

(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.

[44 FR 27571, May 10, 1979, as amended at 48 FR 2529, Jan. 20, 1983; 51 FR 9586, Mar. 19, 1986; 52 FR 24739, July 1, 1987; 58 FR 8467, Feb. 12, 1993; 59 FR 41628, 41629, Aug. 12, 1994; 60 FR 52319, Oct. 6, 1995]

§ 58.2 Purpose.

(a) This part contains criteria and requirements for ambient air quality monitoring and requirements for reporting ambient air quality data and information. The monitoring criteria pertain to the following areas:

(1) Quality assurance procedures for monitor operation and data handling.

(2) Methodology used in monitoring stations.

(3) Operating schedule.

(4) Siting parameters for instruments or instrument probes.

(b) The requirements pertaining to provisions for an air quality surveillance system in the State Implementation Plan are contained in this part.

(c) This part also acts to establish a national ambient air quality monitoring network for the purpose of providing timely air quality data upon which to base national assessments and policy decisions. This network will be operated by the States and will consist of certain selected stations from the States' SLAMS networks. These selected stations will remain as SLAMS and will continue to meet any applicable requirements on SLAMS. The stations, however, will also be designated as National Air Monitoring Stations (NAMS) and will be subject to additional data reporting and monitoring methodology requirements as contained in subpart D of this part.

(d) This section also acts to establish a Photochemical Assessment Monitoring Stations (PAMS) network as a subset of the State's SLAMS network for the purpose of enhanced monitoring in O₃ nonattainment areas listed as serious, severe, or extreme. The PAMS network will be subject to the data reporting and monitoring methodology requirements as contained in subpart E of this part.

(e) Requirements for the daily reporting of an index of ambient air quality, to insure that the population of major urban areas are informed daily of local air quality conditions, are also included in this part.

[44 FR 27571, May 10, 1979, as amended at 58 FR 8467, Feb. 12, 1993]

§ 58.3 Applicability.

This part applies to:

- (a) State air pollution control agencies.
- (b) Any local air pollution control agency or Indian governing body to which the State has delegated authority to operate a portion of the State's SLAMS network.
- (c) Owners or operators of proposed sources.

Subpart B—Monitoring Criteria

§ 58.10 Quality assurance.

(a) Appendix A to this part contains quality assurance criteria to be followed when operating the SLAMS network.

(b) Appendix B to this part contains the quality assurance criteria to be followed by the owner or operator of a proposed source when operating a PSD station.

§ 58.11 Monitoring methods.

Appendix C to this part contains the criteria to be followed in determining acceptable monitoring methods or instruments for use in SLAMS.

§ 58.12 Siting of instruments or instrument probes.

Appendix E to this part contains criteria for siting instruments or instrument probes for SLAMS.

§ 58.13 Operating schedule.

Ambient air quality data collected at any SLAMS must be collected as follows:

- (a) For continuous analyzers—consecutive hourly averages except during:
 - (1) Periods of routine maintenance,
 - (2) Periods of instrument calibration,

or

- (3) Periods or seasons exempted by the Regional Administrator.
- (b) For manual methods (excluding PM₁₀ samplers and PAMS VOC samplers), at least one 24-hour sample must be obtained every sixth day except during periods or seasons exempted by the Regional Administrator.

(c) For PAMS VOC samplers, samples must be obtained as specified in sections 4.3 and 4.4 of appendix D to this part. Area-specific PAMS operating schedules must be included as part of the network description required by § 58.40 and must be approved by the Administrator.

(d) For PM₁₀ samplers—a 24-hour sample must be taken from midnight to midnight (local time) to ensure national consistency. The sampling shall be conducted on the following schedules which are based on either the first year of PM₁₀ monitoring or a long-term selective PM₁₀ monitoring plan:

- (1) *First year PM₁₀ monitoring.* The sampling frequency for the first year (12 consecutive months) of ambient PM₁₀ monitoring shall be based on the monitoring area's SIP area grouping (I, II, III) which is described in the PM₁₀ SIP Development Guideline and the Preamble to part 51 of this chapter. In