



GROUP AGAINST SMOG & POLLUTION

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July 18, 2016

VIA EMAIL: ecomment@pa.gov

Policy Office
Pennsylvania Department of Environmental Protection
P.O. Box 2063
Harrisburg, PA 17105-2063

Re: Annual Monitoring Network Plan

Dear Sir or Madam:

Please accept these comments regarding Pennsylvania's 2016 Annual Ambient Air Monitoring Network Plan, which I am submitting on behalf of the Group Against Smog and Pollution ("GASP"). According to the Notice published in the June 18, 2016 Pennsylvania Bulletin, the Pennsylvania Department of Environmental Protection is accepting comments submitted on or before July 18, 2016.

Thank you for your attention to these comments.

Very truly yours,

/s

John K. Baillie
Staff Attorney

**COMMENTS OF THE GROUP AGAINST SMOG AND POLLUTION (“GASP”)
REGARDING
THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION’S
2016 AMBIENT AIR MONITORING NETWORK PLAN (THE “PLAN”)**

The Clean Air Act requires that each state implementation plan “provide for establishment and operation of appropriate devices, methods, systems, and procedures necessary to ... monitor, compile, and analyze data on ambient air quality.”¹ 40 C.F.R. Part 58 specifies the state implementation plan requirements for monitoring and reporting data regarding ambient air quality, including “[m]inimum ambient air quality monitoring network requirements.”² Ambient air quality monitoring networks operated by state or local agencies must satisfy the criteria in Appendix D to Part 58.³

Appendix D identifies three basic monitoring objectives: the provision of timely air pollution data to the public;⁴ supporting compliance with ambient air quality standards and emissions strategy development;⁵ and supporting air pollution research studies.⁶ “Monitoring sites must be capable of informing managers about many things, including the **peak air pollution levels**, typical levels in populated areas, air pollution transported into and outside of a city or region, and **air pollution levels near specific sources.**”⁷ These objectives should inform an agency’s location of monitors within a network. Because states’ control strategies must be keyed on achieving the National Ambient Air Quality Standards (the “NAAQS”) in all areas of the state⁸ (including expected points of maximum concentration of criteria pollutants),

¹ 42 U.S.C. § 7410(a)(2)(B).

² 40 C.F.R. § 58.2(a)(5).

³ 40 C.F.R. § 58.11(c).

⁴ 40 C.F.R. Part 58, App. D (“App. D”), § 1.1(a) .

⁵ App. D, § 1.1(b).

⁶ App. D, § 1.1(c).

⁷ App. D, § 1.1.1 (emphasis added).

⁸ This is consistent with the Clean Air Act’s directive that each state, and each local agency designated to implement the requirements of the Clean Air Act within a specific area of a state, must adopt an implementation

monitoring sites should be located at or near points of maximum concentration to confirm that the NAAQS are being attained in all areas.⁹ Thus, when there is a single source “that contributes overwhelmingly” to pollution in a given area, it is “very desirable to monitor the maximum ground-level contribution from that source since the attainment and maintenance of the NAAQS in the area would be highly dependent on the effectiveness of control measures applied to that source.”¹⁰ The Pennsylvania Department of Environmental Protection (“DEP”) should locate monitors at (or as close as possible to) expected points of maximum concentration of air pollutants to confirm that all areas of Pennsylvania attain the NAAQS.

I. THE PLAN DOES NOT PROVIDE FOR ADEQUATE MONITORING AT OR NEAR SEVERAL POINTS OF EXPECTED MAXIMUM CONCENTRATION OF POLLUTANTS

A. A Monitor for SO₂ Must Be Installed Downwind from the Cheswick Power Station

The Cheswick Power Station (“Cheswick”) is the largest source of SO₂ emissions in Allegheny County – in 2014, the most recent year for which emissions data is reported on DEP’s eFACTS website, Cheswick emitted over 4,445 tons of SO₂, up from 1,686 tons in 2013.¹¹ Nevertheless, there is no monitor installed and operated to ascertain concentrations of SO₂ in the immediate downwind vicinity of Cheswick. All SO₂ monitors in Allegheny County’s monitoring network are located upwind of Cheswick,¹² and the nearest downwind SO₂ monitor (which is

plan to achieve and maintain the NAAQS “within the entire geographic area” of the state or specific area over which the local agency is responsible. *See* 42 U.S.C. § 7407(a).

⁹ ROBERT J. BALL & GERALD E. ANDERSON, OPTIMUM SITE EXPOSURE CRITERIA FOR SO₂ MONITORING 9 (U.S.E.P.A. Pub. No. EPA-450/3-77-013) (1977).

¹⁰ BALL AND ANDERSON, at 10.

¹¹ *See* Exhibit A.

¹² *See* ALLEGHENY COUNTY HEALTH DEPARTMENT, AIR QUALITY DIVISION, AIR MONITORING NETWORK PLAN FOR 2017, at 7-8 (June 1, 2016), available at http://www.achd.net/air/pubs/pdf/ANP2017_final.pdf.

The prevailing wind in the Pittsburgh region is generally from the west or southwest. *See* <http://www.windfinder.com/windstatistics/pittsburgh Intl airport>.

operated by DEP) is in Strongstown, Indiana County, approximately fifty miles from Cheswick.¹³ Ground-level concentrations of SO₂ emitted by Cheswick are likely to be greatest in areas immediately to the east and northeast of Cheswick. Indeed, “Short-Term Test Modeling” results of SO₂ concentrations in the vicinity of Cheswick that ACHD provided to GASP in response to a records request indicate that the concentration of SO₂ in the areas around Cheswick is likely to exceed the one-hour SO₂ standard of 75 ppb.¹⁴ However, there is no monitor installed and operated to ensure that the SO₂ emitted by Cheswick does not cause ground-level concentrations of SO₂ in inhabited, immediately-downwind areas to exceed the NAAQS for SO₂.

The Plan is insufficient to accomplish the objectives identified by Appendix D to Part 58 (including most particularly the provision of timely air pollution data to the public – members of the public cannot use air quality models to determine whether and when they may be exposed to unhealthy SO₂ concentrations) because the Plan does not provide for a monitor that ascertains ground-level concentrations of SO₂ in the ambient air in those areas downwind of Cheswick where such concentrations are likely to be the greatest.

B. The Charleroi Monitor Should Be Moved Downwind Of The Newly-Reactivated Monessen Coke Plant

In 2014, ArcelorMittal Monessen LLC reactivated the Monessen Coke Plant in Monessen, Westmoreland County; that facility is permitted to emit 275 tons per year of SO₂. The Monessen Coke Plant is also required to operate as an area source of Hazardous Air Pollutants (“HAPs”), and thus may not emit more than twenty-five tons per year of all HAPs or ten tons per year of any particular HAP.

¹³ See the Plan, at 9-11.

¹⁴ See Exhibit B.

DEP operates a monitor in Charleroi, Washington County, which is relatively close to Monessen Coke Plant but is located to the southwest of the facility, and is therefore generally upwind of the facility. Consequently, the Charleroi monitor is not well-situated to measure the impacts that emissions from the Monessen Coke Plant have on ambient air quality downwind, and in the vicinity of, the facility, where they are likely to be greatest – indeed, when DEP studied such impacts in the Spring of 2014, it measured them from sites in Monessen closer to, and downwind of, the coke plant.¹⁵ To measure the Monessen Coke Plant’s impacts on ambient air quality, and confirm that areas downwind from the plant attain the NAAQS, DEP should either relocate its Charleroi monitor so that it is downwind from the Monessen Coke Plant or install an additional monitor downwind from the Monessen Coke Plant that measures SO₂, PM_{2.5}, and air toxics.

C. DEP Should Measure PM_{2.5} Concentrations At Its Monitor In Strongstown, Indiana County

Together, the Keystone Generating Station (located in Armstrong County) and Homer City Generation, the Conemaugh Generating Station, and the Seward Generating Station (in Indiana County) are coal-fired power plants that emit significant amounts of PM_{2.5} pollution. DEP’s monitoring station in Strongsville, Indiana County, is the closest monitoring station that is generally downwind from all four power plants, but does not measure PM_{2.5}. DEP’s closest downwind PM_{2.5} monitor is in Johnstown, which is further away from the power plants than Strongstown, and is thus not as likely to measure PM_{2.5} pollution from the plants where its concentration is likely to be greatest, as would be more likely at Strongstown than Johnstown. In order to ensure that the plants do not cause a violation of the PM_{2.5} NAAQS, DEP should locate a PM_{2.5} monitor in Strongstown.

¹⁵ See Pennsylvania Department of Environmental Protection, Monessen, Washington County, Pennsylvania Ambient Air Monitoring Report, at 1 (March 2015), available at http://files.dep.state.pa.us/Air/AirQuality/AQPortalFiles/Monitoring%20Topics/Toxic%20Pollutants/toxics/projects/Monessen/Monessen_Report_Revised_Final_March_2015.pdf.

II. THE PLAN DOES NOT CONTAIN REQUIRED INFORMATION REGARDING NEW PM_{2.5} MONITORS INTENDED TO MONITOR EMISSIONS FROM NATURAL GAS PRODUCTION ACTIVITIES

Part 58 requires the states to submit annual monitoring network plans, and specifies that such plans “shall include a statement of purposes for each monitor and evidence that the siting and operation of each monitor meets the requirements of appendices A, C, D, and E of this part.”¹⁶ More specifically, annual monitoring network plans must “contain the following information for each existing and proposed site ... [t]he location, including street address and geographical coordinates.”¹⁷ The reason that such information is required to be included in network monitoring plans is obvious: whether a particular monitor will serve its intended purpose cannot be determined unless the location of the monitor is known.

The Plan states that before the end of 2016, monitors for “ozone, NO₂, PM_{2.5}, carbonyls and VOC” will be installed at an unspecified site “in Fayette County, west of Uniontown.”¹⁸ These monitors are purportedly intended to measure the air quality impacts of the shale gas production activity that has occurred in western Fayette County.¹⁹ The Plan also states that monitors for PM_{2.5} will be installed at unspecified sites in Fayette, Indiana, and Lycoming Counties by the end of 2016,²⁰ and at unspecified sites in Clarion, Jefferson, and McKean Counties by the end of 2017, all intended to measure the air quality impacts of shale gas production activity, particularly compressor stations.²¹

¹⁶ 40 C.F.R. §58.10(a)(1).

¹⁷ 40 C.F.R. § 58.10(b)(2).

¹⁸ The Plan, at 18.

¹⁹ *See id.*

²⁰ The Plan does not explicitly state whether there will be one or two PM_{2.5} monitors installed in Fayette County.

²¹ The Plan, at 19.

A. The Plan Does Not Comply With Part 58 Because It Does Not Specify the Locations of the New PM_{2.5} Monitors

The Plan does not comply with the requirements of Part 58 because it does not specify where these new PM_{2.5} monitors will be located. It is impossible to determine how well the monitors will measure air quality impacts associated with shale gas production without knowing where the monitors will be located, especially with respect to shale gas activities and other sources of PM_{2.5}. Further, the Plan does not disclose whether the data collected by the new PM_{2.5} monitors will permit a distinction between PM_{2.5} that is created by gas production activities and PM_{2.5} that is created by other activities, including the operation of mobile sources, coal-fired power plants, and steel foundries. Accordingly, while information regarding PM_{2.5} levels in the ambient air in the areas selected for the new monitors may ultimately prove useful for a number of purposes, it is premature to conclude that the monitors called for by the Plan will provide data that will help determine the air quality impacts associated with shale gas production. To comply with Part 58, DEP must determine where the new PM_{2.5} monitors will be sited and include their specific locations in a revised network monitoring plan.

B. DEP Should Monitor Other Criteria Pollutants Associated With Natural Gas Production at the Sites Eventually Chosen for the New PM_{2.5} Monitors in Rural Counties

In the aggregate, shale gas production activities emit significant amounts of air pollutants in addition to PM_{2.5}, including, most notably, NO_x and VOCs, which can form ozone in some areas under certain weather conditions and adversely impact air quality. For example, concentrated natural gas production operations caused ozone levels in several counties in Wyoming to exceed the NAAQS by a wide margin, even in the winter.²²

A number of the Pennsylvania counties that are slated for DEP's new PM_{2.5} monitors (including, specifically, Clarion, Jefferson, and McKean Counties) are rural counties in which

²² See UNITED STATES DEPT. OF COMMERCE, NATIONAL OCEANIC & ATMOSPHERIC ADMIN., EARTH SYSTEM RESEARCH LAB., OZONE SMOG IN WYOMING (Spring 2009), available at http://www.esrl.noaa.gov/news/quarterly/spring2009/ozone_smog.html.

DEP does not operate monitors for ozone or its precursors. DEP should locate monitors for ozone and its precursors at the sites in Clarion, Jefferson, and McKean Counties that are eventually chosen for the new PM_{2.5} monitors, to provide it and the public with better information about any impacts that shale gas production activities may have on local ozone levels in those areas.

EXHIBIT A

Facility Emissions Report

Year: **2014**County: **Allegheny**Pollutant: **Sulfur Oxides**Top Records: **10**

eFACTS on the Web
DEP Information
About DEP
Contact Us
DEP Home
Search eFACTS
Authorization Search
Client Search
Facility Search
Inspection Search
Mammography Search
Name Search
Pollution Prevention
Sites by County/Municipality
Site Search
Reports
Emission Summary
Facility Emissions
Other Sites
eMapPA
eNotice
EPA ECHO
EPA Envirofacts
Licensing, Permits, and Certification
The PA Code

Primary Facility ID	Primary Facility Name	Tons/Year
737442	NRG MIDWEST LP/CHESWICK	4445.4142
737439	USS/CLAIRTON WORKS	1511.7339
737436	USS CORP/EDGAR THOMSON WORKS	1329.0207
737318	US STEEL CORP/IRVIN PLT	715.9371
737435	SHENANGO INC/SHENANGO COKE PLT	275.8858
737350	GUARDIAN IND CORP/JEFFERSON HILLS	108.8668
737434	ALLEGHENY LUDLUM LLC/BRACKENRIDGE	33.7
737323	REDLAND BRICK INC/HARMAR PLT	30.86
737336	ALLIED WASTE SVC OF PA/MSW LDFL	17.6921
737263	BAY VALLEY FOODS LLC/PGH	12.751

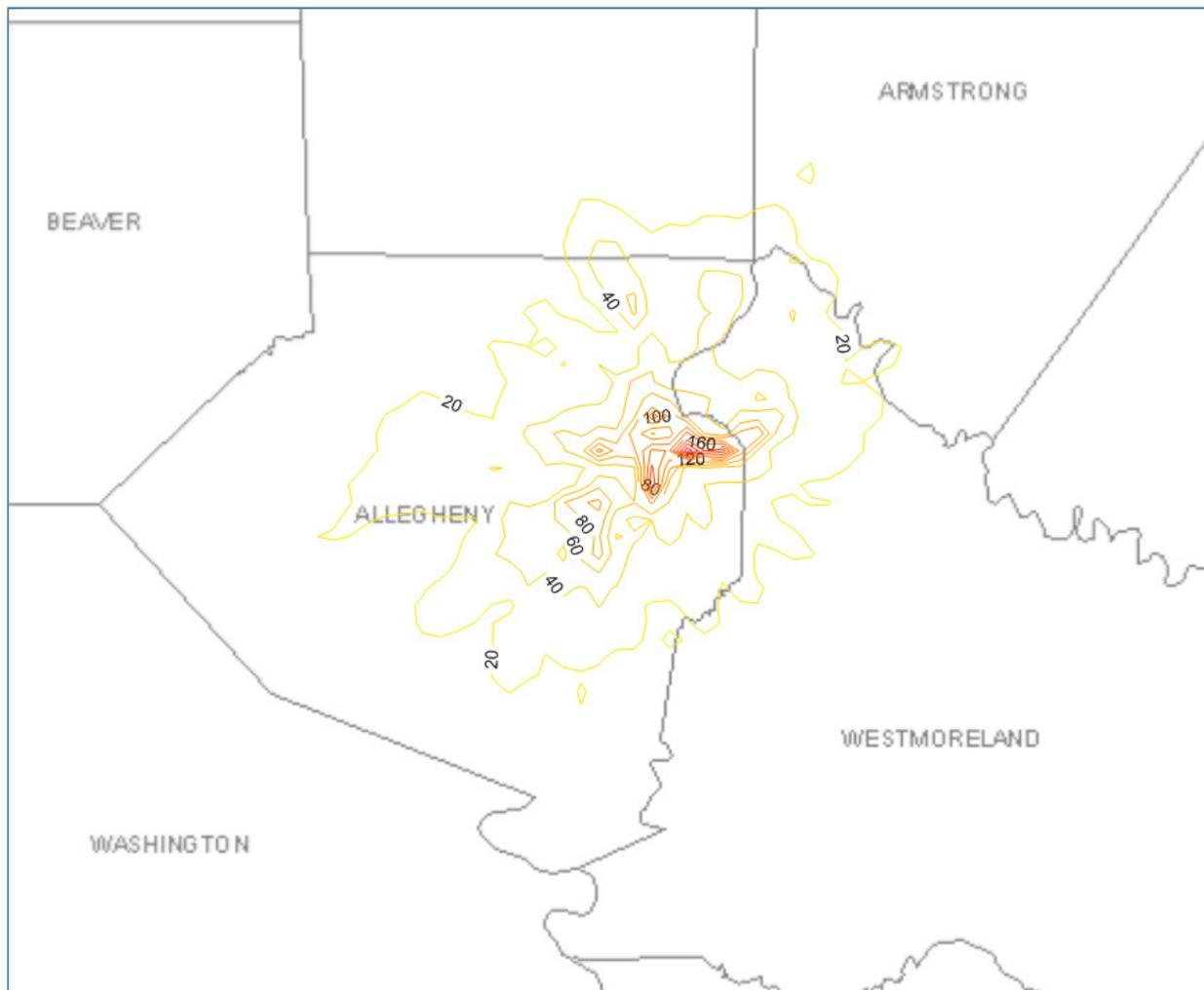
Total Emissions for Selected Records: **8481.8620**Total Emissions for Selected Area: **8528.7540**[Run report again](#)

EXHIBIT B

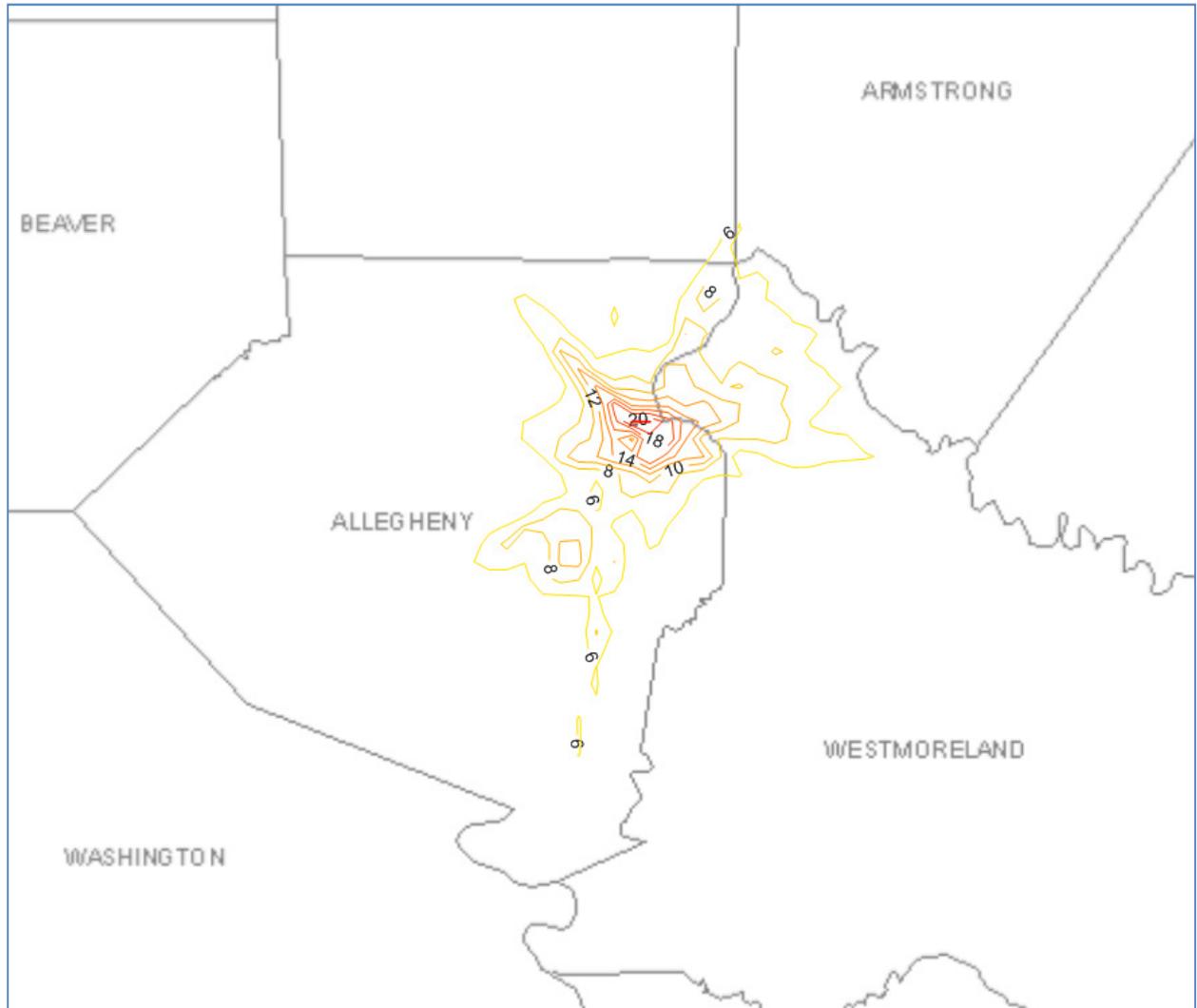
Cheswick SO2 Short-Term Test Modeling

CALPUFF model results
2002 meteorology from PIT, AGC, MM5
1 km gridded receptor spacing
FGD stack height = 552 ft
Emissions based on preliminary 2010 totals

Cheswick Maximum 1-Hr SO2 Impacts, ppb (max = 240 ppb)



Cheswick Maximum 24-Hr SO2 Impacts, ppb (max = 23 ppb)



Cheswick Maximum Annual SO2 Impacts, ppb (max = 2.5 ppb)

