

# CO, O3, SO2, NO2

## Appendix A to Part 58--Minimum Data Assessment Requirements for CO, O3, SO2, NO2 NAAQS Related Monitoring Sites

Method	Assessment method	Coverage	Minimum Frequency	Parameters reported	AQS Trans Type	Reqd Reporting to AQS	APP A CFR Ref
Assessment and Reports	Annual Certification report	All monitors in PQAO	annually		NA	NA	1.4 & 5.0
Quality Management Plans (QMPs) and Quality Assurance Project Plans (QAPPs)	Approval by EPA Region	All monitors in PQAO		All pollutants funded by EPA	NA	NA	2.1.1 & 2.1.2
Independent QA Function	EPA TSA	Each PQAO	3 years	NA	NA	NA	2.2
National Performance Audit Program	Independent response check	20% of sites in Network	annually	Audit concentration <sup>1</sup> and measured concentration <sup>2</sup> .	RA	Y	2.4
Technical System Audit (performed by EPA Region)		PQAO	Once every 3 years	Dependent on review	NA	NA	2.5
Use of NIST Traceable Gaseous Pollutant Standards	AA-PGVP	All standards	NA		NA	NA	2.6.1
Use of Certified Ozone Transfer Standards	SRP Program	All ozone monitors	Once per year	Collected at EPA Region	NA	NA	2.6.2
Establishment of Primary Quality Assurance Organization (PQAO)	Consultation with EPA Region	All monitors	NA	PQAO Code	NA	Y	3.1
1-Point QC	Response check at concentration 0.01-0.1 ppm SO2, NO2, O3, and 1-10 ppm CO	Each analyzer	Once per 2 weeks.	Audit concentration <sup>1</sup> and measured concentration <sup>2</sup> .	RP	Y	3.2.1
Annual performance evaluation	Response check a min 3 audit concentrations	Each analyzer	Once per year	Audit concentration <sup>1</sup> and measured concentration <sup>2</sup> for each level.	RA	Y	3.2.2

<sup>1</sup> Effective concentration for open path analyzers.

<sup>2</sup> Corrected concentration, if applicable, for open path analyzers.

Gaseous Parameter Codes		Particulate Parameter Codes	
SO2	42401	PM10	81102
NO2	42602	TSP	11101
O3	44201	PM10-2.5	86101
CO	42101	PM2.5	88101
		Pb-TSP	14129
		Pb-PM10	85129

# PM2.5

## Appendix A to Part 58--Minimum Data Assessment Requirements for PM2.5 NAAQS Related Monitoring Sites Automated and Manual Methods

Method	Assessment method	Coverage	Minimum Frequency	Parameters reported	AQS Trans Type	Reqd Reporting to AQS	APP A CFR Ref
Assessment and Reports	Annual Certification report	All monitors in PQAO	annually		NA	NA	1.4 & 5.0
Quality Management Plans (QMPs) and Quality Assurance Project Plans (QAPPs)	Approval by EPA Region	All monitors in PQAO		All pollutants funded by EPA	NA	NA	2.1.1 & 2.1.2
Independent QA Function	EPA TSA	Each PQAO	3 years	NA	NA	NA	2.2
Technical System Audit (Performed by EPA Region)		PQAO	Once every 3 years	Dependent on review	NA	NA	2.5
Certified Flow Standards	Verification	All flow standards	Once per year	NA	NA	NA	2.6.3
Establishment of Primary Quality Assurance Organization (PQAO)	Consultation with EPA Region	All monitors	NA	PQAO Code	NA	Y	3.1
Flow rate verification	Check of sampler flow rate	Each sampler	Once every month	Audit flow rate and measured flow rate indicated by the sampler.	RP	N	3.2.3
Semi-annual flow rate audit	Check of sampler flow rate using independent standard.	Each sampler	Once every 6 months	Audit flow rate and measured flow rate indicated by the sampler.	RA	Y	3.2.4
Collocated sampling	Collocated samplers.	15%	Every 12 days	Primary sampler concentration and duplicate sampler concentration <sup>1</sup> .	RP	Y	3.2.5
Performance Evaluation Program PEP	Collocated samplers.	1) 5 valid audits for primary QA orgs, with <= 5 sites. 2) 8 valid audits for primary QA orgs, with > 5 sites. 3) All samplers in 6 years	Over all 4 quarters	Primary sampler concentration and performance evaluation sampler concentration.	RP	Y	3.2.7

<sup>1</sup> Precision data is system generated when raw data is submitted for both collocated monitors for same date-time, and monitor ids are populated on monitor collocation record in AQS.

Gaseous Parameter Codes		Particulate Parameter Codes	
SO2	42401	PM10	81102
NO2	42602	TSP	11101
O3	44201	PM10-2.5	86101
CO	42101	PM2.5	88101
		Pb-TSP	14129
		Pb-PM10	85129

# PM10

## Appendix A to Part 58--Minimum Data Assessment Requirements for PM10 NAAQS Related Monitoring Sites Automated and Manual Methods

Method	Assessment method	Coverage	Minimum Frequency	Parameters reported	AQS Trans Type	Reqd Reporting to AQS	APP A CFR Ref
<b>All Methods</b>							
Assessment and Reports	Annual Certification report	All monitors in PQAO	annually		NA	NA	1.4 & 5.0
Quality Management Plans (QMPs) and Quality Assurance Project Plans (QAPPs)	Approval by EPA Region	All monitors in PQAO		All pollutants funded by EPA	NA	NA	2.1.1 & 2.1.2
Independent QA Function	EPA TSA	Each PQAO	3 years	NA	NA	NA	2.2
Technical System Audit (Performed by EPA Region)		PQAO	Once every 3 years	Dependent on review	NA	NA	2.5
Certified Flow Standards	Verification	All flow standards	Once per year	NA	NA	NA	2.6.3
Establishment of Primary Quality Assurance Organization (PQAO)	Consultation with EPA Region	All monitors	NA	PQAO Code	NA	Y	3.1
<b>Automated Methods</b>							
Flow rate verification	Check of sampler flow rate	Each sampler	Once every month	Audit flow rate and measured flow rate indicated by the sampler.	RP	Y	3.2.3
Semi-annual flow rate audit	Check of sampler flow rate using independent standard.	Each sampler	Once every 6 months	Audit flow rate and measured flow rate indicated by the sampler.	RA	Y	3.2.4
<b>Manual Methods</b>							
Collocated sampling	Collocated samplers.	15%	Every 12 days PSD--every 6 days.	Primary sampler concentration and duplicate sampler concentration. <sup>1</sup>	RP (or RD)	Y	3.3.1
Flow rate verification PM10 low- Vol	Check of sampler flow rate.	Each sampler	Once every month	Audit flow rate and measured flow rate indicated by the sampler.	RP	N	3.3.2
Flow rate verification PM10 High-Vol	Check of sampler flow rate.	Each sampler	Once every quarter	Audit flow rate and measured flow rate indicated by the sampler.	RP	N	3.3.2
Semi-annual flow rate audit	Check of sampler flow rate using independent standard.	Each sampler, all locations.	Once every 6 months.	Audit flow rate and measured flow rate indicated by the sampler	RA	Y	3.3.3

<sup>1</sup> Precision data is system generated when raw data is submitted for both collocated monitors for same date-time, and monitor ids are populated on monitor collocation record in AQS.

Gaseous Parameter Codes		Particulate Parameter Codes	
SO2	42401	PM10	81102
NO2	42602	TSP	11101
O3	44201	PM10-2.5	86101
CO	42101	PM2.5	88101
		Pb-TSP	14129
		Pb-PM10	85129

# Pb

## Appendix A to Part 58--Minimum Data Assessment Requirements for Pb NAAQS Related Monitoring

Method	Assessment method	Coverage	Minimum Frequency	Parameters reported	AQS Trans Type	Reqd Reporting to AQS	APP A CFR Ref
Assessment and Reports	Annual Certification report	All monitors in PQAO	annually		NA	NA	1.4 & 5.0
Quality Management Plans (QMPs) and Quality Assurance Project Plans (QAPPs)	Approval by EPA Region	All monitors in PQAO		All pollutants funded by EPA	NA	NA	2.1.1 & 2.1.2
Independent QA Function	EPA TSA	Each PQAO	3 years	NA	NA	NA	2.2
Technical System Audit (Performed by EPA Region)		PQAO	Once every 3 years	Dependent on review	NA	NA	2.5
Certified Flow Standards	Verification	All flow standards	Once per year	NA	NA	NA	2.6.3
Establishment of Primary Quality Assurance Organization (PQAO)	Consultation with EPA Region	All monitors	NA	PQAO Code	NA	Y	3.1
Flow rate verification, Pb-PM10	Check of sampler flow rate.	Each sampler	Once every month	Audit flow rate and measured flow rate indicated by the sampler.	RP	N	3.3.4.1
Flow rate verification, Pb-TSP	Check of sampler flow rate.	Each sampler	Once every quarter	Audit flow rate and measured flow rate indicated by the sampler.	RP	N	3.3.4.1
Semi-annual flow rate audit	Check of sampler flow rate using independent standard.	Each sampler, all locations.	Once every 6 months.	Audit flow rate and measured flow rate indicated by the sampler	RA	Y	3.3.4.1
Pb Analysis Audits	Check of analytical system with Pb audit strips.	Analytical.	Each quarter.	Measured value and audit value (ug Pb/filter) using AQS unit code 077 for parameters: 14129 - Pb (TSP) LC FRM/FEM 85129 - Pb (TSP) LC Non-FRM/FEM	RA	Y	3.3.4.2
Collocated sampling	Collocated samplers.	15%	Every 12 days PSD--every 6 days.	Primary sampler concentration and duplicate sampler concentration. <sup>1</sup>	RP (or RD)	Y	3.3.4.3
Performance Evaluation Program Pb-TSP, Pb-PM10	Collocated samplers.	1) 1 valid audit and 4 collocated samples for primary QA orgs, with <=5 sites. 2) 2 valid audits and 6 collocated samples for primary QA orgs with > 5 sites.	Over all 4 quarters	Primary sampler concentration and performance evaluation sampler concentration. Primary sampler concentration and duplicate sampler concentration.	RP	Y	3.3.4.4

<sup>1</sup> Precision data is system generated when raw data is submitted for both collocated monitors for same date-time, and monitor ids are populated on monitor collocation record in AQS.

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SO2	42401	PM10	81102
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