

***Pennsylvania's 2014 Ambient Air
Monitoring Network Plan***

Comment/Response Document

July 1, 2014

**Thomas Corbett, Governor
Commonwealth of Pennsylvania**

**E. Christopher Abruzzo, Secretary
Department of Environmental Protection**

Commonwealth of Pennsylvania
PA Department of Environmental Protection
Bureau of Air Quality

Comment and Response Document Concerning
Pennsylvania's 2014 Annual Air Monitoring Network Plan

On May 10, 2014, the Pennsylvania Department of Environmental Protection (Department or PA DEP) published a notice in the *Pennsylvania Bulletin* concerning public inspection of Pennsylvania's 2014 Ambient Air Monitoring Network Plan (hereinafter Network Plan). (44 Pa.B. 2808). The plan outlines the air monitoring program history, provides an overview of the air monitoring network and discusses in detail monitoring sites, methods and equipment. Two sections of the plan deal with past and anticipated monitoring activities for a period of 18 months. .

In the 2014 Network Plan, the Department outlines the agency's continued commitment to assess air quality impacts related to shale gas activities in Pennsylvania. The PA DEP has placed a permanent monitoring site near natural gas facilities in Washington County. Sampling will also continue across the Northern Tier in Susquehanna County and Wyoming County. The Network Plan calls for the closure of three sites, Perry County (ozone, NO₂, and SO₂), Nanticoke (ozone), and Murrysville (ozone). An ozone monitor will be relocated to Arendtsville. The Department also intends to install two near road monitors for NO₂ in the Harrisburg and Allentown areas. The Scranton and Beaver Valley sites will also be relocated. Other resources related to CO, NO₂, and SO₂ will be moved or relocated, as identified in the plan.

Notice of the availability of the proposed Network Plan for public review and comment was published in the Pennsylvania Bulletin on May 10, 2014 (44 Pa. B. 2808). The public comment period on the proposed Network Plan closed on June 9, 2014. This document summarizes the written comments received during the 30-day public comment period from a number of commentators. All of the comments demonstrate concern about the effects of natural gas drilling on air quality. Comment summaries and the Department's responses follow the list of commentators.

In addition, the Department acknowledges that in light of reduced funding, EPA is conducting an assessment on the Chemical Speciation Network (CSN) to identify optimum practices and monitoring locations to create a more financially sustainable and streamlined network. EPA has preliminarily identified PM_{2.5} speciation monitors for which EPA-funding may be discontinued. The PA DEP currently operates thirteen speciation sites. Several of these sites have been identified by EPA for discontinuation. As EPA continues forward with the process of evaluating the CSN, the Department will continue to work with EPA to ensure sufficient CSN coverage and provide feedback to EPA regarding its evaluation as the process develops.

List of Commentators for Pennsylvania’s 2014 Ambient Air Monitoring Network Plan
1. Beverly Braverman, Fayette County
2. Marigrace Butela, Fayette County
3. Phyllis Carr, Fayette County
4. Julia Spicher Kasdorf, Fayette County
5. J. Kief, Fayette County
6. Cyndi Wilson Kumor, Fayette County
7. Levi Miller, Fayette County
8. James Rosenberg, Fayette County
9. Hetty Baiz, Wyoming County
10. Van and Elizabeth Booth, Wyoming County
11. Laura Gingher, Wyoming County
12. Emily Krafjack, Wyoming County
13. Jim Perry, Wyoming County

Comments in regard to the establishment of a monitoring site in Fayette County

Commentators:

Beverly Braverman, Executive Director of the Mountain Watershed Association; Marigrace Butlea; Phyllis Carr, Julia Spicher Kasdorf; Cyndi Wilson Kumor; J. Kief; Levi Miller

Comments: As a result of short term exposure to pollutants in relation to shale gas activities in Fayette County, the commentators are requesting a monitoring station be placed in Fayette County. The commenters request a monitor in Fayette County based on the high level of Marcellus shale gas activities in the county, the negative health effects attributed to emissions from these activities – particularly respiratory difficulties and the effect on susceptible populations such as children, the negative effect on quality of life due to foul odors and fumes, and the lack of a monitor to adequately assess the ambient air impacts with regard to hazardous air pollutants (in particular H₂S and VOCs) – especially in the elevated eastern portion of the county.

Response: The PA DEP appreciates the concerns of all regarding shale gas activities and their effect on local air quality. The Department continues to increase its monitoring of shale gas activities on a statewide basis. At this time, the Department maintains monitors in areas upwind of Fayette County in Westmoreland, Washington, and Greene counties, which it has considered adequate to assess the area. However, in light of the public comments received and considering the growing development of shale activities within the county, the Department will examine the feasibility for initiating air toxics monitoring in Fayette County. Considerations include area source types and emissions, area geography (including the Chestnut Ridge bifurcation), monitoring site location availability and logistics.

Ambient air monitoring data collected from the current monitoring sites in Greene, Washington, and Westmoreland County monitoring sites (along with data from all of the Department's monitoring sites) is posted on the Department's web site at http://www.ahs2.dep.state.pa.us/aq_apps/aadata/. In addition, the PA DEP will continue to investigate complaints of odors in the area through its Southwestern Regional Office on an ongoing basis.

Comments by James Rosenberg

Comments 1 and 2: The Department does not plan to establish and permanently site monitors by considering the emissions and impacts of local Marcellus shale gas activity, in particular in Fayette County. Rather, the Department places the emphasis for monitor station locations on a particular county's inclusion in an MSA [Metropolitan Statistical Areas]. Moreover, the Department relies on previous monitoring data to assess air quality in a given area, leaving areas without historical monitoring values vulnerable to being excluded from monitoring coverage.

Response: The primary goal of the Department's Ambient Air Monitoring Network is to monitor for NAAQS compliance. As such, the Department establishes permanent monitoring sites in accordance with 40 CFR Part 58, Appendix D §4 "Pollutant-Specific Design Criteria for SLAMS Sites," for all criteria pollutants – Ozone, NO₂, SO₂, CO, PM_{2.5}, PM₁₀ and Lead. Minimum monitoring requirements differ among the pollutants, but may include considerations of populations, annual source emission levels and historical monitoring data.

As required in Part 58, populations are determined using MSA delineations, as defined by the Office of Management and Budget (OMB), and available at www.census.gov. Fayette County is included in the seven-county Pittsburgh MSA. Where minimum monitoring requirements are partially based on populations, EPA does place a greater emphasis on more heavily populated areas and the monitoring requirements are higher in those MSAs.

Two pollutants, SO₂ and Lead, have minimum monitoring requirements which consider the levels of direct emissions from sources. However, neither of these pollutants is associated with significant impacts from shale gas activities. Two pollutants – NO₂ and CO – have minimum monitoring requirements which consider mobile sources. Near-road requirements for these pollutants are based on high population and high total traffic density. In MSAs with high populations, such as the Pittsburgh MSA, near-road monitors used to meet minimum monitoring requirements must be located near road segments with high Annual Average Daily Traffic (AADT) counts, such as interstates.

The commentator is correct in stating areas without historical monitoring data may be subject to lower monitoring requirements than areas with historical monitoring data near or exceeding the level of the NAAQS, as prescribed in the minimum monitoring requirements set forth in 40 CFR Part 58, Appendix D. However, for pollutants with design criteria partially dependent on previously reported monitoring data, areas without monitoring data are subject to the same

monitoring requirements as those areas with monitoring data values under the concentrations thresholds established in the relevant minimum monitoring requirement rules, and not excluded from the regulation.

As mentioned in the previous response, in light of the public comments received, and considering the growing development of shale activities within the county, the Department will examine the feasibility for initiating air toxics monitoring in Fayette County.

Comment 3: The Department does not address mobile monitoring stations in the Plan.

Response:

The Ambient Air Monitoring Network Plan is prepared by the Department to satisfy the requirements of 40 CFR Part 58.10 “Annual monitoring network plan and periodic network assessment,” referenced in the Network Plan. The Department does not utilize mobile monitoring units as part of its Ambient Air Monitoring Network. Mobile monitoring units do not meet specified EPA monitoring criteria, such as SLAMS siting, monitoring method or operating schedule requirements, necessary for ambient air monitoring networks. Therefore, the deployment of mobile monitoring units is not addressed in this plan.

Comments by Emily Kraffack, President of Connection for Oil, Gas, and Environment in the Northern Tier (COGENT).

Comment 1: The Northern Tier Region—Bradford, Sullivan, Susquehanna, Tioga, and Wyoming Counties need to be incorporated into the DEP/Airnow.gov network for Air Quality notifications and Air Quality Action Days

Response to comment 1:

In response to the commentator’s concern that air quality alerts be expanded to include areas across the Northern Tier, the data currently available does not allow for a complete assessment of air quality across the region. The PA DEP will continue to analyze the recently monitored ozone and PM_{2.5} concentrations and work toward developing understanding of how the pollutants react to and interact with the region’s topography, land utilization and meteorology. These insights are critical to developing an accurate forecast. In light of the public comments received, however, the Department will examine the feasibility of developing a forecast for ozone and PM_{2.5} for the Northern Tier counties.

Comment 2: Susquehanna and Wyoming Counties VOC monitors need to remain in place for a minimum of five to seven years in order that the Department has full advantage of cyclic activity, and then perhaps make a determination as to whether the monitors are needed permanently.

Response to comment 2:

The PA DEP appreciates the commentator's satisfaction at the addition of monitoring sites and equipment in Marcellus gas drilling areas located in northeastern Pennsylvania, most notably the addition of a PM_{2.5} monitor at the Tioga county site. This, in addition to other installed monitors across this region will enhance the Department's ability to obtain a more detailed multi-pollutant picture of air quality across the Northern Tier. During the past year, VOC sampling has been conducted at the Springville location in southwestern Susquehanna County. Based on the results of this sampling, it was determined that not only should sampling continue at Springville, but additional sampling should commence at Mehoopany in Wyoming County, another area located downwind of drilling areas and compressor stations. Ozone and nitrogen dioxide monitoring continues at the Towanda site in Bradford County. Ozone and nitrogen dioxide monitoring will continue at the Tioga County site with the addition of PM_{2.5} this year. The PA DEP's statewide air monitoring network continues to be evaluated on an annual basis through its Annual Ambient Air Monitoring Network Plan, In addition, a more thorough review and assessment of the network is required every 5 years (40 CFR Part 58.10). All of the data collected from the Susquehanna, Bradford, and Tioga County monitoring sites (along with data from all of the Department's monitoring sites) is posted on the Department's web site at http://www.ahs2.dep.state.pa.us/aq_apps/aadata/. Based on analysis of the criteria pollutant data collected to date, the Department has found concentration levels of all pollutants monitored in the north-central region to be below National Ambient Air Quality Standards (NAAQS). Through 2015, the PA DEP will continue to conduct monitoring of both the ambient air as well as emissions downwind of shale gas facilities, and will also conduct a thorough analysis of data collected.

Comment 3: If producing well sites have not been included in the Long Term Monitoring Study, then initiate a study to accumulate data through monitoring adjacent "yard space" distances from producing sites.

Response to comment 3:

The PA DEP appreciates the commentator's concern in regards to long term monitoring of air quality in the northeastern region. The goal of the Department's air monitoring network addressed in this plan is to adequately measure ambient air concentrations. The monitors in Towanda, Springdale and Mehoopany were sited with this goal in mind. A long term monitoring project has been conducted in Washington County in the southwestern part of the Commonwealth. Gas produced in this region is more of the wet variety. As a result, wet gas generally produces a variety of air toxics as opposed to the dry gas produced in the northeast, which tends to produce only methane. If a study were to be conducted, it would most likely be a health-based one, which would not be conducted by the Department.

Comments in regard to the establishment of permanent monitoring stations in Susquehanna and Wyoming Counties

Commentators:

Hetty Baiz; Van and Elizabeth Booth; Laura Gingher; Jim Perry

Comment: The commentators express concerns regarding air pollution impacts and health effects – particularly respiratory difficulties and the impact on susceptible populations such as children – from increased Marcellus shale gas activities and are requesting that permanent monitoring stations be placed in Susquehanna and Wyoming Counties for Ozone, NO₂, PM_{2.5} and VOCs. In addition, the commentators request that these counties be included in the PA DEP Air Quality Action Day Forecast or the airnow.gov forecast. Several commentators thanked the Department for its deployment of temporary toxics monitors and requested that these monitors be made permanent sites.

Response: The PA DEP continues to expand its presence in the gas drilling areas across the Commonwealth. The Department is currently operating two ozone monitors (in Tioga County and in Bradford County) in the Northern Tier. As described in this Network Plan, the Department intends to install a PM_{2.5} monitor at its Tioga County site. In addition, a new VOC monitor was recently installed in the town of Mehoopany and the VOC monitor in Springville was retained. Based on the data from these monitors, the PA DEP will commit additional resources, as needed to the Northern Tier region, as noted in Comment 2 (Krafjack) above. In addition, as noted in the Department's response to Comment 1 (Krafjack), the Department will analyze local meteorological and topographical influences to see if there are enough factors to be able to confidently predict air quality concentrations in the region.