

US EPA ARCHIVE DOCUMENT



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## **Air Monitoring: Site Determinations and Air Sensors**

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## 40 CFR Part 58: Revisions to Ambient Monitoring, QA, and Other Requirements

Finalized revisions to ambient air monitoring requirements for criteria pollutants to provide clarifications to existing requirements to reduce the compliance burden of monitoring agencies operating ambient networks.

- Signed by the Administrator on March 10, 2016
- FR Publication Date : March 28, 2016
- Rule effectiveness date: April 27, 2016

<https://www.federalregister.gov/articles/2016/03/28/2016-06226/revisions-to-ambient-monitoring-quality-assurance-and-other-requirements>



# Summary document on AMTIC

<https://www3.epa.gov/ttn/amtic/40cfr53.html>

Summary of Changes to 40 CFR Part 58 Appendix A

Change	Previous App A Section <sup>1</sup>	New App A Section	Comments
Title	Title	NA	The quality assurance requirements in Appendix A have been developed for the six criteria pollutants of O <sub>3</sub> , NO <sub>2</sub> , SO <sub>2</sub> , CO, PM <sub>2.5</sub> and PM <sub>10</sub> and are minimum requirements for monitoring these ambient air pollutants for use in NAAQS attainment demonstrations. To emphasize the objective of this Appendix, EPA changed the title of Appendix A to "Quality Assurance Requirements for Monitors used in Evaluations of National Ambient Air Quality Standards" and remove the terms SLAMS and special purpose monitors (SPMs) from the title. SPM may in fact be monitoring for a criteria pollutant for other objectives than NAAQS determinations. Some Native American Tribes are monitoring for the criteria pollutants, want to report their data to AQS, but do not want it used for attainment purposes and so do not necessarily want to meet all the Appendix A requirements. Therefore Appendix A attempts to clarify in the title and the applicability section that the QA requirements are for monitors that are required through the Part 58 ambient air regulations, monitoring organization network plans and those organizations that want their data to be used for NAAQS evaluation purposes. The applicability section also provides a mechanism in AQS to identify any criteria monitors that are not used for NAAQS evaluations which will require review and approval by the EPA Regions. This process will create transparency and efficiencies in the designation process and will assist in the data quality evaluation and data certification processes.
Format Revision	NA	NA	The previous regulation has separate sections for automated (continuous) and manual methods. Since some of the particulate matter methods are both continuous and manual and in some cases have different quality control requirements, monitoring organizations found the Appendix A requirements confusing. EPA reformatted the document by pollutant rather than method type. The four gaseous pollutants (CO, NO <sub>2</sub> , SO <sub>2</sub> and O <sub>3</sub> ) will be in one section since the quality control requirements are the same, and separate sections are provided for PM <sub>10</sub> , PM <sub>2.5</sub> and Pb.
Removing PSD from Appendix A	NA	NA	In 2006, the PSD QA requirements, which were previously in App B, were added to App A. The PSD requirements, in most cases, mimicked Appendix A in structure but because monitoring is often only one year, some of the frequencies of implementation of the PSD QC requirements are higher than the Appendix A SLAMS requirements. The combined regulations have caused some confusion and EPA moved the PSD requirements back to Appendix B. This also provides more flexibility for revision if changes in PSD requirements are needed.
Emphasis on PQAQO	NA	1.2	Appendix A emphasizes the primary quality assurance organizations (PQAQO) and moved the definition and explanation to the beginning of the regulation in order to ensure that the application and use of PQAQO in App A is clearly understood.
PQAQO Oversight	NA	1.2.1	Since the PQAQO can be a consolidation of a number of local monitoring organizations, the EPA added a sentence clarifying that the agency identified as the PQAQO (usually the state agency) will be responsible for overseeing that the Appendix A requirements are being met by all consolidated monitoring organizations within the PQAQO.
Approval of PQAQO by EPA	3.1.1	1.2	Previous Appendix A regulation requires PQAQOs to be approved by Regions during network reviews or audits. EPA believes this approval can occur at any time and eliminates PQAQO approvals only during events like network reviews or audits.
Removal of PM <sub>10-2.5</sub> QA Requirements	NA	NA	Appendix A has traditionally been used to describe the quality assurance requirements of the criteria pollutants used in making NAAQS attainment decisions. While the Part 58 Ambient Air Monitoring regulation require monitoring for the Chemical Speciation Network (CSN) and the Photochemical Assessment Monitoring Stations (PAMS), the quality assurance requirements are found in technical assistance documents and not in Appendix A. In 2006, EPA proposed a PM <sub>10-2.5</sub> standard along with requisite QA



## **TSA**s on Consolidated PQAOs **Page 17282 Sec. 2.5**

- A TSA for each PQAO every three years
- If a PQAO is made up of a number of monitoring organizations, all monitoring organizations should be audited within two TSAs (6 years) cycles of the PQAO.
- This would allow EPA Regions to audit monitoring organizations within the PQAO.



## **QMP & QAPP Submission and Approval Dates in AQS; Page 17281 Sec 2.1.1. & 2.1.2**

- Used 2011 Excel spreadsheet to input current QAPP info into AQS
  - QMP has also been entered
  - Regions and Monitoring Orgs will be able to edit new dates
- Added courtesy copy language to regs for providing an electronic version of QAPPs to EPA Regions for those self approving agencies.



# Network Design Criteria 40 CFR Part 58, Appendix D

- Monitoring Objectives and Spatial Scales
- General Monitoring Requirements
- Design Criteria for NCore Sites
- Pollutant-Specific Design Criteria for SLAMS Sites
- Design Criteria for Photochemical Assessment Monitoring Stations (PAMS)



## Example: Ozone Design Criteria

The total number of O<sub>3</sub> sites needed to support the basic monitoring objectives of public data reporting, air quality mapping, compliance, and understanding O<sub>3</sub>-related atmospheric processes will include more sites than these minimum numbers required in Table D-2 of this appendix.

TABLE D-2 OF APPENDIX D TO PART 58— SLAMS MINIMUM O<sub>3</sub> MONITORING REQUIREMENTS

MSA population <sup>1</sup> <sup>2</sup>	Most recent 3-year design value concentrations $\geq 85\%$ of any O <sub>3</sub> NAAQS <sup>3</sup>	Most recent 3-year design value concentrations $< 85\%$ of any O <sub>3</sub> NAAQS <sup>3,4</sup>
>10 million	4	2
4-10 million	3	1
350,000-<4 million	2	1
50,000-<350,000 <sup>5</sup>	1	0

<sup>1</sup>Minimum monitoring requirements apply to the Metropolitan statistical area (MSA).

<sup>2</sup>Population based on latest available census figures.

<sup>3</sup>The ozone (O<sub>3</sub>) National Ambient Air Quality Standards (NAAQS) levels and forms are defined in 40 CFR part 50.

<sup>4</sup>These minimum monitoring requirements apply in the absence of a design value.

<sup>5</sup>Metropolitan statistical areas (MSA) must contain an urbanized area of 50,000 or more population.



## Part 58 Appendixes

Appendix A to Part 58—Quality Assurance Requirements for  
SLAMS, SPMs and PSD Air Monitoring

Appendix C to Part 58—Ambient Air Quality Monitoring  
Methodology

Appendix D to Part 58—Network Design Criteria for Ambient Air  
Quality Monitoring

Appendix E to Part 58—Probe and Monitoring Path Siting Criteria  
for Ambient Air Quality Monitoring

Appendix G to Part 58—Uniform Air Quality Index (AQI) and Daily  
Reporting