm;[1,2] (if applicable).	Each analyzer	Once per sampling quarter	Actual concentration[2] & measured (indicated) concentration[3] for each level.
TSP, PM_{10}	Sampler flow check	Each sampler	Once per sampling quarter	Actual flow rate and flow rate indicated by the sampler.
Lead	1. Sample flow rate check. 2. Check analytical system with Pb audit strips.	1. Each sampler. 2. Analytical system	1. Once/quarter. 2. Each quarter Pb samples are analyzed.	1. Same as for TSP. 2. Actual concentration & measured concentration of audit samples (µg Pb/strip).

[1] Concentration shown times 100 for CO.
[2] Effective concentration for open path analyzers.
[3] Corrected concentration, if applicable, for open path analyzers.

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5. Appendix D is amended as follows:

a. The second, third, and fourth paragraphs of section 1 are revised; and a new paragraph is added between Table 1 and the last paragraph of section 1.

b. Section 2.2 is added.

Appendix D—Network Design for State and Local Air Monitoring Stations (SLAMS), National Air Monitoring Stations (NAMS), and Photochemical Assessment Monitoring Stations (PAMS)

1. SLAMS Monitoring Objectives and Spatial Scales

* * * * *

The network of stations which comprise SLAMS should be designed to meet a minimum of four basic monitoring objectives. These basic monitoring objectives are: (1) To determine highest concentrations expected to occur in the area covered by the network; (2) to determine representative concentrations in areas of high population density; (3) to determine the impact on ambient pollution levels of significant sources or source categories; and (4) to determine general background concentration levels. Of these four basic ambient air monitoring network design objectives, attempts to measure in areas of maximum concentrations and maximum population exposures (these can be exclusive or coincident) are primary due to the combination of prevailing needs and constraints.

It should be noted that this appendix contains no criteria for determining the total number of stations in SLAMS networks, except that a minimum number of lead SLAMS is prescribed. The optimum size of a particular SLAMS network involves tradeoffs between data needs and available resources which the EPA believes can best be resolved during the network design process.

This appendix focuses on the relationship between monitoring objectives and the geographical location of monitoring stations. Included are a rationale and set of general criteria for identifying candidate station locations in terms of physical characteristics which most closely match a specific monitoring objective. The criteria for more specifically siting the monitoring station, including spacing from roadways and vertical and horizontal probe and path placement, are described in appendix E of this part.

* * * * *

Open path analyzers can often be used effectively and advantageously to provide better monitoring representation for population exposure monitoring and general or background monitoring in urban and neighborhood scales of representation. Such analyzers may also be able to provide better area coverage or operational advantages in high concentration and source-impact monitoring in middle scale and possibly microscale areas. However, siting of open path analyzers for the latter applications must be carried out with proper regard for the specific monitoring objectives and for the path-averaging nature of these analyzers. Monitoring path lengths need to be commensurate with the intended scale of representativeness and located carefully with respect to local sources or potential obstructions. For short-term/high-concentration or source-oriented monitoring, the monitoring path may need to be further restricted in length and be oriented approximately radially with respect to the source in the downwind direction, to provide adequate peak concentration sensitivity. Alternatively, multiple (e.g., orthogonal) paths may be used advantageously to obtain both wider area coverage and peak concentration sensitivity. Further discussion on this topic is included in section 2.2 of this appendix.

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2. SLAMS Network Design Procedures

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2.2 Substantive Changes in SLAMS/NAMS Network Design Elements

Two important purposes of the SLAMS monitoring data are to examine and evaluate overall air quality within a certain region, and to assess the trends in air pollutant levels over several years. The EPA believes that one of the primary tools for providing these characterizations is an ambient air monitoring program which implements technically representative networks. The design of these networks must be carefully evaluated not only at their outset, but at relatively frequent intervals thereafter, using an appropriate combination of other important technical tools, including: dispersion and receptor modeling, saturation studies, point and area source emissions analyses, and meteorological assessments. The impetus for these subsequent reexaminations of monitoring network adequacy stems not only from the need to evaluate the effect that changes in the environment may pose, but also from the recognition that new and/or refined tools and techniques for use in impact assessments are continually emerging and available for application.

Substantiative changes to an ambient air monitoring network are both inevitable and necessary; however, any changes in any substantive aspect of an existing SLAMS network or monitoring site that might affect the continuity or comparability of pollutant measurements over time must be carefully and thoroughly considered. Such substantive changes would include cessation of monitoring at an existing site, relocation of an existing site, a change in the type of monitoring method used, any change in the probe or path height or orientation that might affect pollutant measurements, any significant changes in calibration procedures or standards, any significant change in operational or quality assurance procedures, any significant change in the sources or the character of the area in the vicinity of a monitoring site, or any other change that could potentially affect the continuity or comparability of monitoring data obtained before and after the change.

In general, these types of changes should be made cautiously with due consideration given to the impact of such changes on the network/site's ability to meet its intended goals. Some of these changes will be inevitable (such as when a monitoring site will no longer be available and the monitor must be relocated, for example). Other changes may be deemed necessary and advantageous, after due consideration of their impact, even though they may have a deleterious effect on the long-term comparability of the monitoring data. In these cases, an effort should be made to quantify, if possible, or at least characterize, the nature or extent of the effects of the change on the monitoring data. In all cases, the changes and all information pertinent to the effect of the change should be properly and completely documented for evaluation by trends analysts.

The introduction of open path methods to the SLAMS monitoring network may seem relatively straightforward, given the kinds of technical analyses required in this appendix. However, given the uncertainties attendant to these analyses and the critical nature and far-reaching regulatory implications of some sites in the current SLAMS network composed of point monitors, there is a need to 'bridge' between databases generated by these different candidate methods to evaluate and promote continuity in understanding of the historical representativeness of the database.

Concurrent, nominally collocated monitoring must be conducted in all instances where an open path analyzer is effectively intended to replace a criteria pollutant point monitor which meets either of the following:

1. Data collected at the site represents the maximum concentration for a particular nonattainment area; or
2. Data collected at the site is currently used to characterize the development of a nonattainment area State implementation plan.

The Regional Administrator, the Administrator, or their appropriate designee may also require collocated monitoring at other sites which are, based on historical technical data, significant in assessing air quality in a particular area. The term of this requirement is determined by the Regional Administrator (for SLAMS), Administrator (for NAMS), or their appropriate designee. The recommended minimum term consists of one year (or one season of maximum pollutant concentration) with a maximum term indexed to the subject pollutant NAAQS compliance interval (e.g., three calendar years for ozone). The requirement involves concurrent monitoring with both the open path analyzer and the existing point monitor during this term. Concurrent monitoring with more than one point analyzer with an open path analyzer using one or more measurement paths may also be advantageous to confirm adequate peak concentration sensitivity or to optimize the location and length of the monitoring path or paths.

All or some portion of the above requirement may be waived by the Regional Administrator (for SLAMS), the Administrator (for NAMS), or their designee in response to a request, based on accompanying technical information and analyses, or in certain unavoidable instances caused by logistical circumstances.

These requirements for concurrent monitoring also generally apply to situations where the relocation of any SLAMS site, using either a point monitor or an open path analyzer, within an area is being contemplated.

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6. Appendix E is amended as follows:

a. The heading of appendix E is revised.

b. Section 1 is revised.

c. Section 2 is added and sections 3, 5, and 6 are removed and reserved.

d. Section 4 is revised.

e. In section 7, table 4 is redesignated as table 3.

f. The first paragraph of section 9 is revised.

g. Section 10 is revised.

h. Section 12 is revised.

Appendix E—Probe and Monitoring Path Siting Criteria for Ambient Air Quality Monitoring

1. Introduction

This appendix contains specific location criteria applicable to ambient air quality monitoring probes and monitoring paths after the general station siting has been selected based on the monitoring objectives and spatial scale of representation discussed in appendix D of this part. Adherence to these siting criteria is necessary to ensure the uniform collection of compatible and comparable air quality data.

The probe and monitoring path siting criteria discussed below must be followed to the maximum extent possible. It is recognized that there may be situations where some deviation from the siting criteria may be necessary. In any such case, the reasons must be thoroughly documented in a written request for a waiver that describes how and why the proposed siting deviates from the criteria. This documentation should help to avoid later questions about the validity of the resulting monitoring data. Conditions under which the EPA would consider an application for waiver from these siting criteria are discussed in section 11 of this appendix.

The spatial scales of representation used in this appendix, i.e., micro, middle, neighborhood, urban, and regional, are defined and discussed in appendix D of this part. The pollutant-specific probe and monitoring path siting criteria generally apply to all spatial scales except where noted otherwise. Specific siting criteria that are phrased with a ''must'' are defined as requirements and exceptions must be approved through the waiver provisions. However, siting criteria that are phrased with a ''should'' are defined as goals to meet for consistency but are not requirements.

2. Sulfur dioxide (SO_2), Ozone (O_3), and Nitrogen Dioxide (NO_2)

Open path analyzers may be used to measure SO_2, O_3, and NO_2 at SLAMS/NAMS sites for middle, neighborhood, urban, and regional scale measurement applications. Additional information on SO_2, NO_2, and O_3 monitor siting criteria may be found in references 11 and 13.

2.1 Horizontal and Vertical Placement

The probe or at least 80 percent of the monitoring path must be located between 3 and 15 meters above ground level. The probe or at least 90 percent of the monitoring path must be at least 1 meter vertically or horizontally away from any supporting structure, walls, parapets, penthouses, etc., and away from dusty or dirty areas. If the probe or a significant portion of the monitoring path is located near the side of a building, then it should be located on the windward side of the building relative to the prevailing wind direction during the season of highest concentration potential for the pollutant being measured.

2.2 Spacing from Minor Sources (Applicable to SO_2 and O_3 Monitoring Only)

Local minor sources of SO_2 can cause inappropriately high concentrations of SO_2 in the vicinity of probes and monitoring paths for SO_2. Similarly, local sources of nitric oxide (NO) and ozone-reactive hydrocarbons can have a scavenging effect causing unrepresentatively low concentrations of O_3 in the vicinity of probes and monitoring paths for O_3. To minimize these potential interferences, the probe or at least 90 percent of the monitoring path must be away from furnace or incineration flues or other minor sources of SO_2 or NO, particularly for open path analyzers because of their potential for greater exposure over the area covered by the monitoring path. The separation distance should take into account the heights of the flues, type of waste or fuel burned, and the sulfur content of the fuel. It is acceptable, however, to monitor for SO_2 near a point source of SO_2 when the objective is to assess the effect of this source on the represented population.

2.3 Spacing From Obstructions

Buildings and other obstacles may possibly scavenge SO_2, O_3, or NO_2. To avoid this interference, the probe or at least 90 percent of the monitoring path must have unrestricted airflow and be located away from obstacles so that the distance from the probe or monitoring path is at least twice the height that the obstacle protrudes above the probe or monitoring path. Generally, a probe or monitoring path located near or along a vertical wall is undesirable because air moving along the wall may be subject to possible removal mechanisms. A probe must have unrestricted airflow in an arc of at least 270 degrees around the inlet probe, or 180 degrees if the probe is on the side of a building. This arc must include the predominant wind direction for the season of greatest pollutant concentration potential. A sampling station having a probe located closer to an obstacle than this criterion allows should be classified as middle scale rather than neighborhood or urban scale, since the measurements from such a station would more closely represent the middle scale. A monitoring path must be clear of all trees, brush, buildings, plumes, dust, or other optical obstructions, including potential obstructions that may move due to wind, human activity, growth of vegetation, etc. Temporary optical obstructions, such as rain, particles, fog, or snow, should be considered when siting an open path analyzer. Any of these temporary obstructions that are of sufficient density to obscure the light beam will affect the ability of the open path analyzer to continuously measure pollutant concentrations.

Special consideration must be devoted to the use of open path analyzers due to their inherent potential sensitivity to certain types of interferences, or optical obstructions. While some of these potential interferences are comparable to those to which point monitors are subject, there are additional sources of potential interferences which are altogether different in character. Transient, but significant obscuration of especially longer measurement paths could be expected to occur as a result of certain prevailing meteorological conditions (e.g., heavy fog, rain, snow) and/or aerosol levels that are of a sufficient density to prevent the open path analyzer's light transmission. If certain compensating measures are not otherwise implemented at the onset of monitoring (e.g., shorter path lengths, higher light source intensity), data recovery during periods of greatest primary pollutant potential could be compromised. For instance, if heavy fog or high particulate levels are coincident with periods of projected NAAQS-threatening pollutant potential, the representativeness of the resulting data record in reflecting maximum pollutant concentrations may be substantially impaired despite the fact that the site may otherwise exhibit an acceptable, even exceedingly high overall valid data capture rate.

In seeking EPA approval for inclusion of a site using an open path analyzer into the formal SLAMS/NAMS or PSD network, monitoring agencies must submit an analysis which evaluates both obscuration potential for a proposed path length for the subject area and the effect this potential is projected to have on the representativeness of the data record. This analysis should include one or more of the following elements, as appropriate for the specific circumstance: climatological information, historical pollutant and aerosol information, modeling analysis results, and any related special study results.

2.4 Spacing From Trees

Trees can provide surfaces for SO_2, O_3, or NO_2 adsorption or reactions and obstruct wind flow. To reduce this possible interference, the probe or at least 90 percent of the monitoring path should be 20 meters or more from the drip line of trees. If a tree or trees could be considered an obstacle, the probe or 90 percent of the monitoring path must meet the distance requirements of Section 2.3 and be at least 10 meters from the drip line of the tree or trees. Since the scavenging effect of trees is greater for O_3 than for other criteria pollutants, strong consideration of this effect must be given to locating an O_3 probe or monitoring path to avoid this problem.

2.5 Spacing From Roadways (Applicable to O_3 and NO_2 Only)

In siting an O_3 analyzer, it is important to minimize destructive interferences from sources of NO, since NO readily reacts with O_3. In siting NO_2 analyzers for neighborhood and urban scale monitoring, it is important to minimize interferences from automotive sources. Table 1 provides the required minimum separation distances between a roadway and a probe and between a roadway and at least 90 percent of a monitoring path for various ranges of daily roadway traffic. A sampling station having a point analyzer probe located closer to a roadway than allowed by the Table 1 requirements should be classified as middle scale rather than neighborhood or urban scale, since the measurements from such a station would more closely represent the middle scale. If an open path analyzer is used at a site, the monitoring path(s) must not cross over a roadway with an average daily traffic count of 10,000 vehicles per day or more. For those situations where a monitoring path crosses a roadway with fewer than 10,000 vehicles per day, one must consider the entire segment of the monitoring path in the area of potential atmospheric interference from automobile emissions. Therefore, this calculation must include the length of the monitoring path over the roadway plus any segments of the monitoring path that lie in the area between the roadway and the minimum separation distance, as determined from Table 1. The sum of these distances must not be greater than 10 percent of the total monitoring path length.

TABLE 1.—MINIMUM SEPARATION DISTANCE BETWEEN ROADWAYS AND PROBES OR MONITORING PATHS FOR MONITORING NEIGHBORHOOD— AND URBAN—SCALE OZONE AND NITROGEN DIOXIDE

Roadway average daily traffic, vehicles per day	Minimum separation distance,[1] meters
≤10,000	10
15,000	20
20,000	30
40,000	50
70,000	100
≥110,000	250

[1] Distance from the edge of the nearest traffic lane. The distance for intermediate traffic counts should be interpolated from the table values based on the actual traffic count.

2.6 Cumulative Interferences on a Monitoring Path

The cumulative length or portion of a monitoring path that is affected by minor sources, obstructions, trees, or roadways must not exceed 10 percent of the total monitoring path length.

2.7 Maximum Monitoring Path Length

The monitoring path length must not exceed 1 kilometer for analyzers in neighborhood, urban, or regional scale. For middle scale monitoring sites, the monitoring path length must not exceed 300 meters. In areas subject to frequent periods of dust, fog, rain, or snow, consideration should be given to a shortened monitoring path length to minimize loss of monitoring data due to these temporary optical obstructions. For certain ambient air monitoring scenarios using open path analyzers, shorter path lengths may be needed in order to ensure that the monitoring station meets the objectives and spatial scales defined for SLAMS in appendix D. Therefore, the Regional Administrator or the Regional Administrator's designee may require shorter path lengths, as needed on an individual basis, to ensure that the SLAMS meet the appendix D requirements. Likewise, the Administrator or the Administrator's designee may specify the maximum path length used at monitoring stations designated as NAMS or PAMS as needed on an individual basis.

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4. Carbon Monoxide (CO)

Open path analyzers may be used to measure CO at SLAMS/NAMS sites for middle or neighborhood scale measurement applications. Additional information on CO monitor siting criteria may be found in reference 12.

4.1 Horizontal and Vertical Placement

Because of the importance of measuring population exposure to CO concentrations, air should be sampled at average breathing heights. However, practical factors require that the inlet probe be higher. The required height of the inlet probe for CO monitoring is therefore 3±½ meters for a microscale site, which is a compromise between representative breathing height and prevention of vandalism. The recommended 1 meter range of heights is also a compromise to some extent. For consistency and comparability, it would be desirable to have all inlets at exactly the same height, but practical considerations often prevent this. Some reasonable range must be specified and 1 meter provides adequate leeway to meet most requirements.

For the middle and neighborhood scale stations, the vertical concentration gradients are not as great as for the microscale station. This is because the diffusion from roads is greater and the concentrations would represent larger areas than for the microscale. Therefore, the probe or at least 80 percent of the monitoring path must be located between 3 and 15 meters above ground level for middle and neighborhood scale stations. The probe or at least 90 percent of the monitoring path must be at least 1 meter vertically or horizontally away from any supporting structure, walls, parapets, penthouses, etc., and away from dusty or dirty areas. If the probe or a significant portion of the monitoring path is located near the side of a building, then it should be located on the windward side of the building relative to both the prevailing wind direction during the season of highest concentration potential and the location of sources of interest, i.e., roadways.

4.2 Spacing from Obstructions

Buildings and other obstacles may restrict airflow around a probe or monitoring path. To avoid this interference, the probe or at least 90 percent of the monitoring path must have unrestricted airflow and be located away from obstacles so that the distance from the probe or monitoring path is at least twice the height that the obstacle protrudes above the probe or monitoring path. A probe or monitoring path located near or along a vertical wall is undesirable because air moving along the wall may be subject to possible removal mechanisms. A probe must have unrestricted airflow in an arc of at least 270 degrees around the inlet probe, or 180 degrees if the probe is on the side of a building. This arc must include the predominant wind direction for the season of greatest pollutant concentration potential. A monitoring path must be clear of all trees, brush, buildings, plumes, dust, or other optical obstructions, including potential obstructions that may move due to wind, human activity, growth of vegetation, etc. Temporary optical obstructions, such as rain, particles, fog, or snow, should be considered when siting an open path analyzer. Any of these temporary obstructions that are of sufficient density to obscure the light beam will affect the ability of the open path analyzer to continuously measure pollutant concentrations.

Special consideration must be devoted to the use of open path analyzers due to their inherent potential sensitivity to certain types of interferences, or optical obstructions. While some of these potential interferences are comparable to those to which point monitors are subject, there are additional sources of potential interferences which are altogether different in character. Transient, but significant obscuration of especially longer measurement paths could be expected to occur as a result of certain prevailing meteorological conditions (e.g., heavy fog, rain, snow) and/or aerosol levels that are of a sufficient density to prevent the open path analyzer's light transmission. If certain compensating measures are not otherwise implemented at the onset of monitoring (e.g., shorter path lengths, higher light source intensity), data recovery during periods of greatest primary pollutant potential could be compromised. For instance, if heavy fog or high particulate levels are coincident with periods of projected NAAQS-threatening pollutant potential, the representativeness of the resulting data record in reflecting maximum pollutant concentrations may be substantially impaired despite the fact that the site may otherwise exhibit an acceptable, even exceedingly high overall valid data capture rate.

In seeking EPA approval for inclusion of a site using an open path analyzer into the formal SLAMS/NAMS or PSD network, monitoring agencies must submit an analysis which evaluates both obscuration potential for a proposed path length for the subject area and the effect this potential is projected to have on the representativeness of the data record. This analysis should include one or more of the following elements, as appropriate for the specific circumstance: climatological information, historical pollutant and aerosol information, modeling analysis results, and any related special study results.

4.3 Spacing From Roadways

Street canyon and traffic corridor stations (microscale) are intended to provide a measurement of the influence of the immediate source on the pollution exposure of the population. In order to provide some reasonable consistency and comparability in the air quality data from microscale stations, a minimum distance of 2 meters and a maximum distance of 10 meters from the edge of the nearest traffic lane must be maintained for these CO monitoring inlet probes. This should give consistency to the data, yet still allow flexibility of finding suitable locations.

Street canyon/corridor (microscale) inlet probes must be located at least 10 meters from an intersection and preferably at a midblock location. Midblock locations are preferable to intersection locations because intersections represent a much smaller portion of downtown space than do the streets between them. Pedestrian exposure is probably also greater in street canyon/corridors than at intersections. Also, the practical difficulty of positioning sampling inlets is less at midblock locations than at the intersection. However, the final siting of the monitor must meet the objectives and intent of appendix D, sections 2.4, 3, 3.3, and appendix E, section 4.

In determining the minimum separation between a neighborhood scale monitoring station and a specific line source, the presumption is made that measurements should not be substantially influenced by any one roadway. Computations were made to determine the separation distance, and table 2 provides the required minimum separation distance between roadways and a probe or 90 percent of a monitoring path. Probes or monitoring paths that are located closer to roads than this criterion allows should not be classified as a neighborhood scale, since the measurements from such a station would closely represent the middle scale. Therefore, stations not meeting this criterion should be classified as middle scale.

TABLE 2.—MINIMUM SEPARATION DISTANCE BETWEEN ROADWAYS AND PROBES OR MONITORING PATHS FOR MONITORING NEIGHBORHOOD SCALE CARBON MONOXIDE

Roadway average daily traffic, vehicles per day	Minimum separation distance[1] for probes or 90% of a monitoring path (meters)
≤10,000	10
15,000	25
20,000	45
30,000	80
40,000	115
50,000	135
≤60,000	150

[1] Distance from the edge of the nearest traffic lane. The distance for intermediate traffic counts should be interpolated from the table values based on the actual traffic count.

4.4 Spacing From Trees and Other Considerations

Since CO is relatively nonreactive, the major factor concerning trees is as obstructions to normal wind flow patterns. For middle and neighborhood scale stations, trees should not be located between the major sources of CO, usually vehicles on a heavily traveled road, and the monitor. The probe or at least 90 percent of the monitoring path must be 10 meters or more from the drip line of trees which are between the probe or the monitoring path and the road and which extend at least 5 meters above the probe or monitoring path. For microscale stations, no trees or shrubs should be located between the probe and the roadway.

4.5 Cumulative Interferences on a Monitoring Path

The cumulative length or portion of a monitoring path that is affected by obstructions, trees, or roadways must not exceed 10 percent of the total monitoring path length.

4.6 Maximum Monitoring Path Length

The monitoring path length must not exceed 1 kilometer for analyzers used for neighborhood scale monitoring applications, or 300 meters for middle scale monitoring applications. In areas subject to frequent periods of dust, fog, rain, or snow, consideration should be given to a shortened monitoring path length to minimize loss of monitoring data due to these temporary optical obstructions. For certain ambient air monitoring scenarios using open path analyzers, shorter path lengths may be needed in order to ensure that the monitoring station meets the objectives and spatial scales defined for SLAMS in appendix D. Therefore, the Regional Administrator or the Regional Administrator's designee may require shorter path lengths, as needed on an individual basis, to ensure that the SLAMS meet the appendix D requirements. Likewise, the Administrator or the Administrator's designee may specify the maximum path length used at monitoring stations designated as NAMS or PAMS as needed on an individual basis.

* * * * *

Table 3—Separation Distance Between Pb Stations and Roadways (Edge of Nearest Traffic Lane)

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9. Probe Material and Pollutant Sample Residence Time

For the reactive gases, SO_2, NO_2, and O_3, special probe material must be used for point analyzers. Studies[20–24] have been conducted to determine the suitability of materials such as polypropylene, polyethylene, polyvinyl chloride, Tygon, aluminum, brass, stainless steel, copper, Pyrex glass and Teflon for use as intake sampling lines. Of the above materials, only Pyrex glass and Teflon have been found to be acceptable for use as intake sampling lines for all the reactive gaseous pollutants. Furthermore, the EPA[25] has specified borosilicate glass or FEP Teflon as the only acceptable probe materials for delivering test atmospheres in the determination of reference or equivalent methods. Therefore, borosilicate glass, FEP Teflon, or their equivalent must be used for existing and new NAMS or SLAMS.

* * * * *

10. Photochemical Assessment Monitoring Stations (PAMS)

10.1 Horizontal and Vertical Placement

The probe or at least 80 percent of the monitoring path must be located 3 to 15 meters above ground level. This range provides a practical compromise for finding suitable sites for the multipollutant PAMS. The probe or at least 90 percent of the monitoring path must be at least 1 meter vertically or horizontally away from any supporting structure, walls, parapets, penthouses, etc., and away from dusty or dirty areas.

10.2 Spacing From Obstructions

The probe or at least 90 percent of the monitoring path must be located away from obstacles and buildings such that the distance between the obstacles and the probe or the monitoring path is at least twice the height that the obstacle protrudes above the probe or monitoring path. There must be unrestricted airflow in an arc of at least 270° around the probe inlet. Additionally, the predominant wind direction for the period of greatest pollutant concentration (as described for each site in section 4.2 of appendix D) must be included in the 270° arc. If the probe is located on the side of the building, 180° clearance is required. A monitoring path must be clear of all trees, brush, buildings, plumes, dust, or other optical obstructions, including potential obstructions that may move due to wind, human activity, growth of vegetation, etc. Temporary optical obstructions, such as rain, particles, fog, or snow, should be considered when siting an open path analyzer. Any of these temporary obstructions that are of sufficient density to obscure the light beam will affect the ability of the open path analyzer to continuously measure pollutant concentrations.

Special consideration must be devoted to the use of open path analyzers due to their inherent potential sensitivity to certain types of interferences, or optical obstructions. While some of these potential interferences are comparable to those to which point monitors are subject, there are additional sources of potential interferences which are altogether different in character. Transient, but significant obscuration of especially longer measurement paths could be expected to occur as a result of certain prevailing meteorological conditions (e.g., heavy fog, rain, snow) and/or aerosol levels that are of a sufficient density to prevent the open path analyzer's light transmission. If certain compensating measures are not otherwise implemented at the onset of monitoring (e.g., shorter path lengths, higher light source intensity), data recovery during periods of greatest primary pollutant potential could be compromised. For instance, if heavy fog or high particulate levels are coincident with periods of projected NAAQS-threatening pollutant potential, the representativeness of the resulting data record in reflecting maximum pollutant concentrations may be substantially impaired despite the fact that the site may otherwise exhibit an acceptable, even exceedingly high overall valid data capture rate.

In seeking EPA approval for inclusion of a site using an open path analyzer into the formal SLAMS/NAMS or PSD network, monitoring agencies must submit an analysis which evaluates both obscuration potential for a proposed path length for the subject area and the effect this potential is projected to have on the representativeness of the data record. This analysis should include one or more of the following elements, as appropriate for the specific circumstance: climatological information, historical pollutant and aerosol information, modeling analysis results, and any related special study results.

10.3 Spacing From Roadways

It is important in the probe and monitoring path siting process to minimize destructive interferences from sources of NO since NO readily reacts with O_3. Table 4 below provides the required minimum separation distances between roadways and PAMS (excluding upper air measuring stations):

TABLE 4.—SEPARATION DISTANCE BETWEEN PAMS AND ROADWAYS

[Edge of Nearest Traffic Lane]

Roadway average daily traffic, vehicles per day	Minimum separation distance between roadways and stations in meters [1]
<10,000	>10
15,000	20
20,000	30
40,000	50
70,000	100
>110,000	250

[1] Distance from the edge of the nearest traffic lane. The distance for intermediate traffic counts should be interpolated from the table based on the actual traffic flow.

10.4 Spacing From Trees

Trees can provide surfaces for adsorption and/or reactions to occur and can obstruct normal wind flow patterns. To minimize these effects at PAMS, the probe or at least 90 percent of the monitoring path should be placed at least 20 meters from the drip line of trees. Since the scavenging effect of trees is greater for O_3 than for the other criteria pollutants, strong consideration of this effect must be given in locating the PAMS probe or monitoring path to avoid this problem. Therefore, the probe or at least 90 percent of the monitoring path must be at least 10 meters from the drip line of trees.

* * * * *

12. Summary

Table 5 presents a summary of the general requirements for probe and monitoring path siting criteria with respect to distances and heights. It is apparent from Table 5 that different elevation distances above the ground are shown for the various pollutants. The discussion in the text for each of the pollutants described reasons for elevating the monitor, probe, or monitoring path. The differences in the specified range of heights are based on the vertical concentration gradients. For CO, the gradients in the vertical direction are very large for the microscale, so a small range of heights has been used. The upper limit of 15 meters was specified for consistency between pollutants and to allow the use of a single manifold or monitoring path for monitoring more than one pollutant.

TABLE 5.—SUMMARY OF PROBE AND MONITORING PATH SITING CRITERIA

Pollutant	Scale [maximum monitoring path length, meters]	Height from ground to probe or 80% of monitoring path [A] (meters)	Horizontal and vertical distance from supporting structures [B] to probe or 90% of monitoring path [A] (meters)	Distance from trees to probe or 90% of monitoring path [A] (meters)	Distance from roadways to probe or monitoring path [A] (meters)
SO_2 [C,D,E,F]	Middle [300m] Neighborhood, Urban, and Regional [1km].	3–15	>1	>10	N/A.
CO [D,E,G]	Micro Middle [300m] Neighborhood [1km].	3±0.5; 3–15	>1	>10	2–10; See Table 2 for middle and neighborhood scales.
O_3 [C,D,E]	Middle [300m] Neighborhood, Urban, and Regional [1km].	3–15	>1	>10	See Table 1 for all scales.
Ozone precursors (for PAMS) [C,D,E].	Neighborhood and Urban. [1 km]	3–15	>1	>10	See Table 4 for all scales.
NO_2 [C,D,E]	Middle [300m] Neighborhood and Urban [1km].	3–15	>1	>10	See Table 1 for all scales.
Pb [C,D,E,F,H]	Micro; Middle, Neighborhood, Urban and Regional.	2–7 (Micro); 2–15 (All other scales).	>2 (All scales, horizontal distance only).	>10 (All scales)	5–15 (Micro); See Table 3 for all other scales.
PM–10 [C,D,E,F,H]	Micro; Middle, Neighborhood, Urban and Regional.	2–7 (Micro); 2–15 (All other scales).	>2 (All scales, horizontal distance only).	>10 (All scales)	2–10 (Micro); See Figure 2 for all other scales.

N/A—Not applicable.
[A] Monitoring path for open path analyzers is applicable only to middle or neighborhood scale CO monitoring and all applicable scales for monitoring SO_2, O_3, O_3 precursors, and NO_2.
[B] When probe is located on a rooftop, this separation distance is in reference to walls, parapets, or penthouses located on roof.
[C] Should be >20 meters from the dripline of tree(s) and must be 10 meters from the dripline when the tree(s) act as an obstruction.
[D] Distance from sampler, probe, or 90% of monitoring path to obstacle, such as a building, must be at least twice the height the obstacle protrudes above the sampler, probe, or monitoring path. Sites not meeting this criterion may be classified as middle scale (see text).
[E] Must have unrestricted airflow 270° around the probe or sampler; 180° if the probe is on the side of a building.
[F] The probe, sampler, or monitoring path should be away from minor sources, such as furnace or incineration flues. The separation distance is dependent on the height of the minor source's emission point (such as a flue), the type of fuel or waste burned, and the quality of the fuel (sulfur, ash, or lead content). This criterion is designed to avoid undue influences from minor sources.
[G] For microscale CO monitoring sites, the probe must be >10 meters from a street intersection and preferably at a midblock location.
[H] For collocated Pb and PM–10 samplers, a 2–4 meter separation distance between collocated samplers must be met.

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[FR Doc. 95–24042 Filed 10–5–95; 8:45 am]
BILLING CODE 6560–50–P

40 CFR Parts 60 and 61

[FRL–5310–9]

1993/1994 Updates for Delegation of Authority to Bernalillo County (New Mexico) for New Source Performance Standards (NSPS) and National Emission Standards for Hazardous Air Pollutants (NESHAP)

AGENCY: Environmental Protection Agency (EPA).

ACTION: Delegation of authority.

SUMMARY: The EPA announces the delegation of authority to the Albuquerque-Bernalillo County Air Quality Control Board (''the Board'') and the Albuquerque Environmental Health Department (AEHD) to implement and enforce the NSPS and NESHAP in Bernalillo County (New Mexico), including the City of Albuquerque. The provisions of full authority apply to all of the NSPS and NESHAP promulgated by the EPA through June 10, 1992 and August 31, 1993, for NSPS and June 3, 1992 and June 25, 1993, for NESHAP, and authority covers all new and amended standards promulgated after those dates. However, the delegation of authority, under this notice, does not apply to the sources located on Indian lands within the boundaries of Bernalillo County as specified in the delegation agreement and in this notice. Also, this delegation of authority is not applicable to the NESHAP radionuclide standards specified under 40 CFR part 61.

EFFECTIVE DATE: October 6, 1995.

ADDRESSES: The AEHD's request and delegation agreement may be obtained by writing to one of the following addresses: Mr. Thomas H. Diggs, Chief, Air Planning Section (6PD–L), U.S. Environmental Protection Agency, 1445 Ross Avenue, Suite 1200, Dallas, Texas 75202, telephone: (214) 665–7214; Mr. Steve Walker, Manager, Air Pollution Control Division, Albuquerque Environmental Health Department, The City of Albuquerque, P.O. Box 1293, Albuquerque, New Mexico 87103, telephone: (505) 768–2624.

FOR FURTHER INFORMATION CONTACT: Mr. Ken Boyce, Air Planning Section, U.S. Environmental Protection Agency, Region 6, 1445 Ross Avenue, Suite 1200, Dallas, Texas 75202, telephone number (214) 665–7259.

SUPPLEMENTARY INFORMATION: Sections 111(c) and 112(l)(1) of the Clean Air Act allow the Administrator of the EPA to delegate the EPA's authority to any State or local agency which can submit adequate regulatory procedures for implementation and enforcement of the NSPS and NESHAP programs.

The New Mexico Air Quality Control Act (NMAQCA) allows, by ordinance, ''A'' class counties and any municipality within an ''A'' class county to create a municipal, county, or joint air quality board to administer and enforce the provisions of the NMAQCA. The City of Albuquerque and Bernalillo