



SOUTHWEST PENNSYLVANIA
AIR QUALITY
PARTNERSHIP, INC.

CHAIR'S COMMENTS

Winter 2010

**Review of the Summer
2010 Air Quality Season
inside!**

15th Anniversary Meeting

The Southwest Pennsylvania Air Quality Partnership will celebrate its 15th Anniversary at its annual meeting from 9 a.m. until noon on Jan. 7 in Botany Hall at the [Phipps Conservatory](#), 1 Schenley Park in Pittsburgh.

The festivities will begin at 8:15 a.m. with registration and a continental breakfast.

The meeting will begin at 9 a.m. Michael Dawida of Scenic Pittsburgh will speak on "Perceptions of Pittsburgh, Yesterday. Today. Tomorrow." Don Hopey and David Templeton from the Pittsburgh Post Gazette will speak about their series entitled "Mapping Mortality."

For more information, contact Jayme Graham of the Allegheny County Health Department at 412-578-8129 or send email to: jgraham@achd.net

Happy Holidays to everyone! It is a season of family gathering and sharing the stories of the past year and enjoying the warmth at the fire place. I hope you have had your fireplaces cleaned from inside and have upgraded to improve the efficiency in wood burning to get the maximum heat from your wood. The carbon soot generated during the wood burning adds to the PM2.5 level in the western Pennsylvania air quality.

You all have heard about the American Lung Association's report for Pittsburgh, that we have the worst PM2.5 problem in the country. So, your efforts in clean burning fire place will help improving the air quality.

Another important benefit of the clean fireplace is preventing Carbon Monoxide from entering in to home and also some of the toxic gases like oxides of Nitrogen will make easy escape into the ambient air through the chimney.

Due to the cold winter we all run our cars idle, much longer to keep it warm than any other time of the year. School buses, trucks, utility vehicles and other heavy earth moving machinery operated on diesel fuel are kept running idle for longer time during the winter.

These emit large amount of fine particulates and oxides of nitrogen in to the ambient air. So, it would be a great social service that where ever you have any influence to reduce this idle time, you exercise it and help improve our air quality.

Have a great Holiday and quality family time.

Harilal Patel, Chair



Burn Wise for Safer, Healthier Winter



As smoke begins wafting from chimneys in cooler parts of the country, homeowners are starting the first fires of the home-heating season.

The U.S. Environmental Protection Agency wants homeowners to learn before they burn this winter. Wood smoke is made up of a mixture of gases and fine particle pollution that isn't healthy to breathe indoors or out – especially for children, older adults and those with heart disease, asthma or other lung diseases.

EPA established the Burn Wise campaign to reduce wood smoke pollution, helping to protect your home, health and the air we breathe, while keeping those who use wood for heat warm throughout the winter.

If you're burning wood, you can have a cheaper, safer and healthier fire by following these tips:

- Burn only dry, seasoned wood. It's better for the air and your wallet. Look for wood that is darker, has cracks in the end grain, and sounds hollow when hit against another piece of wood. Dry seasoned wood is more efficient at heating your home and can add up to significant savings over the winter. Never burn painted or treated wood or trash.

Maintain your wood stove or fireplace and have a certified technician inspect it yearly. A certified technician can clean dangerous soot from your chimney and keep your wood stove or fireplace working properly.

- Change to an EPA-certified wood stove or fireplace insert.

These models are more efficient than older models and keep you safer. Your fuel bill is lower and you stay warmer.

An estimated 12 million Americans heat their homes with wood stoves each winter, and nearly three-quarters of these stoves are not EPA certified. An EPA-certified wood stove can emit nearly 70 percent less smoke than older uncertified models.

More information on Burn Wise: please visit EPA's website at <http://www.epa.gov/burnwise>

New Standards Deserve A look!

By Jayme Graham, ACHD

National Ambient Air Quality Standards (NAAQS) exist for "Criteria Pollutants," the six most common air pollutants - ozone, particulate matter (both PM2.5 and PM10,) lead, sulfur dioxide, nitrogen oxides, and carbon monoxide. Southwest Pennsylvania is currently in attainment of all but two of these standards: PM2.5 and ozone. However, recent changes in the national standards may change this.

Once the standard is finalized, EPA determines "designates" states and regions throughout the United States as being in attainment or non-attainment of the new standard, based on monitored air quality data. States and local agencies responsible for air quality in "non-attainment areas" must then develop State Implementation Plans (SIPs) which detail how the area will reach attainment of the standard by a specified date. This entire process, from development of Criteria Document to SIP review and implementation, takes a minimum of five years, but can take much longer.

(see next page)

New Standards Continued . . .

In southwestern Pennsylvania, the attainment issue plays out as follows:

Particulate pollution, specifically PM_{2.5}, is a primary concern. PM_{2.5} standards were first set in 1997 at 65 µg/m³ for the 24-hr standard, and 15 µg/m³ for the annual standard. Allegheny, Beaver, Butler, Fayette, Washington, and parts of Greene, Lawrence, and Armstrong counties were designated as non-attainment for this standard. The Pennsylvania DEP submitted a SIP in late 2009, explaining how the area will reach attainment by 2010. The area is currently measuring attainment of the standards. An additional non-attainment area was designated for a five municipal area within Allegheny County. The Liberty-Clairton area includes Lincoln, Liberty, Glassport, and Port Vue boroughs and the City of Clairton. The Allegheny County Health Department is currently submitting a plan for this area to reach attainment by 2015, and is presently proposing a modification to that plan.

Although the SIPs for the 1997 standards are being submitted and reviewed, in 2006 EPA designated a new 24-hr standard for PM_{2.5}. This brings the standard from 65 µg/m³ to 35 µg/m³. The same regions of southwestern Pennsylvania that were in non-attainment of the old 65 µg/m³ standard were designated as non-attainment in December 2009 for this new, tighter standard. Agencies will have until December 2012 to submit the new SIPs.

There is a new PM_{2.5} Criteria Document out for review. The annual standard of 15 µg/m³ may be tightened even further to about 13 µg/m³, a move which may put many additional areas of the United States into non-attainment.

The most recent ozone standard is from 2008, set at 75 parts per billion (ppb) for an 8-hr period. This is tightened from 1997's standard of 85 ppb, for our seven counties are designated non-attainment, but have measured in attainment from 2008-2010. Attainment determinations were not yet made for the 2008 standards, and another version of the standard is being reviewed, to be finalized in December 2010.

New sulfur dioxide standard

A new 1-hr standard for sulfur dioxide of 75 ppb 1-hr, was finalized in June, 2010. Presently all areas of Southwest Pennsylvania is measuring attainment, except for the Liberty monitor in Allegheny County. The area is in attainment since 1985 of the previous standards.

Nitrogen oxides also have a new standard. Finalized in January, 2010, is a new 1-hr NO_x standard of 100 ppb. Southwestern Pennsylvania is not expected to exceed this standard. However, new monitoring regulations require monitors to be placed near high traffic areas by 2013.

Finally, a new standard for lead was developed in 2008. Previously, a quarterly average was used and set at 1.5 µg/m³. The new standard is 0.15 µg/m³, as a 3-month average. The area is presently measuring attainment of the new standard. New monitors are being installed near small lead sources.

Synopsis of Summer 2010 AQ Levels

How was the air quality during the summer of 2010? Overall, the number of Action Days for

the ozone and fine particulate matter (PM_{2.5}) national ambient air quality standards (NAAQS) was below normal for the Pittsburgh-Beaver Valley area. However, the number of PM_{2.5} Action Days for the Liberty-Clairton area was near normal. This article describes the weather conditions that contributed to these air quality conditions.

The Air Quality Index (AQI) scale used by the Department of Environmental Protection (DEP) and an explanation of how it officially relates to 8-hour ozone concentrations and 24-hour PM_{2.5} concentrations is provided below. Air Quality Action Days are issued when atmospheric conditions are forecasted to reach into the "Code ORANGE" range for

| Color | Code | 8-hour Ozone (in ppb) | 24-hour PM _{2.5} (in µg/m ³) |
|---------|--------------------------------|-----------------------|---|
| GREEN | Good | 0 - 59 | 0 - 15.4 |
| YELLOW | Moderate | 60 - 75 | 15.5 - 35.4 |
| OR-ANGE | Unhealthy for Sensitive Groups | 76 - 95 | 35.5 - 65.4 |
| RED | Unhealthy | 96 - 115 | 65.5 - 150.4 |
| PURPLE | Very Unhealthy | 116 and Up | 150.5 - 250.4 |

tion Days are issued when atmospheric conditions are forecasted to reach into the "Code ozone or PM_{2.5}."

The weather during the summer of 2010 can be summarized as having above normal temperature and near normal precipitation. The main reason for the warm, yet seasonably wet summer season was the persistent high pressure ridge over the southeastern United States. This ridge prevailed throughout the "heart" of the summer season, keeping a lot of the clouds, precipitation and cooler temperatures centered over the Midwestern region of the country. Regardless of the warm temperatures over our region, this atmospheric setup (coupled with the economic downturn we are currently experiencing) was conducive for a below average number of Action Days across southwestern PA.

Here is a breakdown, by month, of the temperature and precipitation departure from normal (calculated for a 30-year period: 1971 to 2000) at the Pittsburgh International Airport.

| Month | Temperature Departure (in Degrees Fahrenheit) | Precipitation Departure (in Inches) |
|-----------|---|-------------------------------------|
| April | + 5.5 | - 1.25 |
| May | + 3.6 | + 1.39 |
| June | + 2.4 | + 1.01 |
| July | + 3.0 | - 1.10 |
| August | + 3.4 | - 1.70 |
| September | + 1.7 | + 0.06 |
| October | + 0.9 | - 0.13 |

In the Pittsburgh-Beaver Valley area Action Days for Ozone and PM_{2.5} were below average this year. The PM_{2.5} Action Days in the Liberty-Clairton area were near normal. This discrepancy is most likely due to the localized impact of particle pollution in the Liberty-Clairton area. Overall, higher concentrations of PM_{2.5} are recorded in the Pittsburgh-Beaver Valley area due to higher sulfate readings during the summer. The Liberty-Clairton area experiences spikes in PM_{2.5} concentrations due to higher organic and elemental carbon readings during the summer.

Table Displaying Number of Action Days for Ozone – 2010 vs Normal Number of Action Days (Average of 2003-2009)

| Month | No. of Action Days for Ozone (Normal) | No. of Action Days for Ozone (in 2010) |
|--------------|---------------------------------------|--|
| April | 1 | 1 |
| May | 3 | 1 |
| June | 4 | 1 |
| July | 4 | 5 |
| August | 5 | 5 |
| September | 3 | 0 |
| October | 0 | 0 |
| Total | 20 | 13 |

Table Displaying Number of Action Days for PM 2.5 – 2010 vs. Normal Number of Action Days (Average of 2003-2009)

| Month | Normal No. of Action Days for PM _{2.5} (For Pittsburgh-Beaver Valley area) | # of Action Days for PM _{2.5} (For Pittsburgh-Beaver Valley area in 2010) | Normal # of Action Days for PM _{2.5} (For Liberty – Clairton area) | # Action Days for PM _{2.5} (For Liberty-Clairton area in 2010) |
|--------------|--|--|---|---|
| April | 0 | 0 | 1 | 2 |
| May | 1 | 0 | 5 | 2 |
| June | 4 | 1 | 5 | 3 |
| July | 5 | 5 | 8 | 10 |
| August | 6 | 0 | 7 | 7 |
| September | 4 | 0 | 7 | 2 |
| October | 0 | 0 | 3 | 4 |
| Total | 20 | 6 | 34 | 30 |

Historically, most Action Days are forecasted between June and August and the 2010 calendar year did not buck the trend. Approximately 65% of the days with respect to ozone were reported in the June to August time frame, when temperatures averaged 2.9 degrees above normal and 0.60 inches of precipitation below normal. For PM_{2.5}, the most number of Action Days occurred during the month of July. This is primarily due to a much more favorable pattern setting up over the region. Most of these exceedances occurred between July 3- 9, 2010. A ridge of high pressure set (turn page)

Synopsis of Summer 2010 AQ Levels continued . . .

up over the region. Most of these exceedances occurred between July 3- 9, 2010. A ridge of high pressure set up over the eastern half of the United States and remained in place for the entire 7-day period. Peak temperature recorded at the Pittsburgh International Airport during this period was 93 degrees on July 6 and 7. The combination of clear skies overnight (leading to the formation of inversions), light winds and warm and moist conditions over the region contributed to this extended period of poor air quality.

Potential Changes to the Forecast Program Next Season:

The U.S. Environmental Protection Agency (EPA) is expected to announce two potential changes to the respective standards for ozone and PM 2.5 within the next year. These changes will ultimately have an impact on the air quality forecasts that are disseminated each day. When EPA promulgates revised standards, revisions to the AQI scale may also be issued. A lowering of the standard would cause for an increase in the frequency of Air Quality Action Days.

By July 31, 2010, the EPA should announce a new health-based ozone NAAQS (which will be somewhere between 0.06 ppm (60 ppb) to 0.07 ppm (70 ppb)). The potential number of Air Quality Action Days will vary depending on the final ozone standard; projected Action Days (on average) are provided as follows:

Current Ozone Standard (> 75 ppb): 20 days

Proposed Ozone Standard (> 70 ppb): 28 days

Proposed Ozone Standard (> 65 ppb): 45 days

Proposed Ozone Standard (> 60 ppb): 63 days

Final Note: Receive the Forecast via Email

Air quality forecasts for the Pittsburgh-Beaver Valley area are available at the following websites:

For the Pittsburgh Metro Area, go to <http://pittsburgh.enviroflash.info>

For the Liberty-Clairton Area, go to <http://liberty.enviroflash.info>

Request Coach AQ!

It's easy to request Coach AQ to make a school visit! The purpose of the mascot is to provide a fun, interesting mechanism to get our word out about air quality to young and old alike. The mascot is used at all major Partnership events, in schools, at community festivals and at our members' events.

Coach AQ is a bright blue furry creature with big shoes that makes everyone smile!. The blue color, representing blue skies, is a change from Coach Ozone, whose red color represented the Partnership's older large red O for Ozone logo.

To reserve Coach AQ for your organization's upcoming event or to identify a community event the Partnership should attend, please use the request form on the partnership website, www.spaqp.org.

Coach AQ



New Membership Drive

By Al Depaoli, Membership Committee

The SPAQP Membership Committee has embarked on a substantial membership drive for the fall 2010 to spring 2011. We will inform area residents and businesses about Air Quality (AQ) alerts.

This membership drive will last throughout the winter to the spring of 2011 and expects to culminate with more partners to help educate the public about elevated pollution days and way to combat them. This drive is centered on three basic steps.

Target sensitive population: The highest populations of people that are sensitive to air quality action days are the elderly and the young. What better way to reach those that are most affected, than to go to centers that they frequent? This portion of the membership drive is to target elderly care centers, kindergarten and earlier care facilities. This concentrated drive is hoping to reach a large number of sensitive people to give them information to stay safe during the elevated pollution days.

Target large employers: This part of the membership drive is to target the biggest employers in the region as well as businesses that have within their power, the resources to possibly mitigate some of the factors that contribute to the elevated days. The large employers have great influence in their communities to help foster proper actions on the elevated days. By encouraging their employees to take simple voluntary actions, they can have a tremendous effect on the local air quality. This can be done with relatively little effort and mostly through information sharing with their people.

Additional steps can be taken by these same businesses by taking steps within their operations to limit the amount of additional contributing factors to the

elevated action days. Some companies may not be able to alter production days but hopes are that some may be able to alter production during these critical days. The first step is awareness.

Enlisted help of PRC: During this membership drive it became apparent that the right message needs to be given to these targeted populations. It was decided early on that by tailoring messages to each targeted group, we may have better success at gaining the cooperation of the people that matter the most. PRC was contracted to assist with the design and function in making this membership drive happen.

Wish us luck at accomplishing our primary goal! To inform the public of the action days and give information as to how we can all take simple measures to help the air quality of the region. Especially on the elevated action days.

Website has a new look!

The Southwest Air Quality Partnership's website has a new look!

Go to www.spaqp.org to see the changes!

The website, intended to be a resource for southwestern Pennsylvania air quality news, features a number of sections including education, transportation, environmental, health and what you can do pages.

The website is designed with new fresh graphics that appeal to all age groups. It includes information for businesses, teachers and children, alike.

Take some time to browse the new website and do your share for cleaner air in Southwest Pennsylvania!

www.spaqp.org