EPA OFFICE OF AIR QUALITY PLANNING AND STANDARDS

The QA EYE

ISSUE 9 JULY, 2010

SPECIAL POINTS OF INTEREST:

- Pb Quality System requirements
- PM Flow Rate Guidance
- 2009 Box-and – Whisker Plots on AMTIC
- Nov 2011 Ambient Air Monitoring Meeting Still on the Table

INSIDE THIS ISSUE:

NACAA Steering Committee Meeting Spurs Newsletter

The National Association of Clean Air Agencies Ambient Air Monitoring Steering Committee had there bi-annual meeting at the EPA offices in RTP North Carolina on July 13 and 14. Notes from that meeting will posted on the NACAA website in the next few weeks. Since the OAQPS QA Team was on the agenda they took the opportunity to develop a number of one-page briefs to describe the progress QA has made on a number of fronts. The majority of the articles in this edition are taken from those briefing papers. Thanks to NACCA for the motivation!

PB QA Progress

Pb-PEP Field Sampling

EPA purchased and received Pb-PEP TSP sampling instruments from Hi-Q earlier this year and had a training session in February in Las Vegas to train the ESAT field technicians. EPA has experienced some issues related to flow rates but worked with Hi-Q to resolve both technical and firmware issues. The samplers which are volume flow controlled with brushless motors do appear to meet the 1.1 m3/min low end flow rate described in 40 CFR Part 50 Appendix B but have trouble achieving the high end 1.7 m3/min flow. Recent contact with South Coast and Illinois monitoring agencies confirm the OAQPS situation. OAQPS plans to test the samplers again in Region 7 in July before deploying for field sampling. EPA expects to perform Pb-PEP sampling starting in August.

Pb-PEP Lab Activities

The Region 9 Lab submitted an FEM application to ORD on March 30. The method is a nitric acid hot block digestion method with ICP-MS. ORD completed it's review on June 16 and R9 completed minor edits to the application. On August 3, 2010 the method was approved and posted on the Federal Register as FEM EQL-0710-192 and is on AMTIC. The R9 lab also plans to move forward with an application for using the same method for the analysis of PM10 lo-Vol Teflon filters for Pb. Realizing the time involved with the FEM approval process, we do not expect to see approval until the beginning of 2011.

Pb-PEP Collocated Filters

EPA has been in email contact with all the monitoring agencies sampling for Pb this year explaining the procedures involved with shipping collocated filters to the R9 lab. We have received mailing addresses for each monitoring organization and we are currently in the process of creating pre-printed UPS address labels for the shipping of these collocated filters to the R9 lab using the EPA UPS shipping account. We expect that monitoring organizations will be receiving these labels in early August.

Remember, the collocated filters for the Pb-PEP are an extra collocation so they will not effect routine collocation completeness. Monitoring organizations are to send the whole filter to Region 9. R9 can send a portion of that filter back to the monitoring organization if they so desire.

Pb Audit Strips

The Regions and OAQPS have been getting questions about whether OAQPS will be developing Pb audit strips for the Pb labs. Our answer has been no, as discussed in the Pb QA Q&A document on AMTIC http://www.epa.gov/ttn/amtic/pb-monitoring.html . We did not receive much positive response when we asked this question a few years ago. From a QA standpoint it would be great if we made strips that were all developed at one time, by one organization, using the same equipment.

Continued on Page 2

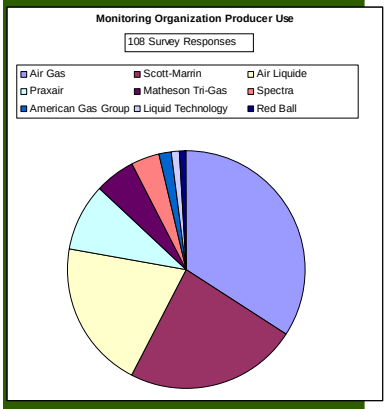
PB QA *(Continued for page 1)*

OAQPS recently asked a contractor to provide ball park estimates of the cost to develop Pb audit strips for 50 labs (50 Labs at 24 strips/lab =1200 strips). The contractor proposed a cost around $10,000 for 1200 strips or about $200 lab. If monitoring organizations are interested in having these strips developed through a national contract please let your Regional EPA point of contact know. Related to the audit strips, EPA also posted another audit strip SOP (RTI Audit Strip SOP) on AMTIC at http://www.epa.gov/ttn/amtic/pb-monitoring.html

PM10-Pb Collocation at NCore

The Pb rule contemplated PM10 Pb monitoring at NCore sites. Since the 40 CFR Appendix A Pb collocation requirements were written and promulgated prior to decisions about Pb monitoring at NCore sites, the QA requirements were written at the PQAO level which could unduly burden monitoring organizations that only have Pb monitoring at an NCore site.

Similar to PM10-2.5 collocation, we plan to include language in Appendix A allowing for PM10-Pb collocation at 15% of the NCore sites if PQAOs are not monitoring for PM10, PM10-2.5, or PM10-Pb at other sites within their network. Since the monitoring rule has not been finalized, Pb-Monitoring at NCore is likely to be delayed until 2012 which will give EPA some extra time to revise the collocation requirements.



Gas Producer Use Among Monitoring Organizations

Ambient Air Protocol Gas Verification Program Operational

For a few years now, OAQPS has been reporting on the ups and downs of trying to establish an ambient air protocol gas verification program. QA EYE Issues #4 and #8 had articles about this program.

We have finally reached the promised land. Since the February article, EPA and Regions 2 and 7:

- Completed a QAPP and SOPs
- Received more surveys from monitoring organizations (87 in all)
- Posted an ICR request in the Federal Register that allows OAQPS to require completion of the surveys
- Completed the data base
- Performed a technical systems audit of both laboratories (April)
- Procured an on-line Hazmat Training course that provides certification to ship cylinders. 23 individuals have taken the course.

From June 1-10, Region 7 performed the first verifications of single and multi-blend cylinders. They received 5 cylinders and verified10 gasses. All results were <2%. In July, Region 2 performed their first verifications. They received 4 cylinders and verified 6 gases. Two cylinders were slightly above 2% but were deemed acceptable and the others were < 2%.

Issues

There were a few issues uncovered during the first verifications.

Shipping

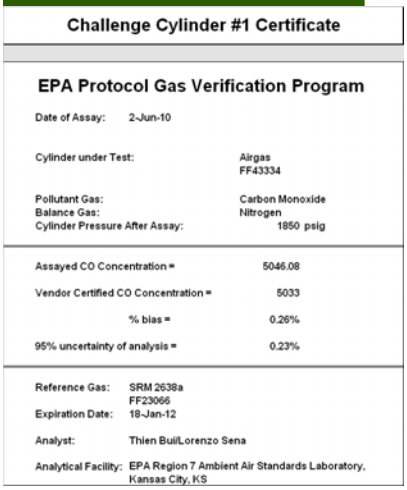
Some monitoring organizations had some difficulty shipping cylinders due to UPS requirements. It is not that these cylinders are that hazardous to ship, it has to do with how local contracts are set up with UPS. OAQPS hopes to talk to UPS and try to get some guidance developed on this issue. In addition, Avi Teitz from Region 2 said he found it easier to work with UPS when shipping the cylinders in the fiberboard boxes since there are no confusing and old labeling on the boxes compared to the labels on the cylinders.

Need More Participation

As illustrated from the pie chart on the left, at a minimum we need to verify 9 producers. However the 9 producers have a total of 18 facilities. We were hoping for at least 10 participants for each lab and we got about half that. We only covered 5 facilities in our June/July verifications. We will be calling and emailing early to get better participation in the third and fourth quarters.

Our many thanks to those that participated in the inaugural round! They include:

Missouri DNR
Texas CEQ
State of Utah
Maricopa County
Maryland DOE
Hamilton County
State of Florida DEP



Challenge Cylinder #1 Certificate

EPA Protocol Gas Verification Program

Date of Assay:	2-Jun-10
Cylinder under Test:	Airgas FF43334
Pollutant Gas:	Carbon Monoxide
Balance Gas:	Nitrogen
Cylinder Pressure After Assay:	1850 psig
Assayed CO Concentration =	5046.08
Vendor Certified CO Concentration =	5033
% bias =	0.26%
95% uncertainty of analysis =	0.23%
Reference Gas:	SRM 2638a FF23066
Expiration Date:	18-Jan-12
Analyst:	Thien Bui/Lorenzo Sena
Analytical Facility:	EPA Region 7 Ambient Air Standards Laboratory, Kansas City, KS

PM2.5 FEM/FRM Collocation Requirements

As more monitoring organizations start using continuous $PM_{2.5}$ federal equivalent methods, EPA has received questions on the collocation requirements in 40 CFR Part 58 Appendix A Section 3.2.5. Collocation is required for each unique $PM_{2.5}$ FRM and FEM operated as a primary monitor by a PQAO as follows:

- 15% of each FRM and FEM method designation that is a **primary monitor** is required for collocation. Note, only FRM/FEM used as primary monitors need to be collocated. If a monitoring organization was implementing three FEMs in their network but only one method was used as the primary monitor at all the sites (the others were being tested or used for non-regulatory monitoring) then that one FEM would require collocation.
- If only one collocated monitor is required, the collocated monitor must be an FRM regardless of whether the primary monitor is an FRM or FEM. If the primary monitor is an FRM, the collocated monitor must be the same method designation as the primary.
- If the primary monitor is an FEM and 2 collocated (or an even number of collocated instruments) are required, the second collocated monitor is a FEM of the same method designation as the primary.
- Odd number of collocated monitors for FEMs always favors FRM collocation

Example: A PQAO has 80 $PM_{2.5}$ sites and is operating 2 FRMs (FRM 1 and 2) and three FEMs (FEM A, B and C). The following collocation would be required.

Primary Monitor	Tot # Primary	# Collocated (15%)	# Collocated FRM	# Collocated FEM of primary FEM
FRM 1	20	3	3*	0
FRM 2	10	2	2*	0
FEM A	5	1	1	0
FEM B	10	2	1	1**
FEM C	35	5	3	2**
Total	**80**	**13**	**10**	**3**

* Same FRM method designation as primary FRM
** Same FEM designation as primary FEM

Flow Rates... What are the Reporting Requirements!

The staffs from the National Air Data Group and the Ambient Air Monitoring Group have been working together to determine what flow rate data needs to be reported, what can be reported (optional), and what does not need to be reported. EPA looked at the current list of methods for our various monitoring programs including

$PM_{2.5}$, PM_{10}, $PM_{10-2.5}$, TSP and the Chemical Speciation Network and developed the table seen on page 4. It is based on the methods currently employed in the networks so the table may need expansion as new methods become approved and available.

Particulate Matter Instrumentation and Flow Rates (*Discussion on Page 3*)

FEM/FRM	Type	Continuous Intermittant	Total Flow (LPM)	Main Flow (LPM)	Bypass (LPM)	Number of Flow Rates	Comments
PM2.5 Methods							
FRM	All Types	I	16.7			1	All manual FRM methods
FEM	All Types	I	16.7			1	All manual FEM methods
FEM	Thermo 2000D 2025D	I	16.7	15 PM2.5 1.67 PMC		3	Dicot
FEM	Type Listed in Comments	C	16.7			1	BAM 1020, Thermo 605 “CAPS , Thermo FH62C14-DHS, Thermo Model 5030 Sharp,
FEM	Thermo TEOM 8500C	C	16.7	3	13.7	3	
FEM	Thermo 1045 DF	C	16.7	3.0 PM2.5 1.67 PMC	12.0	4	Continuous Dichot
PM10 Methods							
FRM	Intermittant	I	ID*			1	All FRM Methods
FEM	Continuous	C	ID			1	
PM10-2.5 Methods							
FRM	All types FRM	I	16.7 PM10 16.7 PM2.5			1	Using FRM Methods.
Not Approved	Thermo 1045 DF	I	16.7	3.0 PM2.5 1.67 PMC	12.0	4	Dicot
FEM	Thermo 2000D 2025D	I	16.7	15 PM2.5 1.67 PMC		3	Dicot
FEM	Met 1 BAM 1020	C	16.7 PM10 16.7 PM2.5			2	2 BAM-1020 monitors.
TSP							
FRM	Hi-Vol	I	ID			1	
FEM	PM10-Lo Vol	I	16.7			1	
Speciation							
NA	Met One SASS	I	6.7			1	Every channel same FR
NA	URG 300N	I	22			1	

*ID = instrument dependent. Red – Required reporting to AQS Blue- Optional reporting to AQS

By-pass flow rate does not need to be reported

How to Report Pb Audit Strip Data– One mans opinion

There may have been a time when EPA suggested concatenating audit strip filters with the dates that the routine Pb filters were analyzed. Current thinking is that this is not necessary. Audit strip data should be dated and reported in the quarter they were analyzed. If a Pb lab is analyzing filters throughout the year (all 4 quarters) then the audit strip data should be submitted 90 days from the quarter the audit strips were analyzed.

So for example, let's say some routine Pb samples were collected on December 28, 2009, came into the lab, and were analyzed in January 2010 along with some routine filters collected in 2010 and the Pb audit strips. The data for the Pb audit strips would not be concatenated with 2009 data (meaning they don't represent quarter 4 or year 2009). They should meet the reporting requirements associated with the first quarter of 2010 and be reported by June 30 (they represent quarter 1 year 2010).

At the end of each quarter there is always some lag between routine sample collection (collected in one quarter) and analysis (analyzed in another quarter). The fact that the audits strips can not be put into every batch that a lab might analyze (some labs may be small enough to do that but not every lab) the audit strips are meant to be an ongoing check on lab stability over the year and not intended to provide an assessment of the samples analyzed within a particular batch (or analytical run) of samples. Most analytical runs have a number of QC checks (banks, spikes, duplicates and replicates) that can be used to validate the routine samples in a run.

Similar to some of our other QC data, the use we get out of the audit strips is in the aggregate. The strips represent the lab analytical capability the same way the collocated Pb samples represent the precision of the PQAO since we do not collocate each site. The Pb audit strips just tell us about a portion of the Pb measurement system (the lab) and so the date the audit strips were analyzed seem to represent whether the lab was in control for the quarter (or day) they were analyzed.

We checked how AQS validates the accuracy transaction when submitting data for 14129 (Pb-TSP local conditions) and 12128 (Pb-TSP STP). They are processed differently.

For 14129 the fields quarter and year represented on the accuracy transaction do not have to be populated, and even if they are, the system will always overwrite them with the year and quarter of the accuracy date supplied on the transaction.

For 12128 if the year and quarter represented fields are left blank, they will be populated with the year and quarter of the accuracy date. If an earlier year - quarter are supplied on the transaction, then that year and quarter will be stored (not overwritten with the accuracy date year and quarter like 14129).

Since the entry of the fields are optional we also noticed very few monitoring organizations using them and suggest for consistency we use the date of audit strip analysis.

Progress on the Standard Reference Photometer and Ozone Transfer Standard Guidance

The following are some notes associated with improving the SRP Program and the Transfer Standard Guidance currently on AMTIC as draft.

SRP SOP: In progress. RTP, NIST and contract support from Region 4 continue to work on the document. Current focus is on calculation section. Expected completion of first draft: Dec. 2010

Bias Upgrade: In the construction of the SRPs, prior to the current upgrade, there was found to be certain bias' in them. The quartz cells in the units are ground flat at the detector and it is now known that the reflection of the UV Light is creating a degree of bias. Replacing these cells with new cells that have been ground at a 3° angle will significantly reduce any UV reflection that can cause a bias between units. The UV Beam will also be focused down into a narrower beam to help minimize other interferences. The UV filter for most of the units has been in service for several years and has experienced a significant degree of decay. There is also a thermo layering effect in the detection that will be minimized by replacing the RTD, cartridge heater and the shutter cover with a new one made from Garolite. The heat controller for the UV heated block will also be replaced with a PID controller that will also give the operator a digital readout of the block temperature. These changes should help reduce the bias between all the SRPs and significantly revitalize each of the units in operation at this time.

Upgrade process- Most purchases for all of the SRPs are expected to be complete by Dec 2010. Five of ten SRPs have been upgraded. The first upgrades of the RTP SRPs were accomplished by NIST. EPA, ORDs Scott Moore is doing the remaining upgrades.

Issues with upgrades. The California ARB's SRP has taken longer to fix, prior to upgrade, than expected. The RTP Traveling SRP has been lent to the CA ARB to do their work while their SRP is in RTP. This has delayed the verification as well as the upgrade schedule. Upon receipt of a replacement part, this problem should be resolved. Purchase of new shipping cases is expected to minimize future problems.

Transfer Standard Guidance Document: Although the draft was complete in May, 2009, EPA wanted to assess a new statistic that would evaluate and aggregate uncertainty as the standards were challenged from one level to the next. If the statistic is found to be useful we plan to include it in the draft. Funding was made available for this effort in 2010 and EPA acquired data from monitoring organizations to test the statistic. We plan to finalize the document by December, 2010.

Issues Related to NPAP at NCore— Low Concentrations and NOy

Trailer- Based TTP

Mark Shanis, EPA's NPAP Lead, has been testing how NPAP will work with the lower concentration trace gas NOy analyzers at the NCore sites. Some information based on this new NOy testing follows.

The current calibration mix advised by EPA will not allow both the CO and S02 middle audit points to be done at the same time as the NOy audit. Our current AMTIC-posted TTP audit procedure does accomplish this at the higher ranges. The TTP method is based on getting good quality in the shortest time in the field. We have determined a more appropriate mix and have started to use it. Our draft procedure, which is therefore in a transition stage, documents the use of both the older, higher mix and our newer lower mix.

The low level of NO in the blend is not low enough to allow the NO2 low point to be done. The N-Propyl Nitrate (NPN) is stable enough at the low level to allow the low NOy audit point to be generated using the converter efficiency cylinder to generate the low NOy audit point, while also getting a CO response. This allows generating and analyzing the CO and SO2 at the same time as the NOy.

Cased Based TTP

Note that GPT is still depended on for the NOy analyses and for the newer photolytic "true" NO2 analyzers being tested at ORD and other places. By using NPN and not NO2 made from NO by gas phase titration, we become dependent on the assumption that the mass flow controllers have not varied significantly. The flow controllers have to be checked to ensure that they are in control. Other sources of potential variability are not so easily checked (such as cylinder or zero air contamination, etc.). To determine if GPT is working as required, (minimum of 96% converter efficiency) we now employ a NO2 cylinder at the 5 ppm concentration range and dilute it down as needed. In this way the constancy of the calibrator's mass flow controller can be shown at the same time as the audits points are being generated and analyzed, prior to telling the station operator to analyze for the station concentrations. A new low blend cylinder with CO and NPN has been obtained to allow the low CO, SO2, and NOy audit levels to be generated and analyzed at the same time. This combination of CO/NPN and NO2 should enable us to generate and analyze for NOy at the lowest levels and independently identify the presence of, if not all, the sources of variability that we currently know about. Testing will occur soon.

For those who don't get blended gas cylinders for generating NAAQS gases for auditing or calibration at the lower concentration ranges required for generating the low audit points for NOy (let alone for CO and SO2) you may want to investigate the lower rate mass flow controllers that both Environics and API are offering to add to their existing highest quality calibrators- the Environics 9100 and the API 700. They are in the ranges from 20 - 50 cc/min. Also of importance for auditing TTP, API has just redesigned their API 701 to deliver up to 30 LPM at a higher and measurable RH, among other relevant advanced features.

Acceptance limits can not be based on percent difference for the low audit points, especially for NOy/NOx at the lowest levels. EPA needs more data to determine what concentrations, in ppb, to use for each level, especially for NOy, as well as for CO and SO2.

Recommendations

1. Obtain and use the highest quality cylinders of the following standard gases to use in performing these audits:

- Blend of approximately 680 ppm CO, 60 ppm NO/NOx, and 16 ppm SO2 to generate level 2 and 3 audit points
- Blend of approximately 24 ppm CO, 1 ppm NO/NOx, 1 ppm SO2 to generate level 1 audit points
- Approximately 5 ppm NO2-independent GPT & NOy analyzer performance check.
- Approximately 200 ppm CO and 1 ppm N-Propyl Nitrate (NPN) to generate NOy, check converter efficiency, and calibrate for "NOy" and CO at the same time.

2. Consider getting:

- A calibrator with a 3rd, lower mass flow controller, and maybe a higher dilution mass flow controller; and
- A zero air generator that has been recently redesigned to have a 30 lpm maximum flow capacity, improved water vapor removal capacity, water vapor measurement capacity, and, preferably, already has designed in adsorbent regeneration cycles.

3. Send Mark Shanis (shanis.mark@epa.gov) your precursor gas audit data so we can evaluate the information and develop data-based, non-percent audit acceptance limits for all of the new lower audit levels (1 and 2, especially). The lower concentration values make reasonable percent difference acceptance limits too difficult to accomplish.

Improvements for Reporting Chemical Speciation QA Audit Data to AQS

EPA has created unique audit and verification forms in MS Excel format that can now be used by QA personnel and site operators in the Chemical Speciation Network (CSN) Program. The use of the formatted spreadsheets allow for consistent recording and reporting of audit and monthly verification results for flow rates, GPS latitude & longitude readings, ambient pressure, and ambient and filter temperatures. All the audit and verification results are transferred into a data base. EPA sponsored the development of a website (picture at right) for auditors and operators to download Excel forms and resource information and to upload Excel audit and sampler verification reports.

Once the Excel worksheets are submitted to the website, EPA's CSN network lab service contractor extracts the flow rate audits or verifications, creates the AQS transaction file and posts results to AQS.

In June 2010 Dennis Crumpler, the EPA CSN QA Lead, facilitated webinars for QA auditors (75 individuals) and site operators (30 individuals). Additional follow-up webinars will occur this summer and will be announced on AMTIC. In addition, there will be a 3 1/2 day auditor certification course August 16-19 in RTP, NC.

Based on feedback from the Webinars, OAQPS will revise the report forms and SOP. We will be requesting submission of the audit data for calendar year 2010 and forward. RTI, EPA's QA support contractor, will be loading prospective data to AQS under the Speciation Laboratory Support Contract. We plan on retroactively loading data for 2009 and previous years when resources are available.

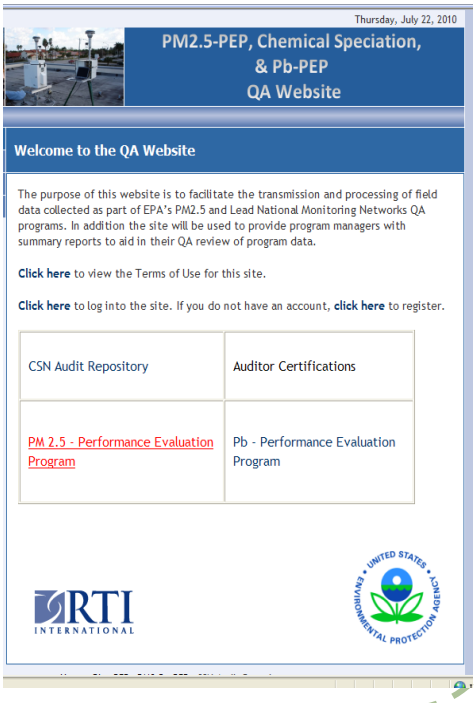
Future developments for Speciation Audit and Verification Data Base will include:

- incorporation of assessment tools to track the long-term sampler performance and overall health of the network,
- flagging mechanisms to provide additional information about the audit data, and
- auditors/operator/data manager alerts for data such as failing parameters, GPS readings that are significantly different from those in AQS, service and maintenance frequency, unusual trends or spikes in the data and a tracking tool for auditor certification and recertification.

Contacts for this program include:

Dennis Crumpler:
crumpler.dennis@epa.gov and

Solomon Ricks:
ricks.solomon@epa.gov



Talk about a Nov 2011 National Monitoring Meeting

Based on the attendance of the 2009 National Air Monitoring Meeting and the positive comments EPA has received, there has been renewed discussion about establishing this meeting on a two years cycle that would stagger with the Air Quality Monitoring Conference. No solid commitments have been made but it appeared to receive positive feedback at the NACCA Monitoring Steering Committee Meeting to hold the third meeting in November 2011. More discussions on this meeting will occur at the Monthly NACAA conference call with the monitoring organizations.

A Two Pronged Approach for Selecting Appropriate Audit Levels for the Annual Performance Evaluations Audits

EPA has received some criticism on the audit levels established for the gaseous pollutant annual performance evaluations in 40 CFR Part 58 Appendix A, Section 3.2.2. OAQPS ran an evaluation on three years of valid routine data (2004-2006) for each reporting organization. A summary of the data are presented in Table 1.

Table 1 Current CFR Audit Windows and % of Reporting Orgs that have Routine Concentrations Extending into the PE Level

Audit level	O3	% with data in PE range	SO2	% with data in PE range	NO2	% RO with data in PE range	CO	% RO with data in PE range
1	0.02-0.05	all	0.0003-0.005	all	0.0002-0.002	all	0.08-0.10	all
2	0.06-0.10	99%	0.006-0.01	97%	0.003-0.005	all	0.50-1.00	all
3	0.11-0.20	4%	0.02-0.10	89%	0.006-0.10	all	1.50-4.00	98%
4	0.21-0.30	0%	0.11-0.40	11%	0.11-0.30	0%	5-15	12%
5	0.31-0.90	0%	0.41-0.90	0%	0.31-0.60	0%	20-50	0%

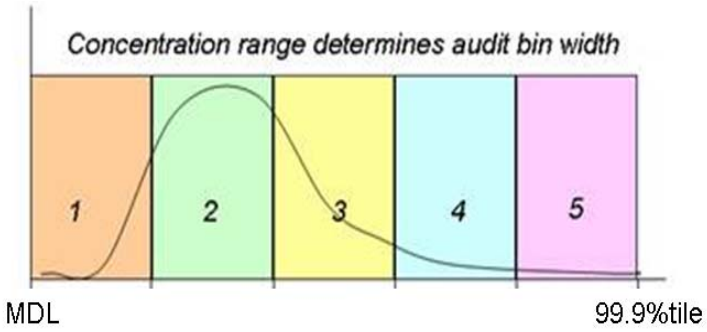
Table 2 also provide some statistics on the spread of routine data in reporting organizations (2004-2006)

Table 2. Summary Statistics on Min and 99.9% Values by Reporting Organization

	O3 (ppm)	SO2 (ppm)	NO2 (ppm)	CO (ppm)
Largest Spread	0.005 - 0.128	0.002 - 0.284	0.001- 0.086	0.05 - 15.6
Smallest Spread	0.006 - 0.043	0.002 - 0.004	0.005- 0.021	0.001 - 0.90
Average Spread	0.005 - 0.086	0.002 - 0.071	0.002- 0.054	0.05 - 3.10

In order to accommodate the need for more representative audit levels, two solutions are being proposed:

Approach 1- PQAO Develops its Own PE Ranges



- Each year, or at some appropriate frequency, aggregate all routine sites within a PQAO for a particular pollutant
- Find the concentration range from highest MDL in the PQAO to the 99.9%tile (the 0.1% values remove potential outliers)
- Divide the range by 5 to create 5 ranges.
- At minimum, select 3 ranges which contain the greatest amount of data
- Report the range information for the selected bins to AQS (would require revision to AQS)
- The AMP255 would then evaluate the data based on this selection.

Continued on Page 9

Two Pronged Approach *(Continued from page 8)*

Approach 2- Expand Current 5 Audit Level list to 10 Audit Levels

If PQAOs do not want to go through the process described in Approach #1 they can select 3 consecutive levels from Table 3 that would replace the current table in CFR. The area for each pollutant highlighted in green reflects the average spread for each pollutant described in Table 2.

Table 3- Expanded Audit level

Audit Level	Concentration Range, ppm			
	O3	SO2	NO2	CO
1	0.004-0.0059	0.0003-0.0029	0.0003-0.0029	0.020-0.059
2	0.006-0.015	0.0030-0.0049	0.0030-0.0049	0.060-0.099
3	0.016-0.025	0.0050-0.0079	0.0050-0.0079	0.100-0.399
4	0.026-0.045	0.0080-0.0199	0.0080-0.0139	0.400-0.999
5	0.046-0.065	**0.0200-0.0499**	0.0140-0.0399	1.000-1.999
6	**0.066-0.085**	**0.0500-0.0999**	**0.0400-0.0699**	2.000-4.999
7	0.086-0.105	**0.1000-0.1499**	**0.0700-0.1499**	**5.000-15.999**
8	0.106-0.125	0.1500-0.2599	0.1500-0.2999	16.000-25.999
9	0.126-0.145	0.2600-0.7999	0.3000-0.5999	**26.000-36.999**
10	0.146-0.180	0.8000-1.000	0.6000-1.000	37.000-50.000

Red font related to a NAAQS concentrations still on the books

EPA will discuss these approaches with monitoring organizations to get feedback. Approach 1 is more difficult for monitoring organizations as well as AQS reporting while approach 2 could be easily implemented in the short term.

QA Strategy Workgroup Call Set for Sept 16

EPA plans to have the next QA Strategy Workgroup call Sept. 16 to discuss a number of activities. Number one on the list is the revision of the Volume II of the QA Handbook for Air Pollution Measurement Systems. This document was revised in 1998 and 2008 and EPA does not plan on waiting another 10 years for the next revision. Monitoring organizations have already been identifying edits and areas of improvement so it is suggested that those on the call provide a thorough review of this document for a healthy discussion. EPA anticipates completing a revision by the end of 2011. We will also discuss some of the items in the QA EYE Newsletter including the best approach for the Annual Performance Evaluation Audit Levels discussed on pages 8 and 9. If you are not on the QA Strategy email list and would like to be, send Mike Papp an email papp.michael@epa.gov

If you have any ideas for additional topics for the call, send them on. The time and phone number for the call will be sent to members early Aug.

Comments and Issues about the QA EYE

If you have any comments on the articles you read in this Newsletter or would like to see different types of articles let us know. We'd love to post your comments to try to keep this Newsletter somewhat interactive. In addition, we are always looking for articles from the EPA Regions and monitoring organizations related to the development of quality systems, new QA techniques and assessments. We try to get a QA EYE issue out every 4 months so provide us some feedback or an article you'd like posted to papp.michael@epa.gov

National Air Toxics Trends Sites –Future Needs

In order to develop new technologies so that the NATTS Program can characterize air toxics/HAPS with more accuracy and precision, we need input from monitoring organizations. Here are some bullets on what we need to accomplish:

Our first priority need is acrolein. We need the labs that support NATTS monitoring to give us ideas and data to improve the method.

The labs need to continue to report their collocated and duplicate lab data to AQS. EPA needs it to calculate the lab and overall precision.

Please report the MDL data into AQS. When we pull the data at the end of the year, we notice this data has not changed from several years.
We strongly encourage labs to perform annual MDL testing and load that data into AQS.

AQAD has issued an annual QA report each year, with a 3 year report on years 2005 – 2007 being issued last year.

The 2008 QA annual report is now out for review by the NATTS labs and will be posted to AMTIC once comments are incorporated.

Progress on NATTS PT Program

EPA OAQPS designed the QA program for the NATTS program in 2003 and began the implementation in 2004 – 2005. Here are some notes on the status of the program:

The Proficiency Testing program will be transitioning from using Alion to another contractor due to problems using the equipment for non-NATTS agencies. We will have air toxics PTs available in early 2011 and will be open to all NATTS and non-NATTS labs. We will announce the contract award as soon as we hear.

We have an Access data base with all PT data from mid 2004 to 2010. It contains all PT results from the program to date. This is available to anyone who wishes to use it.

The PT program expanded last year from 3 compound groups to 5 compound groups. PAHs were added in 2009 and Hexavalent Chromium will be added in 2011.

With the next contract award, we will be issuing semi – annual PTs for all classes. We encourage all labs (NATTS and non-NATTS) to participate.

Our estimate (non-NATTS and NATTS) is the NATTS PT program services 78% of all US air toxics S/L/T labs that report to AQS.

New 47 mm Teflon Filters Coming in 2011

MTL has been awarded the national filter contract to supply 47mm Teflon filters for the particulate matter monitoring programs. EPA is aware that the filters are heavier than the current filters by 2 to 2.5 times. The average filter weight for the Whatman filters is about 150 mg while the MTL filters weigh around 390 mg. OAQPS is awaiting a batch of 100 filters from MTL and plans to collocate six PM2.5 PEP audit samplers to compare the current filter material with the new filters over a number of days and samplers. OAQPS would also like to test whether the filters have any impact on the implementation of the sequential samplers like the legacy R&P 2025. OAQPS will provide some of the initial 100 filters to NC to determine if there are any issues with them related to the exchange mechanisms. OAQPS will receive the first production run for acceptance testing around September. OAQPS may be able to provide some filters to monitoring organizations to test out prior to national distribution. We are particularly interested in the recently deployed Thermo 2025s and will have enough extra filters to engage about 4 samplers; first come first serve. If interested in participating in this testing, email Dennis Crumpler at: crumpler.dennis@epa.gov.

AMP255 Improvements Scheduled for 2011

Based upon questions EPA has received about the AMP255 and things we've found ourselves, we'll be making some improvement on the AMP255 in the next year. Here's what's on the table for revision:

PM2.5 Collocation

The APP A regulation requires that a PQAO collocate 15% of the monitors in each method designation. However, in theory you could have a PQAO in which all the **primary monitors** were one method designation but have other monitors operating at the sites that had different method designations. Right now the AMP255 counts all the method designations operating in the PQAO and determines whether there is 15% collocation for each. The AMP255 will be revised to only count the method designations of the primary monitors at each site.

PB Audit Strips

Currently, the 255 aggregates the high concentration and low concentration Pb audit strip data into one uncertainty estimate. Since there may be differences in bias at these levels, we plan on revising the AMP255 to post separate results for each concentration.

Semi-Annual flow rate audits

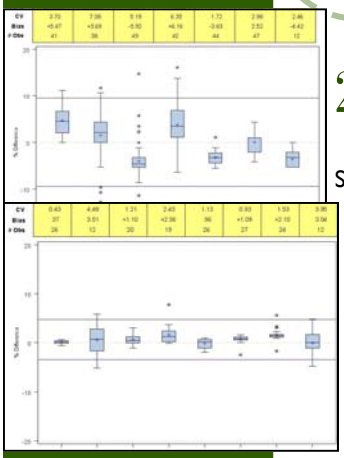
Even though only two flow rate audits are required they must be implemented every 6 months and the AMP255 allows for the second audit to be within 5-7 months of the first. It is possible for a PQAO to submit audits each quarter but not meet the 5-7 month window for any two pairs of values and so the report identifies that the criteria was not met. The AMP255 will change the criteria to accept audits in all 4 quarters even if the 5-7 rule is not achieved. The 5-7 rule will remain in affect for audits that occur in 3 quarters or less.

Accommodate reporting PM10 LC (QA and routine data)

Currently the AMP255 does not look at PM10 under local conditions since the NAAQS for PM10 is STP which the AMP255 does review. Now that we will start getting data for PM10-2.5 and may want to evaluate it through the AMP255, we will include the PM10 for the appropriate parameter code to report local conditions

Flow Rate Verification Data

Flow rate verifications are only required to be reported for continuous PM10 but are not required to be reported for manual PM10, automated PM2.5, or manual PM2.5. Some monitoring organizations report this information for some (or all) of its samplers. When they do this, the AMP255 assumes all the samplers should report the flow rate verification data so the annual totals show that a requirement was not met even when it was not needed to be reported. This occurs because the AMP255 program does not distinguish between manual and automated instruments. We can solve this in two ways. Require flow rate verifications to be reported for all PM instruments or fix the AMP255 report to evaluate the correct type of instruments that need to report the flow rate verifications. EPA will discuss the alternatives with the QA Strategy Workgroup.



2009 Data Quality Indicator Summary Report On AMTIC

Since the certification date is now May 1, EPA will be releasing the Data Quality Indicator Report earlier. Our plan is to pull the data a few weeks after the required certification and have it posted around the first of July. The report is an annual summary on all the quality control data submitted to AQS for the calendar year of data certification. This report (zip file) includes the following files.

Box Plot Companion Document that describes the structure of the Regional Box Plots.

AMP255_2009 which is exactly what is produced by the AMP255 report and is aggregated by QC Type, Pollutant, PQAO and sites that are required to meet the Appendix A criteria.

Box Plots 1-10 The box- and-whisker plots derived from the one-point QC check data segregated by EPA Region. The explanation of these graphs can be found in the companion document

The 2009 Data Quality Indicator Report can be found on AMTIC at: http://www.epa.gov/ttn/amtic/parslist.html

EPA Office of Air Quality Planning and Standards

EPA-OAQPS
C304-02
RTP, NC 27711

E-mail: papp.michael@epa.gov

The Office of Air Quality Planning and Standards is dedicated to developing a quality system to ensure that the Nation's ambient air data is of appropriate quality for informed decision making. We realize that it is only through the efforts of our EPA partners and the monitoring organizations that this data quality goal will be met. This newsletter is intended to provide up-to-date communications on changes or improvements to our quality system. Please pass a copy of this along to your peers and e–mail us with any issues you'd like discussed.

Mike Papp

Important People and Websites

Since 1998, the OAQPS QA Team has been working with the Office of Radiation and Indoor Air in Montgomery and Las Vegas and ORD in order to accomplish it's QA mission. The following personnel are listed by the major programs they implement. Since all are EPA employees, their e-mail address is: last name.first name@ epa.gov.

The **EPA Regions** are the primary contacts for the monitoring organizations and should always

Program	Person		Affiliation
STN/IMPROVE Lab Performance Evluations	Eric	Bozwell	ORIA- Montgomery
Tribal Air Monitoring	Emilio	Braganza	ORIA-LV
Statistics, DQOs, DQA, precision and bias	Rhonda	Thompson	OAQPS
Speciation Trends Network QA Lead	Dennis	Crumpler	OAQPS
OAQPS QA Manager	Joe	Elkins	OAQPS
PAMS & NATTS Cylinder Recertifications	Rich	Flotard	ORIA LV
Standard Reference Photometer Lead	Scott	Moore	ORD-APPCD
Speciation Trends Network/IMPROVE Field Audits	Jeff	Lantz	ORIA -LV
National Air Toxics Trend Sites QA Lead	Dennis	Mikel	OAQPS
PAMS & NATTS Cylinder Recertifications	David	Musick	ORIA-LV
Criteria Pollutant QA Lead	Mike	Papp	OAQPS
NPAP Lead	Mark	Shanis	OAQPS
PM2.5 PEP Lead	Dennis	Crumpler	OAQPS
STN/IMPROVE Lab PE/TSA/Special Studies	Jewell	Smiley	ORIA-Montgomery
STN/IMPROVE Lab PE/TSA/Special Studies	Steve	Taylor	ORIA-Montgomery

Websites

The following websites will get you to the important QA Information.

Website	URL	Description
EPA Quality Staff	http://www.epa.gov/quality1/	Overall EPA QA policy and guidance
AMTIC	http://www.epa.gov/ttn/amtic/	Ambient air monitoring and QA
AMTIC QA Page	http://www.epa.gov/ttn/amtic/quality.html	Direct access to QA programs
Ambient Air QA Team	http://www.epa.gov/airprogm/oar/oaqps/qa/	Information on Ambient Air QA Team
Contacts	http://www.epa.gov/ttn/amtic/contacts.html	Headquarters and Regional contacts