Ozone season updates – exceedences, issues, monitor updates (location changes and additions), other activities

ACHD recorded 11 exceedance days of the 0.075 ppm 8-hour standard in 2010. 2 of 3 sites are in nonattainment of the 0.075 ppm standard, based on 2008-2010 data. All sites, along with SW PA sites, are in attainment of former 0.08 ppm standard.

PM$_{2.5}$ season updates – exceedences, issues, monitor updates (location changes and additions), other activities

Only one monitor (Liberty) is in nonattainment of the annual 15 µg/m$^3$ and 24-hour 35 µg/m$^3$ standards, based on 2008-2010 data. Liberty recorded 25 exceedances of the 24-hour standard in 2010. The remaining 7 ACHD sites are in attainment, along with SW PA sites.

Liberty-Clairton SIP (1997 standards) has been completed, awaiting final approval for submittal to EPA. Projected annual 14.3 µg/m$^3$ and 24-hour 42 µg/m$^3$ design values by 2014. Work has begun on the next SIP (2006 standards), requiring detailed local area analyses and modeling.

Met One BAM PM$_{2.5}$ EQM monitors installed at Liberty, North Braddock and Lawrenceville during 2010 did not correlate acceptably with FRM monitors at those sites. The poor correlation was most severe at the Liberty site and the PM$_{2.5}$ BAM was removed. The North Braddock PM$_{2.5}$ BAM was converted to a PM10 monitor. The Lawrenceville PM$_{2.5}$ BAM will be retained as part of a coarse monitoring pair but PM$_{2.5}$ BAM data will not be reported to AQS. Met One is currently working on a solution to these performance issues.

The Moon PM$_{2.5}$ FRM monitor will be removed as described in the 2010 network review. This monitor will be collocated with the PM$_{2.5}$ BAM at Avalon to study correlation between the two methods at that site.

A BAM monitor was installed in the Monroeville site, but it will be operated as a PM10 until correlation problems with the PM$_{2.5}$ reference method is resolved.

Speciation monitoring – plans, activities, issues, monitoring updates (location changes and additions), other activities

Same as last year. Liberty 1 in 6, Lawrenceville 1 in 3. URG 3000n carbon samplers at each site. Continued analysis of speciation data analysis important for use in annual and 24-hour PM$_{2.5}$ control strategies. Liberty unique for high carbon concentrations during inversion periods.
- **NCore Level 2 Sites** – If you are establishing an NCore Level 2 site, provide status and information on the site.

  1. Trace analyzers were updated to digital data collection during 2011

  2. A pair of MetOne BAM monitors are now operating to produce PMcoarse data. Update to Airvision data acquisition software is required before PMcoarse can be continuously logged through a digital connection. This update is currently in progress.

  3. Meteorological equipment features a sonic wind speed/wind direction sensor. Relative humidity and ambient temperature sensors were recently added to the tower. Barometric pressure is captured from the BAM PM2.5 monitor and is assigned to logger channel.

- **Toxics monitoring – issues, monitoring updates (locations changes and additions), other activities**

  TO-15 and TO-11 at Flag Paza site, Continuous benzene analyzer at Liberty site (downwind of Clairton Coke Works), hydrogen sulfide monitors at Liberty, Avalon and Wilson Elementary (Imperial Landfill)

  The program’s two UVDOAS open path monitors are no longer operational. Both monitors have hardware problems and operational difficulties that need to be resolved. Plans are under way to establish a contract with the manufacturer or the local representatives to repair the monitors and to supply routine maintenance.

- **Network design issues and any comments received on Annual Networks Plans**

  Stowe monitoring site (PM10 continuous, SO2), Moon monitoring site (PM2.5 FRM) will be shut down and the Avalon lead monitor will be relocated to the Lawrenceville NCore site, all as described in the 2010 network review.

- **Annual monitoring reports – what’s the latest year you’ve published? How is your agency’s information disseminated to the public (web, paper, sky writing, etc.)?**

  The latest annual report was completed for 2009. The air quality program website is the primary method for disseminating information. The program also publishes a bi-monthly news letter called the Eco-currents. These newsletters are mailed to interested parties. Past editions are also available for viewing on the website. Recently, real time air monitoring data has also been added to the website.

  [http://www.achd.net/air/air.html](http://www.achd.net/air/air.html)
- **Monitoring labs – updates on challenges and accomplishments**

The Allegheny County laboratory provides particulate sampler weighing for the program. PM2.5 FRM filters are also weighed for the state of Delaware. This laboratory also performs a broad variety of analyses for the program including heavy metals and lead analysis of particulate filter, air toxics analysis of sorbent tubes and air bag samples and a variety of other analysis upon request including microscopic assays.

The automated robotic PM2.5 filter system is working well and is currently under a service contract for 2011. Some samples were lost early in 2011 due to unstable environmental controls, however the problems were corrected and all monitoring sites within the County remain well over minimum required data capture.

Due to recurring environmental problems in the PM2.5 weighing room, the Department has established a contract with a qualified contractor to design and install a new and independent environmental control system. Work has currently begun on this system. Weighing operation under the existing controls will be possible until the switch to the new system is accomplished to assure uninterrupted filter analysis.

- **Staffing levels- updates and issues. Attach latest organizational charts**

A new Electronic Technician was hired in March 2011 to a senior staff member lost to retirement last year.
# Allegheny County Health Department
## Air Monitoring Network
### 2011

<table>
<thead>
<tr>
<th>Location</th>
<th>SO2</th>
<th>CO</th>
<th>NOx</th>
<th>NOy</th>
<th>O3</th>
<th>PM$_{10}$</th>
<th>PM$_{2.5}$</th>
<th>PM coarse</th>
<th>Pb</th>
<th>H$_2$S</th>
<th>Air Toxic</th>
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**CHART KEY**
- **C** = Continuous
- **I** = Intermittent or Filter-Based
- **SPC** = PM2.5 Speciation
- **(S)** = Seasonal Monitor
- **(T)** = Trace Level Monitor
- **(1), (3), or (6)** = Sampling Frequency [for example, (3) means every third day]
- **UV** = UV DOAS Open Path
- **B** = Benzene Monitor
- **T15** = SUMMA TO15
- **T11** = Carbonyl TO11
Darrell Stern, AQ Manager (dstern@achd.net)
Provide supervision to quality assurance, air monitoring and source testing sections. Ensure that the air monitoring network performs as required by federal regulations. Establish new monitoring sites and install new and upgraded monitoring equipment as necessary. Meet all reporting deadlines. Coordinate with the County laboratory as well as outside laboratories as required. Purchase all equipment and supplies required for each section to operate efficiently.

Dan Nadzam, Engineer III, QA Supervisor (dnadzam@achd.net)
Provide supervision to the quality assurance staff to ensure precise and accurate performance of each air monitor in the network. Develop and author updated procedures and quality assurance project plans. Assist in new instrument configuration and integration. Participate in ambient air monitoring method development. Provide back-up support to the AQ Manager as required.

Jerome Whiting, Analyst II (jwhiting@achd.net)
Perform regularly scheduled precision checks and calibrations of air monitors in the network. Work with APC Electronic Technicians to troubleshoot and resolve operational issues with monitors as necessary. Prepare precision and accuracy statistical reports to be included in quarterly AQS data submittals as required by the EPA.

Keith Nelson, Analyst I (knelson@achd.net)
Perform regularly scheduled audits of air monitors in the network. Participate in external systems audits by working with EPA contracted services to validate data produced by the network. Maintain certifications on all primary and secondary standards used within the monitoring network.

Allason Holt, Analyst I (aholt@achd.net)
Perform regularly scheduled calibrations of all particulate samplers and monitors in the network. Prepare High Volume filter samples (PM10, TSP, Lead) for the field and track and document the operation of the samplers. Operate and maintain North Park and Moon Township PM2.5 samplers. Change dust fall buckets monthly. Perform daily continuous data validation. Assist with other air monitoring tasks as assigned.

Ed Hra, APC Electronic Technician (ehra@achd.net)
Assume total responsibility for operation, maintenance and repair of the following air monitoring sites; Liberty, Lawrenceville, North Braddock, Clairton, Glassport, Lincoln, Monroeville. Install PM2.5 filters at assigned sites on a weekly basis. In house equipment repair specialist.

John Belch, APC Electronic Technician (jbelch@achd.net)
Assume total responsibility for operation, maintenance and repair of the following air monitoring sites; Flag Plaza, South Fayette, Harrison, Westview, Avalon, Stowe Twp., Courthouse and Manchester. Install PM2.5 and High Volume filters at assigned sites on a weekly basis.

James Hoffman, APC Electronic Technician (jhoffman@achd.net)
Recent hire. Currently in training.

Phil Lawrence, Engineer III (plawrence@achd.net)
Primarily responsible for approving and observing all source testing at point sources in Allegheny County. Works with permit and enforcement engineers within the program to determine compliance with term agreed upon in emission permits. Assist in quality assurance and monitoring sections by maintaining and calibration air toxics and criteria gas monitors as time permits.

Greg Poindexter, Engineer III (gpoindexter@achd.net)
Primarily responsible for certifying and auditing continuous emission monitors at point sources in Allegheny County. Assignments include approval of new installations as well quarterly visits to sources to observe audits to ensure proper functioning of the monitors. Maintain certifications on continuous opacity monitor standards and conduct audits at sources on a quarterly basis. Maintain and calibrate portable and emergency response equipment owned by the Department. Conceive and participate in special air monitoring investigations as needs arise in local communities.