



AMBIENT AIR MONITORING DATA CERTIFICATIONS

2026 Annual Data Certification Training

U.S. EPA Office of State Air Partnerships (OSAP)

WHAT IS DATA CERTIFICATION?



- Primary Quality Assurance Organizations (PQAOs) attest the completeness and accuracy of the previous year's data collected by approved monitors at State/Local Air Monitoring Stations (SLAMS) and Special Purpose Monitor (SPM) sites that meet CFR Quality Assurance/Quality Control (QA/QC) criteria.
 - Data certification requirements may also be in other agreements.
- Required May 1st submittal to the Regional Administrator by 40 CFR §58.15
- EPA does not “validate” or “certify” data submitted by an agency but does review the data and enters EPA evaluation flags.

WHAT IS DATA CERTIFICATION? CONTINUED



- Data should be verified and validated by the PQA0 and/or certifying agency prior to the data certification process.
- The data certification package should include:
 - A data certification cover letter
 - The Certification Evaluation and Concurrence Report (AMP600) for criteria pollutants – signed with certifying agency
 - The Quicklook All Parameters Report (AMP450 NC) – If PMcoarse (PM_{10-2.5}) and/or 5-min SO₂ data are recorded
 - Optionally, any other data for designation or exceptional events

DATA CERTIFICATION FLAGS AND THEIR MEANINGS

Flag Value	Application
X	Certification is not required by 40 CFR 58.15 and no conditions apply to be the basis for assigning another flag value
U	Uncertified. The certifying agency did not submit a required certification letter and summary reports for this monitor even though the due date has passed, or the state's certification letter specifically did not apply the certification to this monitor.
S	The certifying agency has submitted the certification letter and required summary reports. A value of "S" conveys no Regional assessment regarding data quality per se. This flag will remain until the Region provides an "N" or "Y" concurrence flag.
N	The certifying agency has submitted the certification letter and required summary reports, but the certifying agency and/or EPA has determined that issues regarding the quality of the ambient concentration data cannot be resolved due to data completeness, the lack of performed quality assurance checks or the results of uncertainty statistics shown in the AMP256 report or the certification and quality assurance report.
Y	The certifying agency has submitted a certification letter, and EPA has no unresolved reservations about data quality (after reviewing the letter, the attached summary reports, <u>the</u> amount of quality assurance data submitted to AQS, the quality statistics, and the highest reported concentrations).
M	The monitoring organization has revised data from this monitor since the most recent certification letter received from the state.

This table can be found in the data certification guidance documents, Ambient Monitoring Technology Information Center (AMTIC) webpage, and Air Quality System (AQS) webpage.

https://www.epa.gov/sites/default/files/2019-04/documents/data_certification_flag_values_for_amtic.pdf

AMP600 COLOR CODING

- Color coding information can be found in the data certification guidance documents on the AMTIC webpage.
- Check the guidance documents annually for any changes to the process or AMP600.
- NOTE: Three yellow flags trigger a red AQS “N” flag.

Assessment	Current CFR Requirement or Guidance	Green (Acceptable)	Yellow (Warning)	Red (Recommend N Flag)	Comments
Technical Systems Audit	PQAO every 3 years	TSA within 3 years	TSA within 4 years	TSA > 5 years	Not a monitoring Org responsibility. Will be reported on summary page not by pollutant
Gaseous Criteria Pollutants					
Routine Data Completeness	75%	> 80%	80-70%	< 70%	Based on CFR criteria for data use 100* Number of hourly obs/number of hours in monitor sample period ¹
QAPP Approval	Approval date within 5 years of current date	Approval date within 5 years of current date	N/A	Not approved and/or approval date greater than 5 years	Could be sole reason for “N” flag if QAPP not approved.
1-Point QC Completeness	75%	> 75%	65-75%	< 65%	Based on 26, 1-point QC for a year. Calculated based on the number of days the monitor operated.
1-Point QC Precision	< ±7.1% O3, < ±10.1% CO, SO2 < ±15.1% NO2	< ±7.1% O3, < ±10.1% CO, SO2 < ±15.1% NO2	±7.1-20% O3 ±10.1-25% CO, SO2 ±15.1-25% NO2	> ±20% O3 > ±25% others	Based on all valid 1-point QC checks in AQS for the year.
1-Point QC Bias	< ±7.1% O3, < ±10.1% CO, SO2 < ±15.1% NO2	< ±7.1% O3, < ±10.1% CO, SO2 < ±15.1% NO2	±7.1-20% O3 ±10.1-25% CO, SO2 ±15.1-25% NO2	> ±20% O3 > ±25% others	Based on all valid 1-point QC checks in AQS.

HOW THE AMP600 CRITERIA WORKS

Certification Report for Particulate Matter

Certifying Year: 2012

Certifying Agency: [REDACTED]

Parameter: PM2.5 - Local Conditions (88101)

PQAO Name: [REDACTED]

Quality Assurance Project Plan Approval Date:

Collocation Summary

Method	# Sites	# Sites Req	# Sites Collocated	% Collocated	CV Est	CV UB	Criteria Met?
145	4	1	1	100	10.87	12.07	Y

PEP Summary

# Methods	# Audited Methods	# PEP Required	# PEP Submitted	% Complete	Bias	Criteria Met?
1	1	5	2	40	+5.41	Y

Monitors Summaries

AQS Site ID	POC Method	Monitor Type	Routine Data (ug/m3)				Exceed. Out Count	% Complete	Flow Rate Audit		Collocation		PEP		Certification				
			Mean	Min	Max	Count			Bias	% Complete	CV	% Complete	PQAO Crit. Met	PQAO Crit. Met	QAPP Appr.	AQS Value	Rec Value	Req Value	EPA Value
-0004	1	145	SLAMS	6.72	.8	16.7	0	87	+1.22	100	12.07	100	Y	Y	Y	Y			
-0007	1	145	SLAMS	4.55	.6	18.1	0	93	+0.53	100			Y	Y	Y	Y			
-0012	1	145	SLAMS	6.73	.4	19.9	0	92	+1.22	100	12.07	100	Y	Y	Y	Y			
-0012	2	145	SLAMS	6.95	.8	17.7	0	90	+1.07	100			Y	Y	Y	Y			
-0002	1	145	SLAMS	8.93	1.8	33.0	0	92	+0.75	100			Y	Y	Y	Y			

Performance Evaluation Program (PEP) PQAO Criteria is based on bias estimate, not completeness.

Some flags are generated at a PQAO level and affect every monitor's AQS recommended flag.

THE DATA CERTIFICATION PROCESS



STEP 1: RUN REPORTS

1. Run the AQS Monitor Description Report (AMP390) - If a certifying agency role is not designated, then the monitor will not appear in the AMP600.
2. Run AMP600 Report - AQS will recommend a certification flag for each monitor based on 40 CFR Part 58 criteria.
3. Run the QA Data Quality Indicator Report (AMP256) to get a more detailed look at the QA data if needed.



Standard Report Criteria Selection (National Air Data Group) AMP600

Criteria Set **Data Selection** | Sort Order | Report Options | Retrieve Reports

Monitor / Geographic Criteria

State Code	County Code	Site Id

In this tab fill out all the necessary cells (at a minimum the ones highlighted in yellow on this slide).

Protocol Criteria

Pollutant Type	Parameter Code

Date Criteria

Start Date:

End Date:

Agency Role

CERTIFYING

Agency

Generate Report

Record: 1/1

THE AMP600 REPORT SUMMARY PAGE

Make sure the report is signed here before submittal.



Jul. 22, 2014

Data Evaluation and Concurrence Report Summary

Certification Year: 2012
 Certifying Agency (CA): [REDACTED]

Pollutants in Report:

<u>Parameter Name</u>	<u>Code</u>	<u>Monitors Evaluated</u>	<u>Monitors Recommended for Concurrence by AQS</u>	<u>Monitors NOT Recommended for Concurrence by AQS</u>
Carbon monoxide	42101	3	3	0
Nitrogen dioxide (NO2)	42602	2	2	0
Ozone	44201	16	14	2
PM10 Total 0-10um STP	81102	8	7	1
PM2.5 - Local Conditions	88101	12	9	3
Sulfur dioxide	42401	4	4	0

PQAOs in Report:

<u>PQAO Name</u>	<u>PQAO Code</u>	<u>TSA Date</u>
[REDACTED]	[REDACTED]	09/27/12

Summary of 'N' flags for all pollutants:

<u>PQAO</u>	<u>Code</u>	<u>AQS Site-ID</u>	<u>POC</u>	<u>AQS Recommended Flag</u>	<u>Cert. Agency Recommended Flag</u>	<u>Reason for AQS Recommendation</u>
[REDACTED]	44201	[REDACTED]-1100	1	N	[REDACTED]	Annual Performance Evaluation Audit Missing or 1 Level.
[REDACTED]	44201	[REDACTED]-0032	1	N	[REDACTED]	Annual Performance Evaluation Audit Missing or 1 Level.
[REDACTED]	88101	[REDACTED]-0016	2	N	[REDACTED]	Annual Summary completeness < 70%.
[REDACTED]	88101	[REDACTED]-0014	1	N	[REDACTED]	Annual Summary completeness < 70%.
[REDACTED]	88101	[REDACTED]-0103	1	N	[REDACTED]	PQAO-Level Collocation criteria not met.
[REDACTED]	81102	[REDACTED]-0014	1	N	[REDACTED]	Flow Rate Audit completeness < 65%.

Signature of Monitoring Organization Representative: _____

THE AMP600 POLLUTANT PAGE

Before Data Certification

Note the lack of CA and EPA flags

Certifying Year 2012

Certifying Agency Code [REDACTED]

Parameter Ozone (44201) (ppm)

PQAO Name [REDACTED]

QAPP Approval Date 06/23/2009

NPAP Audit Summary: Number of Valid Audits 7 NPAP Bias 1.21951 Criteria Met Y

AQS Site ID	POC Monitor Type	Routine Data						One Point Quality Check			Annual PE		NPAP		Concur. Flag			
		Mean	Min	Max	Exceed. Count	Outlier Count	Perc. Comp.	Precision	Bias	Complete	Bias	Complete	Bias	PQAO Level Criteria	QAPP Appr.	Aqs Rec Flag	CA Rec Flag	Epa Concur
[REDACTED]-0014	2 SPM	0.042	0.016	0.085	0	0	93	2.95	+/-2.39	100	- 3.54	100		Y	Y	Y		
[REDACTED]-1100	1 TRIBAL	0.038	0.014	0.059	0	0	91	1.87	+/-1.36	100	- 0.43	100		Y	Y	Y		
[REDACTED]-2003	1 SLAMS	0.046	0.014	0.094	0	0	99	1.52	+3.35	100	0.90	100	0.00	Y	Y	Y		
[REDACTED]-0102	1 SLAMS	0.047	0.024	0.080	0	0	98	2.64	+/-1.99	100	- 3.74	100	1.01	Y	Y	Y		
[REDACTED]-0103	1 SLAMS	0.044	0.017	0.078	0	0	95	1.43	-2.56	100	- 1.35	100	1.22	Y	Y	Y		
[REDACTED]-2005	1 SLAMS	0.042	0.014	0.082	0	0	99	1.40	+/-1.28	100	- 2.02	100		Y	Y	Y		
[REDACTED]-0004	2 SLAMS	0.043	0.021	0.087	0	0	96	4.69	+/-3.63	100	0.41	100		Y	Y	Y		
[REDACTED]-73001	1 SPM	0.038	0.010	0.081	0	0	99	0.93	+/-1.13	100	- 1.41	100		Y	Y	Y		
[REDACTED]-9-1100	1 TRIBAL	0.040	0.019	0.071	0	0	89	1.53	+/-1.04	100		0	3.70	Y	Y	N		
[REDACTED]-9-4008	1 SLAMS	0.041	0.018	0.069	0	0	99	2.27	+/-1.96	100	0.67	100		Y	Y	Y		
[REDACTED]-8-0006	1 SPM	0.043	0.014	0.108	0	0	99	8.98	+/-5.88	100	0.07	100	1.00	Y	Y	Y		
[REDACTED]-9-0019	1 SPM	0.040	0.021	0.075	0	0	98	3.91	+/-3.60	100	0.72	100		Y	Y	Y		
[REDACTED]-9-0032	1 TRIBAL	0.038	0.011	0.062	0	0	99	1.27	+/-1.46	100		0		Y	Y	N		
[REDACTED]-0038	1 SPM	0.044	0.011	0.094	0	0	99	1.89	+3.68	100	3.43	100		Y	Y	Y		
[REDACTED]-0040	1 SPM	0.044	0.017	0.088	0	0	98	1.13	+2.30	100	2.81	100		Y	Y	Y		
[REDACTED]-2002	1 SLAMS	0.047	0.016	0.096	0	0	99	1.59	+/-1.82	100	0.30	100	1.89	Y	Y	Y		

STEP 2: DATA REVIEW AND CORRECTION

- If you see “N” flags in the AMP600 :
 - Should this be a N Flag? Check the following:
 1. Has any data not been submitted?
 2. Should data be invalidated and removed from AQS?
 3. Run an AMP256 and/or AMP390 to get more details.
- The AQS recommended flags cannot be altered - it is based on the AMP600 criteria.
- Use the AQS [Certification Form](#) to enter your certifying agency flags.

THE AMP600 POLLUTANT PAGE (CA FLAGS)

After CA Flags
are Entered

Certifying Year 2012
 Certifying Agency Code [REDACTED]
 Parameter Ozone (44201) (ppm)
 PQA Name [REDACTED]

QAPP Approval Date 06/23/2009

NPAP Audit Summary: Number of Valid Audits 7 NPAP Bias 1.21951 Criteria Met Y

AQS Site ID	POC Monitor Type	Routine Data						One Point Quality Check			Annual PE		NPAP		QAPP Appr.	Concur. Flag		
		Mean	Min	Max	Exceed. Count	Outlier Count	Perc. Comp.	Precision	Bias	Complete	Bias	Complete	Bias	PQA Level Criteria		Aqs Rec Flag	CA Rec Flag	Epa Concur
[REDACTED]-0014	2 SPM	0.042	0.016	0.085	0	0	93	2.95	+/-2.39	100	- 3.54	100		Y	Y	Y	Y	Y
[REDACTED]-1100	1 TRIBAL	0.038	0.014	0.059	0	0	91	1.87	+/-1.36	100	- 0.43	100		Y	Y	Y	Y	Y
[REDACTED]-2003	1 SLAMS	0.046	0.014	0.094	0	0	99	1.52	+3.35	100	0.90	100	0.00	Y	Y	Y	Y	Y
[REDACTED]-0102	1 SLAMS	0.047	0.024	0.080	0	0	98	2.64	+/-1.99	100	- 3.74	100	1.01	Y	Y	Y	Y	Y
[REDACTED]-0103	1 SLAMS	0.044	0.017	0.078	0	0	95	1.43	-2.56	100	- 1.35	100	1.22	Y	Y	Y	Y	Y
[REDACTED]-2005	1 SLAMS	0.042	0.014	0.082	0	0	99	1.40	+/-1.28	100	- 2.02	100		Y	Y	Y	Y	Y
[REDACTED]-0004	2 SLAMS	0.043	0.021	0.087	0	0	96	4.69	+/-3.63	100	0.41	100		Y	Y	Y	Y	Y
[REDACTED]-7-3001	1 SPM	0.038	0.010	0.081	0	0	99	0.93	+/-1.13	100	- 1.41	100		Y	Y	Y	Y	Y
[REDACTED]-9-1100	1 TRIBAL	0.040	0.019	0.071	0	0	89	1.53	+/-1.04	100		0	3.70	Y	Y	N		★
[REDACTED]-4008	1 SLAMS	0.041	0.018	0.069	0	0	99	2.27	+/-1.96	100	0.67	100		Y	Y	Y	Y	Y
[REDACTED]-8-0006	1 SPM	0.043	0.014	0.108	0	0	99	8.98	+/-5.88	100	0.07	100	1.00	Y	Y	Y	Y	Y
[REDACTED]-9-0019	1 SPM	0.040	0.021	0.075	0	0	98	3.91	+/-3.60	100	0.72	100		Y	Y	Y	Y	Y
[REDACTED]-9-0032	1 TRIBAL	0.038	0.011	0.062	0	0	99	1.27	+/-1.46	100		0		Y	Y	N		★
[REDACTED]-1-0038	1 SPM	0.044	0.011	0.094	0	0	99	1.89	+3.68	100	3.43	100		Y	Y	Y	Y	Y
[REDACTED]-1-0040	1 SPM	0.044	0.017	0.088	0	0	98	1.13	+2.30	100	2.61	100		Y	Y	Y	Y	Y
[REDACTED]-1-2002	1 SLAMS	0.047	0.016	0.096	0	0	99	1.59	+/-1.82	100	0.30	100	1.89	Y	Y	Y	Y	Y

"M" FLAGS + CA & AQS FLAGS THAT DIFFER

AQS Site ID		POC	Monitor Type	Routine Data (ug/m3)			Exceed. Count	Outlier Count	% Complete	Flow Rate Verification		Flow Rate Audit		QAPP Appr.	Concurrence Flag		
Mean	Min	Max	Count	Count	Complete	Bias	Complete	Bias	Complete	QAPP Appr.	AQS Rec Flag	CA Rec Flag	EPA Rec Flag	Concur			
1011	2	SLAMS	16.62	.0	491.0	0	97	+0.19	75	-0.22	100	Y	Y	Y	M		
Parameter: PM10 Total 0-10um STP (81102) INTERMITTENT PQA Name: [REDACTED] Quality Assurance Project Plan Approval Date: 10/15/2011																	
Collocation Summary																	
# Sites	# Sites Req	# Sites Collocated	% Collocated	CV Est	CV UB	Criteria Met?											
5	1	1	100	8.87	10.93	Y											

AQS Site ID		POC	Monitor Type	Routine Data (ug/m3)			Exceed. Count	Outlier Count	% Complete	Flow Rate Audit		Collocation		PQAO Crit. Met	QAPP Appr.	Concurrence Flag		
Mean	Min	Max	Count	Count	Complete	Bias	Complete	CV	Complete	PQAO Crit. Met	QAPP Appr.	AQS Rec Flag	CA Rec Flag	EPA Rec Flag	Concur			
0011	2	SLAMS	15.25	2.0	54.0	0	0	96	+0.66	100			Y	Y	Y	Y	Y	
0015	2	SPM	21.32	8.0	60.0	0	0	86	+0.36	100	10.93	86	Y	Y	Y	Y	Y	
0015	3	SPM	19.96	8.0	62.0	0	0	93	+0.78	100			Y	Y	Y	Y	Y	
0103	2	SPM	6.15	2.0	19.0	0	0	95	-1.20	100			Y	Y	Y	Y	Y	
0016	2	SLAMS	13.84	2.0	61.0	0	0	91	-0.93	100			Y	Y	Y	Y	Y	
0002	3	SLAMS	17.66	2.0	89.0	0	0	96	+0.03	100			Y	Y	Y	Y	Y	
0014	1	SLAMS	19.22	2.0	80.0	0	0	91	+/-	0			Y	Y	N	Y	N	

Submitter Comment: Flow Rate Audit Completeness 75% according to AMP250
 EPA Comment:

"M" flags indicate a change to the data was made after certification.

In this case, the CA has already changed their "M" flag to another flag.

A CA comment is needed if the CA flag disagrees with the AQS recommended flag.

STEP 3: DATA CERTIFICATION

1. Rerun the AMP600 - Verify flags and comments have been entered.
 2. Sign the cover letter and AMP600 report and submit with AMP reports or other documentation.
- NOTE: EPA Evaluation Flags are not Concurrence Flags!

THE AMP600 POLLUTANT PAGE (W/ EPA FLAGS)

After July 1st,
any monitors
not certified
will
automatically
be “U”
flagged
(uncertified).

Certifying Year		2012													
Certifying Agency Code		[REDACTED]													
Parameter		Ozone (44201) (ppm)													
PQAO Name		[REDACTED]													
QAPP Approval Date		06/23/2009													
NPAP Audit Summary:		Number of Valid Audits				NPAP Bias				Criteria Met					
		7				1.21951				Y					
AQS Site ID	POC Monitor Type	Routine Data						One Point Quality Check			Annual PE		NPAP		
		Mean	Min	Max	Exceed. Count	Outlier Count	Perc. Comp.	Precision	Bias	Complete	Bias	Complete	Bias	PQAO Level Criteria	
[REDACTED]-0014	2 SPM	0.042	0.016	0.085	0	0	93	2.95	+/-2.39	100	- 3.54	100		Y	
[REDACTED]-1100	1 TRIBAL	0.038	0.014	0.059	0	0	91	1.87	+/-1.36	100	- 0.43	100		Y	
[REDACTED]-2003	1 SLAMS	0.046	0.014	0.094	0	0	99	1.52	+3.35	100	0.90	100	0.00	Y	
[REDACTED]-0102	1 SLAMS	0.047	0.024	0.080	0	0	98	2.64	+/-1.99	100	- 3.74	100	1.01	Y	
[REDACTED]-0103	1 SLAMS	0.044	0.017	0.078	0	0	95	1.43	-2.56	100	- 1.35	100	1.22	Y	
[REDACTED]-2005	1 SLAMS	0.042	0.014	0.082	0	0	99	1.40	+/-1.28	100	- 2.02	100		Y	
[REDACTED]-0004	2 SLAMS	0.043	0.021	0.087	0	0	96	4.69	+/-3.63	100	0.41	100		Y	
[REDACTED]-3001	1 SPM	0.038	0.010	0.081	0	0	99	0.93	+/-1.13	100	- 1.41	100		Y	
[REDACTED]-1100	1 TRIBAL	0.040	0.019	0.071	0	0	89	1.53	+/-1.04	100		0	3.70	Y	
[REDACTED]-4008	1 SLAMS	0.041	0.018	0.089	0	0	99	2.27	+/-1.96	100	0.87	100		Y	
[REDACTED]-0008	1 SPM	0.043	0.014	0.108	0	0	99	8.98	+/-5.88	100	0.07	100	1.00	Y	
[REDACTED]-0019	1 SPM	0.040	0.021	0.075	0	0	98	3.91	+/-3.60	100	0.72	100		Y	
[REDACTED]-0032	1 TRIBAL	0.038	0.011	0.082	0	0	99	1.27	+/-1.46	100		0		Y	
								1.89	+3.68	100	3.43	100		Y	
								1.13	+2.30	100	2.81	100		Y	
								1.59	+/-1.82	100	0.30	100	1.89	Y	

U **Uncertified.** The certifying agency did not submit a required certification letter and summary reports for this monitor even though the due date has passed, or the state's certification letter specifically did not apply the certification to this monitor.

Concur. Flag		
Aqs Rec Flag	CA Rec Flag	Epa Concur
Y	Y	Y
Y	Y	Y
Y	Y	Y
Y	Y	Y
Y	Y	Y
Y	Y	Y
Y	Y	Y
Y	Y	Y
Y	Y	Y
N		U
Y	Y	Y
Y	Y	Y
Y	Y	Y
Y	Y	Y
N		U
Y	Y	Y
Y	Y	Y
Y	Y	Y
Y	Y	Y



CERTIFICATION PROCESS: THOUGHTS AND STEPS FORWARD



- Use the certification process often - don't wait until May to run the reports!
- Working in advance will help in identifying any issues earlier in the process.



For more Q&A please see the guidance and webinars posted on the AMTIC Certification webpage.

Questions:

1. What to do if data values are changed (removed or corrected) retroactively? What happens to the data if they aren't recertified?
2. How to handle issues at the PQA level and not at the local level - such as collocation not being met at PQA level?

Answers:

1. Recertification is needed. Please work with your Regional Office contact on recertification packages. Uncertified data is identified as questionable and may or may not be used for determinations.
2. Work with your Regional Office contact. They can help determine what requirements are needed and which flags/comments would be appropriate.



CONTINUED

For more Q&A please see the guidance and webinars posted on the AMTIC Certification webpage.

Questions:

Answers:

3. How are monitor or data issues corrected?

3. This depends on the issue and how much data may be affected. If data is changed, please see the answer to Question #1. If issues are identified, work with your Regional Office contact to identify a resolution.

4. Are there rules for the comments in AQS, especially for any issues identified?

4. There is no limit to the number of characters/words that can be entered into the comment section of the AQS Certification Form/AMP600 Comment area.

RESOURCES

[40 CFR Part 58](#)

[AMTIC QA](#)

[Data Certification Webpage](#)

[AQS Webpage](#)

- If you have questions or problems with AQS or Data Certifications, contact:
 - Your EPA Regional Office AQS Contact – current contacts identified in the data certification guidance document
 - [The Exchange Network Services Center \(ENSC\)](#)
 - Weekdays 8:00 AM - 6:00 PM (EST)
 - 1-888-890-1995 - choose option 2 for Node Helpdesk Support
 - nodehelpdesk@epacdx.net