

Pennsylvania's 2017 Ambient Air Monitoring Network Plan

Comment/Response Document

October 2017

**Tom Wolf, Governor
Commonwealth of Pennsylvania**

**Patrick McDonnell, Secretary
Department of Environmental Protection**

www.dep.pa.gov

Comment and Response Document Concerning Pennsylvania's 2017 Annual Air Monitoring Network Plan

Overview

On June 1, 2017, the Pennsylvania Department of Environmental Protection (“Department” or “PA DEP”) published a notice in the *Pennsylvania Bulletin* concerning public inspection of Pennsylvania’s 2017 Ambient Air Monitoring Network Plan (hereinafter “Network Plan” or “Plan”) (47 Pa.B. 3652). The Network Plan outlines the air monitoring program history, provides an overview of the air monitoring network and discusses in detail monitoring sites, methods and equipment. In addition, past and anticipated monitoring activities for a period of 18 months are addressed.

The Network Plan outlines several changes to Department’s ambient air monitoring network:

- 1) An increase in monitoring in response to the Marcellus Shale activity in the Commonwealth, including the expansion of the PM_{2.5} monitoring network;
- 2) The establishment of new SLAMS monitoring sites in six (6) counties;
- 3) The cancellation of planned installations of new near-road nitrogen oxide (NO₂) monitors due to the revised NO₂ monitoring rule;
- 4) The installation of one sulfur dioxide (SO₂) monitor and one PM_{2.5} speciation monitor and the discontinuation of three monitoring stations (which collectively involves two ozone, one H₂S, one SO₂, one PM_{2.5}, one VOC, and one metals monitor) plus an additional discontinuation of one lead, two SO₂, one CO, one PM_{2.5}, one PM_{2.5} speciation, and two PM₁₀ monitors;
- 5) The relocation of two monitors to other locations in their respective counties plus the addition of Carbonyl monitors at each of these locations;
- 6) The replacement of all TSP monitors with PM₁₀ monitors; and,
- 7) The addition of Antimony, Selenium, and Cobalt to the metals analytical suite to satisfy the guidelines contained in EPA’s air toxics monitoring “Technical Assistance Document” (TAD).

Specific Monitoring Information

In the 2017 Network Plan, the Department outlines the agency’s continued commitment to conduct federally required ambient air monitoring as well as to assess air quality impacts related to shale gas activities in Pennsylvania, in both the southwestern and Northern Tier regions of the Commonwealth. Over the past 12 months, PA DEP discontinued lead monitoring sites at Shelocta (Indiana County) and Upper Strasburg (Franklin County); discontinued SO₂ monitoring at Bristol (Bucks County), Norristown (Montgomery County), Erie (Erie County), and Holbrook (Greene County); installed a PM_{2.5} monitor at the Norristown (Montgomery County) site and a PM_{2.5}

speciation monitor at the Lancaster (Lancaster County) downwind site, and discontinued PM_{2.5} speciation monitoring at the Freemansburg (Northampton County) site. In addition, the Department relocated a VOC monitor from the Beaver Falls (Beaver County) to the Beaver Valley (Beaver County) monitoring site; replaced the TSP-based monitor with a PM₁₀-based monitor at Ellwood City (Lawrence County) for metals sampling; discontinued the Slippery Rock (Butler County) monitoring site (VOC and metals); discontinued VOC sampling at Freemansburg (Northampton County); and established an air toxics monitoring site for metals sampling at Palmerton Electric (Carbon County). Finally, and as stated in the 2016 Annual Network Plan, PA DEP planned to close the Norristown (Montgomery County) ozone monitoring site. However, the Department has retained this site.

Over the next 18 months, the Department plans to establish new State or Local Air Monitoring Stations (SLAMS) in Clarion, Fayette, Jefferson, Lycoming, Susquehanna and Wyoming Counties; cancel planned near-road NO₂ monitors due to revision of the NO₂ monitoring rule¹; discontinue the Easton (Northampton County) monitoring station (ozone, H₂S, SO₂) and the Washington (Washington County) monitoring station (ozone, PM_{2.5}) and discontinue lead monitoring at Ridley Park (Delaware County); discontinue SO₂ monitoring at the Chester (Delaware County) and New Castle (Lawrence County) sites and install SO₂ monitoring at the Freemansburg (Northampton County) site; discontinue CO monitoring at the York (York County) site; discontinue PM_{2.5} monitoring at the Swiftwater (Monroe County) site and discontinue PM_{2.5} speciation monitoring at either the Chester or Marcus Hook site (Delaware County); install a PM_{2.5} speciation monitor at the Lebanon (Lebanon County) site; discontinue PM₁₀ monitoring at the Altoona (Blair County) site and at the Montoursville (Lycoming County) site; relocate VOC sampling from Springville (Susquehanna County) and Mehoopany (Wyoming County) and add Carbonyl sampling to each of these sites; discontinue the Swarthmore (Delaware County) VOC and metals monitoring site, and replace all TSP-based metals sampling with PM₁₀-based method and add Antimony, Selenium and Cobalt to the analyte suite.

Changes that are currently being evaluated by the Department include establishing ozone monitoring sites in Gettysburg (Adams County) and Chambersburg (Franklin County); relocating the Moshannon (Clearfield County) site to a location more representative of Marcellus Shale activity; relocating the York Downwind (York County) site to a location actually downwind of York City, and relocating the Lancaster Downwind (Lancaster County) site to a location not influenced by local sources. In addition to these changes, the Department is retaining the Washington site for an additional year and adding O₃ and PM to the Houston monitoring site. After collecting and analyzing data from this site for one year, the site will be re-evaluated to determine if the site is to be retained or terminated. PA DEP has provided detailed relevant considerations regarding these monitoring network changes in previous Annual Network Plans. PA DEP continues to consider these changes, but does not anticipate that any installation and/or relocation activities will occur during 2017-2018. The Department will include details in a future Annual Network Plan when such network design changes are proposed.

¹ On December 22, 2016, the U.S. EPA revised the minimum monitoring requirements for near-road nitrogen dioxide (NO₂) monitoring. A copy of the rule and fact sheet are available on EPA's website at <https://www.epa.gov/no2-pollution/ambient-nitrogen-dioxide-monitoring-requirements>.

Public Comment

Notice of the availability of the proposed Network Plan for public review and comment was published in the *Pennsylvania Bulletin* on June 1, 2017 (47 Pa.B. 3652). The public comment period on the proposed Network Plan closed on August 1, 2017. This document summarizes the written comments received during the 30-day public comment period. Comments were received from seventeen (17) commentators. Most of the comments demonstrated concern about the effects of natural gas drilling and/or power plant emissions on air quality and public health. Comment summaries and the Department's responses follow the List of Commentators in this document.

List of Commentators for Pennsylvania's 2017 Ambient Air Monitoring Network Plan

1. Group Against Smog & Pollution (GASP)
2. Earthworks
3. Clean Air Board of Central PA
4. Sierra Club, Pennsylvania Chapter
5. Henry Berkowitz
6. Jay Sweeney
7. Kerry Foose
8. Lillian Theophanis
9. Clean Air Council
10. Barbara Clifford
11. Kelly Finan
12. Frank Finan
13. Sierra Club Clean Air Research Committee
14. Mehoopany Creek Watershed Association
15. Citizens for Clean Water
16. JoAnn Williams
17. Angel Smith

COMMENTS AND RESPONSES

The identity of the commentator is indicated by the assigned number in parenthesis following each comment. Comments are bolded and are listed by subject area. Department responses follow each comment or set of related comments.

Air Monitoring in Marcellus Shale Development Areas of the Commonwealth

1. **Thank you for the opportunity to submit comments on Pennsylvania's 2017 Annual Ambient Air Monitoring Network Plan recently issued by the Department of Environmental Protection (hereafter DEP). (The commentator) offers the following comments on aspects of the proposed plan related to monitoring in Marcellus Shale development areas. Since 2015, we have conducted nearly 800 individual investigations into air emissions from oil and gas facilities in 16 states using an Optical Gas Imaging (OGI) camera (specifically a Forward Looking Infrared GF320). This includes numerous well sites and facilities in Pennsylvania, as shown in OGI videos available at <https://www.youtube.com/playlist?list=PL9BS7nDf-8trQ91EHSnuL7Gtzrv9S0be6>. Along with these comments, the commenter is submitting our 2017 report Permitted to Pollute: how oil & gas operators and regulators exploit clean air protections and put the public at risk.² This in-depth investigation in part involved air sampling at natural gas facilities in southwestern Pennsylvania. (The commentator) appreciates DEP's expressed commitment in the 2017 air monitoring plan to installing monitors for fine Particulate Matter (PM_{2.5}) in Marcellus Shale gas development areas. The**

² Nadia Steinzor, *Permitted to Pollute: how oil & gas operators and regulators exploit clean air protections and put the public at risk*. Earthworks, 2017. <http://earthworkSACTION.org/permittedtopollute>

Department initially announced this goal in 2015; given the long delay in fulfilling it, we support the January 1, 2018 start date for monitoring in six of the eight proposed locations. However, DEP should start monitoring in Indiana and McKean Counties at this time as well, and not further delay taking action in those locations until 2019.
(2)

The Department appreciates the information provided by the commentator. While gas imaging cameras can be useful screening tools, the device is unable to quantify or specify contaminants in air monitoring. The Department is familiar with the “Permitted to Pollute” report and the air sampling results contained within the report. PA DEP appreciates the commentator’s support for the new monitoring sites. Please be aware that the monitoring locations in Indiana and McKean Counties will not be operational by January 1, 2018. The Department was not able to find suitable locations for the air monitors due to the heavily forested or otherwise unsuitable areas in these counties. Despite these unanticipated occurrences, the Department is continuing with its efforts to install the monitors in as timely a manner as possible and in accordance with 40 C.F.R. § 58.10(b). The Department intends to install the Indiana and McKean County monitoring sites in late 2018 or early 2019.

- 2. In addition, DEP should quickly develop a plan to expand monitoring parameters for shale gas areas to include volatile organic compounds (VOCs) and nitrogen oxides (NO_x). According to DEP’s emissions inventory, oil and gas operators statewide released 60% more VOCs and 23% more NO_x in 2015 than in 2012, in addition to 16% more PM_{2.5}. (2)**

The Department appreciates the comment. Monitoring for VOCs and Nitrogen Dioxide is already in place at several stations across the Commonwealth. Additional monitoring stations will be installed at new locations in Fayette, Susquehanna, and Wyoming Counties. In addition, please be aware that the Department continues to be constrained by insufficient staffing levels. In a major finding by the U. S. Environmental Protection Agency (“U.S. EPA”) during a technical systems audit, the agency found that the Department had an insufficient number of staff to effectively operate the monitoring network. Such constraints compel the Department to evaluate every sensor in its network, to retain those that are providing useful or unique data, and to terminate or relocate redundant or low-value sensors.

- 3. The Mehoopany Creek Watershed is a 134.5 square mile area that includes Bradford, Luzerne, Sullivan and Wyoming Counties....The area of Mehoopany Creek Watershed hosts 100+/- wells on 37 well sites along with impoundment, water withdrawal (Susquehanna River near our confluence), compressor station, gathering lines and other above ground gathering line infrastructure locations. In many cases, these facilities are near our homes and school. Thus, we are very interested in the Annual Ambient Air Monitoring Network Plan and efforts that the Department takes to monitor and improve air quality. (14)**

As a resident of Susquehanna County I am very cognizant of the dangers of air pollution. I live only a mile from one such compressor station, one of forty in our area. This is of particular concern to me since I suffer from a rare auto immune condition. I was relieved to know that testing and on going monitoring was being encouraged and planned. Please

continue to see this through. The implementation of this monitoring is critical to the safety and peace of mind of our community. (7)

The Department appreciates the comments and the concerns of citizens living in areas of the Commonwealth being impacted by the Natural Gas industry. In the past few years, the Department has made a significant investment in ambient air quality monitoring in areas of the Commonwealth being impacted by shale gas operations. In addition, PA DEP has undertaken several projects as well as installed multiple air monitoring stations in response to the activities of this industry. The Department remains committed to installing and maintaining an ambient air monitoring program as outlined in the 2017 Annual Ambient Air Monitoring Network Plan.

- 4. Please have regular, continuous monitoring of air like for PM_{2.5} particulates in heavily gas-developed areas like my County Susquehanna...And please use an area or private property near several gas compressor stations.... Like in New Millford Twp. off route 492 and I have a landowner willing to allow the testing on their property... We have about 50 gas compressor stations and 1300 gas Wells and all the infrastructure involved....and all the air pollution connected with this...in my county. (15)**

The Department appreciates the comments and concerns of the commentator. The Department is dedicated to finding the best location for installing each monitoring station. Air monitoring staff will be conducting outreach for evaluating the suggested property to determine suitability for placement of proposed air monitoring equipment.

- 5. Please install these near gas and oil working areas for towns. The increase in Pa. is 20% higher of methane. Asthma, headaches, lung problems, and heart problems are increasing in conjunction with this rise, and many are babies and children. (16)**

The Department appreciates the comment. As outlined in the 2017 Annual Ambient Air Monitoring Network Plan, there are numerous factors to consider when selecting a monitoring location, including the proximity to population and potential sources of contamination. The Department will continue to work diligently to protect the public health from air contamination.

- 6. Air. We have lived in gas zone and gas storage for 11 years. Were are the air testing done for our area? I have been asking for years! Please get our area tested. (17)**

The Department appreciates the concern of the commentator. The Department operates over 60 ambient air monitoring stations located throughout the Commonwealth. PA DEP will add more monitoring stations in the next few months as part of a continuing effort to ensure that public health is protected from air contamination.

- 7. In the 2017 air monitoring plan (p.22), DEP requests input on the siting of the planned PM_{2.5} monitor in Fayette County. (The commentator) supports the proposed siting of a monitor near the Shamrock Compressor Station in German Township. (2)**

The Department acknowledges the support expressed by the commentator for a monitoring site in Fayette County.

- 8. The air monitoring plan (p. 21) indicates that two other compressor stations near the Shamrock facility will be targeted for PM_{2.5} monitoring as well: Range Resources Appalachia's Voytek to the northwest of Shamrock and Burnett Oil's Shoaf to the southeast. (2)**

The Department appreciates the information provided by the commentator and wishes to clarify that only one PM_{2.5} monitoring station is intended for the region suggested in Fayette County. The 2017 Ambient Air Monitoring Network Plan is proposing an area in Fayette County that might be impacted by the three compressor stations identified by the commentator.

- 9. Over the course of several years, Shamrock has expanded significantly in size and capacity and DEP has previously considered permitting it as a "major source" of emissions subject to pollution control technology and monitoring requirements in Title V of the US Clean Air Act. Based on our research on the facility, the commenter believes that Shamrock should in fact be classified as a major emissions source and regulated under Title V.³ (2)**

The Department appreciates the comment. Although permitting concerns are beyond the scope of this document, please be aware that the Department applies the guidelines set forth by the U.S. EPA when determining if a facility should be regulated as a Title V facility.

- 10. In 2016, the commenter collected three air samples at a location approximately 900 feet north of the Shamrock Compressor Station, detecting 17 distinct VOCs at least once. During the sampling periods, we found that prevailing winds were from the north and west—indicating the possibility that siting of a future monitor to the south of the Shamrock facility would be most productive. (2)**

The Department appreciates the comment. The Department has taken into consideration several years of local meteorological data, including wind direction, in selecting potential monitoring locations in Fayette County. In addition, PA DEP's VOC monitoring consists of a suite of 56 compounds. In almost every VOC sample taken, the Department finds approximately 25 to 30 VOC compounds.

- 11. (The commentator's) sampling detected pollutants primarily during periods of calm or when winds shifted directions for at least a few hours.⁴ In addition, during several visits to the Shamrock Compressor Station in 2015-2016, (the commentator) documented with OGI large, dense emissions plumes generally moving southward from the engine stacks and other equipment. However, a lack of accessibility and a clear view of many parts of the 200-acre Shamrock site complicated efforts to determine with OGI whether emissions were moving in other directions as well. Similarly, a lack of access precluded the commenter from conducting additional air sampling at locations south of the**

³ See permit and regulatory analysis for the Shamrock Compressor Station in Nadia Steinzor, *Permitted to Pollute: how oil & gas operators and regulators exploit clean air protections and put the public at risk*. Earthworks 2017.

⁴ See air sampling data for the Shamrock Compressor Station in Nadia Steinzor, *Permitted to Pollute: how oil & gas operators and regulators exploit clean air protections and put the public at risk*. Earthworks 2017.

Shamrock Compressor Station. DEP does not face such constraints on access, and should include details on its siting plan for the Shamrock Compressor Station in the final 2017 air monitoring plan. (2)

The Department acknowledges the comment. Numerous factors are involved in determining a monitoring site location. The Department's intent is to monitor ambient air and not specifically fence-line air. While PA DEP focuses on emissions generated by specific facilities, it must also examine localized impacts on the population exposed and the environment. The Department attempts to make the best possible decision for a monitoring location based upon all available information.

- 12. According to DEP's oil and gas database eFACTS, the Shoaf compressor station has a permit status of "proposed but never materialized," and while the 2015 emissions inventory includes the Shoaf station, emissions are zero for all pollutants. Unless DEP knows that this non-existent status will change, it should not base monitoring location decisions on the Shoaf. (2)**

The Department appreciates the comment. The Department erroneously placed a mark on the map for the proposed Shoaf compressor station, even though the station had not been constructed at the time that the map was developed. The proposed Shoaf compressor station will not factor into the decision to install the monitoring site in Fayette County.

- 13. However, another compressor station to the south and west of the Shamrock is currently excluded from DEP's proposed monitoring site location, but should be included: Laurel Mountain Midstream's Prah. According to the DEP emissions inventories, the Prah compressor station emits about half a ton of PM_{2.5} annually; of even greater concern are its high levels of VOCs, which reached 14 tons in 2015. As noted elsewhere in these comments, DEP should expand parameters for monitoring in shale gas fields to include VOCs and NO_x (the key precursors to ozone), in addition to PM_{2.5}. (2)**

The Department appreciates the comment. As noted in the 2017 Annual Ambient Air Monitoring Network Plan, the new monitoring locations in shale gas regions (Fayette, Susquehanna, and Wyoming Counties) will have sensors for Ozone, Nitrogen Dioxide, PM_{2.5}, VOC, and Carbonyls.

- 14. More than one monitor may be necessary in some of counties that are impacted by the Marcellus Shale development. For example, Susquehanna County has a particularly high density of unconventional gas wells and compressor stations. See *id.* at 26-28. Monitoring at multiple locations would provide more accurate data about the effect of fracking and natural gas infrastructure in the counties with the most development. (9)**

The Department appreciates the information provided by the commentator. In the past few years, PA DEP has made a significant investment in ambient air quality monitoring in areas of the Commonwealth impacted by shale gas operations. The Department will take this information into consideration as it finalizes the site locations following consideration of all public comments. PA DEP has undertaken several projects and has installed multiple air monitoring stations in response to the activities of this industry.

However, the Department's air monitoring program is constrained by inadequate staffing levels. In a major finding by the U. S. Environmental Protection Agency ("U.S. EPA") during a technical systems audit, the agency found that the Department had an insufficient number of staff to effectively operate the monitoring network. Such constraints compel the Department to evaluate every sensor in its network, to retain those that are providing useful or unique data, and to terminate or relocate redundant or low-value sensors. The Department operates over 60 ambient air monitoring stations located throughout the Commonwealth and is adding more monitoring locations in the next few months. PA DEP remains committed to ensuring protection of the public health through its air quality monitoring efforts.

- 15. The 2017 plan includes the installation of air monitors in oil and gas areas. This is an important step, since the industry is causing more and more pollution that is linked to health problems. Unfortunately, the plan fails to detail locations and timing for installing those monitors. (10)**

The Department appreciates the concerns of the commentator. The Department continues to assess potential site locations and will finalize the specific locations of air quality monitors following consideration of public comments.

- 16. We understand the Department is looking at PM_{2.5}, VOCs and Carbonyl monitoring. It's important to remember that the development is dynamic. In most locations wells are intermittently being drilled, hydraulically fractured, production is increased or choked back, new equipment is placed on the pad or exchanged for other. It is far from the wellhead we were told would remain. Therefore, with siting a new monitoring station, it is important to carefully review county emissions, ongoing development and emissions for proposed monitoring locations. (14)**

The Department appreciates the information provided by the commentator. PA DEP acknowledges that there are numerous factors to consider when evaluating where to locate an air quality monitoring station. The Department will finalize the location of monitoring sites following consideration of public comments.

- 17. Another important aspect to consider is what locations have the most emissions overall, from both compressor stations and well pads. And finally, what is the Department attempting to capture, a single compressor station, a compressor station within a cluster of fully developed well pads or compressor stations that is within a cluster of on-going development? This we want to know. What strategy employed with a single stationary station will provide the most accurate information of how air affects public health? That is really what we need to know. Several studies have been done on infant mortality, birth weights and asthma all relative to our deteriorating air quality. There are few compressor stations in comparison to wells. And, apparently at least in Wyoming County wells are a more significant source than the Department is considering. The entire development must be considered in regards to siting with all stationary monitoring stations. Thus, we strongly urge the Department to carefully consider the impacts from wells with choosing this siting. (14)**

The Department appreciates the concerns of the commentator and acknowledges that numerous factors, including but not limited to U.S. EPA guidelines, are considered by the Department when determining where to install monitoring stations. PA DEP will continue to assess all available information and will finalize the location of monitoring sites following consideration of public comments.

- 18. We need air monitors at the fence line of every oil and gas facility; for us here, especially at well pads, compressor stations and power plants. Where I live in Susquehanna County I am surrounded by well pads, some within a mile of my home and 40 compressor stations in the county, all where we had no heavy industry before. The air no longer carries the sweet smell of wild vegetation, summer wild flowers, hay drying in the sun and the cool deep woods. Sometimes there is an unbreathable wave of something I cannot describe because it's nothing I have ever experienced before. It is not normal or natural. It makes me worry what it is, how it will affect me, my family, my little great granddaughters growing up here on our farm. How can I keep them safe. How can I keep our farm animals and products healthy to sell. It has been approximately two years since the DEP said it would bring air monitors here to Susquehanna County. But to my knowledge we still do not have any. It is obvious we should not breathe chemicals but our permits allow tons of it and we are not documenting how much of what is actually being emitted. This has been going on for more than 10 years already. Study after study has proven the increasing negative health affects. (10)**

The Department appreciates the concerns of the commentator. The ambient air monitoring that it conducts is designed to help protect the air quality throughout the Commonwealth. Currently, there are no federal or state regulations that require mandatory fence-line monitoring. In addition, the Department does not have the staff resources that would be necessary to perform fence-line monitoring at every oil and gas facility across the Commonwealth. Currently, however, PA DEP operates over 60 ambient air monitoring stations located throughout the Commonwealth and will be adding more monitoring locations in the next few months. The Department conducts significantly more ambient air monitoring than is required by Federal regulations. Finally, the Department wishes to clarify that ambient air monitoring for VOC and Carbonyl compounds has been taking place in Springville, Susquehanna County, since February 2013. Additional monitoring of PM_{2.5}, Nitrogen Dioxide, and Ozone is scheduled to begin in Susquehanna County by the end of 2017.

- 19. A 2014 study by researchers at Rutgers University concluded that in parts of the Marcellus Shale region with air monitors, emissions of some pollutants show an upward trend—and that a lack of monitors often obscures the pollution picture and limits air quality management.⁵ Indeed, a large number of properly sited monitors in shale fields would provide useful information for permitting and regulatory decisions and, in turn, potentially help prevent pollution. This approach is borne out by air sampling that demonstrates the need for continuous monitoring closer to oil and gas facilities in order to capture variability in pollution events and weather.**

⁵ Carlton, A. G.; Little, E.; Moeller, M.; Odoyo, S.; Shepson, P. B. “The data gap: Can a lack of monitors obscure loss of Clean Air Act benefits in fracking areas?” *Environmental Science and Technology*, 2014.

Research confirms that intense, short “peak” emissions from compressor stations, wells, and other sources occur frequently. This pollution pattern most likely results in exposures and health impacts for both workers and residents.⁶ (2)

The Department appreciates the comment and is familiar with the study cited by the commentator. Without a significant increase in resources, the number of monitoring locations throughout the Commonwealth will not be able to expand more than those already outlined in the 2017 Annual Ambient Air Monitoring Network Plan. In addition, there are numerous factors that need to be considered when evaluating where to locate an ambient air monitoring site. The Department is attempting to make the best decision possible by considering the parameters involved. The continuous sampling of Ozone, Nitrogen Dioxide, and PM_{2.5} will capture any “peak” emissions that are occurring in the monitoring area.

- 20. For example, over the course of 2016, (the commentator) took eight air samples at two locations at the Bluestone Gas Processing Plant in Butler County. One sample detected 47 distinct VOCs at concentrations significantly higher than on other sampling dates (including two detections at concentrations above the health Effects Screening Level) and higher than samples from other sampling locations in our study. That particular sample was taken on a date when our OGI video revealed the release of a dense, long plume of emissions moving in the direction of the sampling site.⁷ In separate sampling for PM_{2.5} conducted by the Southwest Pennsylvania Environmental Health Project (EHP), researchers found that the same sampling location near the Bluestone Plant had higher peak frequency, peaks per day, exposure potential per peak, and total exposure than other sampling locations.⁸ (2)**

The Department appreciates the comments. Air monitoring results will have a certain degree of variance because meteorological conditions vary from day to day and from location to location. In addition, the type and accuracy of the air monitoring equipment used will affect monitoring results.

- 21. We emphasize again the need for DEP to conduct continuous air monitoring in proximity to oil and gas operations. In addition, DEP should include in air permits a requirement that operators conduct fenceline monitoring and report those data directly to DEP. (2)**

The Department appreciates the comment. The Department can only include legally approved conditions when issuing an operating permit. Currently, there are no federal or state regulations that require mandatory fence-line monitoring. In addition, the Department does not have the staff resources that would be necessary to perform fence-line monitoring at every oil and gas facility across the Commonwealth. However, the

⁶ See air sampling data results in Nadia Steinzor, *Permitted to Pollute: how oil & gas operators and regulators exploit clean air protections and put the public at risk*. Earthworks, 2017; and research assessments in David Brown, Beth Weinberger, Celia Lewis, and Heather Bonaparte, “Understanding exposure from natural gas drilling puts current air standards to the test,” *Reviews on Environmental Health*, March 2014.

⁷ See air sampling data results in Nadia Steinzor, *Permitted to Pollute: how oil & gas operators and regulators exploit clean air protections and put the public at risk*. Earthworks 2017.

⁸ Erin Straw, *An Environmental Exposure Assessment of Particulate Matter and Volatile Organic Compounds Using On-Sight Monitoring and Modeling to Predict Exposures*, Southwest Pennsylvania Environmental Health Project 2017.

Department operates over 60 ambient air monitoring stations located throughout the Commonwealth and is adding more monitoring locations in the next few months. In the past few years, the Department has made a significant investment in ambient air quality monitoring in areas of the Commonwealth being impacted by shale gas operations. It has undertaken several research projects as well as installed multiple air monitoring stations in response to the activities of this industry.

- 22. More monitors are needed to capture this longterm activity. In addition, the monitors need to be located close to areas where drilling pads have been constructed. Drilling activity can induce many kinds of ancillary activity, including the transport of water, waste, and fluids, the installation of tanks, generators, and compressors, the construction of gathering lines and water lines, and construction of centralized facilities. There are multiple sites throughout Pennsylvania which can have significant multiple pollutant impacts. Unless monitors are installed that can measure these pollutants, the public health impact remains unknown. (3, 4)**

Please continue to see this through. The implementation of this monitoring is critical to the safety and peace of mind of our community. (7)

More Monitoring is needed to protect air quality and health and to hold industry accountable for pollution. (8)

The Department appreciates the comments and will implement the changes outlined in the 2017 Annual Ambient Air Monitoring Network Plan to the best of its ability. It is important to note that the Department's air monitoring program continues to be constrained by inadequate staffing levels. Please refer to the Department's response to Comment #14 for more detailed information. Without a significant increase in resources, the number of monitoring locations throughout the Commonwealth will not be able to expand more than is already outlined in the 2017 Annual Ambient Air Monitoring Network Plan. The Department will continue to evaluate its monitoring network and modify and expand it as resources permit.

- 23. DEP should immediately end the delay in installing more monitors for fine particulate matter (PM_{2.5}) in the heavily drilled northeastern and southwestern parts of the state—as promised in the 2016 and 2016 air monitoring plans. In addition, none of the monitors that track other pollutants statewide should be removed. (8)**

The Department appreciates the comment and believes that the commentator meant "...in the 2015 and 2016 air monitoring plans" vs. "2016 and 2016," as written. As outlined in the 2017 Ambient Air Monitoring Network Plan, the Department will install PM_{2.5} monitoring stations in Susquehanna and Wyoming Counties in the northeastern area of the state and Fayette County in the southeastern area of the state. In addition, and with reference to the Department's response to Comments #14 and #22, the Department's air monitoring program is constrained by inadequate staffing levels, which will make expansion of the monitoring network difficult without increasing staff. The Department will continue to evaluate its monitoring network and modify and expand it as resources permit.

24. The Department Should Expand on its Proposal to Add New Monitors Downwind of Unconventional Gas Wells and Compressor Stations, But Not by Appropriating Monitors Needed at Other Locations. (9)

The Department appreciates the comment and refers the commentator to the Department's response to Comment #14 regarding inadequate staffing levels.

25. The (commentator) agrees that monitors should be installed in areas affected by natural gas drilling and compressor stations, as a result of the Marcellus Shale development. This will allow the Department to gather more accurate data regarding the effect of this developing industry on air quality in the Commonwealth. In particular, the Council supports the addition of monitors for VOCs and Carbonyls, as well as PM2.5 in Fayette, Wyoming, and Susquehanna Counties. The monitoring stations in the Shale Regions should monitor for all three pollutants. See Proposed Plan at 18, 56. Nevertheless, the Department should not take the approach of discontinuing monitors in other locations, simply for the purpose of making monitors available in the Shale Regions. This is apparent in several parts of the Proposed Plan. For example, the Department states that the VOC monitors at Springville and Mehoopany will be relocated to other areas in Susquehanna and Wyoming Counties "as part of the planned network expansion in response to Marcellus shale activities." See id. at 56. This alone is not an adequate legal or technical justification for a relocation of a monitor. For reasons similar to other reasons outlined above, the Department does not appear to have justified the relocation under the regulations in 40 C.F.R. 58.14(c). (9)

The Department appreciates the comment. The Department is committed to installing and maintaining an ambient air monitoring program in accordance with all applicable U.S. EPA statutes and regulations and as outlined in the 2017 Annual Ambient Air Monitoring Network Plan.

26. We here know the same is needed in the southwestern part of the state as well. The problem is statewide and needs to be addressed now without delay. (10)

The Department appreciates the comment and is addressing the needs of ambient air monitoring throughout the Commonwealth, including southwestern Pennsylvania. In the past few years, the Department has made a significant investment in ambient air quality monitoring in areas of the Commonwealth being impacted by shale gas operations. It has undertaken several projects as well as installed multiple air monitoring stations in response to the activities of this industry.

27. There is no reason to bend to the industry's cry of poverty, that installing even cost effective measures will decrease their profits, when they also boast to their stock holders how great their profits really are. What is more important here, an out of state corporation rolling in profit or protecting the health of PA citizens and visitors, especially when our own constitution rightfully guarantees our right to clean air and water....etc. (10)

The Department appreciates the concerns of the commentator. The Department operates over 60 ambient air monitoring stations located throughout the Commonwealth and will be adding more monitoring locations in the next few months.

- 28. The map on page 17 of the 2017 Network Plan shows a distinct density of oil and gas activity across Butler and Armstrong Counties. These two counties have precisely one air quality monitor covering over 1,400 square miles. That site, Kittanning (Armstrong County), monitors PM_{2.5} and ozone. In addition to or in substitution for any of the above-mentioned counties, DEP should consider extending oil and gas monitoring to these counties. (1)**

The Department appreciates the comments. PA DEP considers both Armstrong and Butler Counties part of the Marcellus Shale region. The Department will continue to evaluate the Marcellus Shale region with respect to the expansion of its air monitoring network in areas impacted by shale gas activities. However, it is important to note that the Department's air monitoring program continues to be constrained by inadequate staffing levels. Please refer to the Department's response to Comment #14 for more detailed information. Without a significant increase in resources, the number of monitoring locations throughout the Commonwealth will not be able to expand more than is already outlined in the 2017 Annual Ambient Air Monitoring Network Plan. Nonetheless, in the past few years, the Department has made a significant investment in ambient air quality monitoring in areas of the Commonwealth being impacted by shale gas operations. It has undertaken several projects as well as installed multiple air monitoring stations in response to the activities of this industry. The Department remains committed to installing and maintaining an ambient air monitoring program as outlined in the 2017 Annual Ambient Air Monitoring Network Plan.

- 29. ...DEP has now contributed to a situation whereby Butler County—one of the centers for gas drilling, processing, and transmission in Pennsylvania—has neither US Environmental Protection Agency (EPA) nor DEP air monitors. (2)**

The Department appreciates the comment. PA DEP considers Butler County to be part of the Marcellus Shale region. It will continue to evaluate the Marcellus Shale region with regard to the expansion of its air monitoring network in areas impacted by shale gas activities.

- 30. Similarly, we disagree with DEP's proposal in the 2017 air monitoring plan (p.38) to remove the monitor in Washington County based on DEP's conclusion that the County has enough monitors in the County that "not only satisfies, but well exceeds the minimum ozone monitoring requirement."**

In light of the DEP's delay (noted above) in installing air monitors in shale gas areas, it is premature and illogical to remove this monitor. According to DEP's annual oil and gas report, Washington County accounted for the largest number of shale gas wells drilled in 2016. According to DEP's emissions inventory, 30% of all VOC emissions from oil and gas operations in Pennsylvania were generated in Washington County.

At minimum, DEP should relocate the Washington County monitor to a site where it will be possible to detect emissions from surrounding drilling, processing, and

transmission activities. Going forward, data from such a monitor could help determine the degree to which gas development— now a widespread and intense industrial activity in Washington County—contributes to regional air quality problems. (2)

The Department appreciates the commentator's concerns regarding the magnitude of shale gas activities in Washington County. The Department operates three other monitoring sites within Washington County: Charleroi, Florence and Houston. PA DEP agrees that it would be worthwhile to continue to monitor ambient air concentrations at a location in Washington County, downwind of areas with concentrated shale gas activities. Therefore, the Department will relocate ozone and PM_{2.5} monitoring from the Washington site to its Houston site. The Houston monitoring site is located nearby and downwind of multiple natural gas wells and compressor stations. It should provide meaningful data with respect to ambient impacts from shale gas activities.

- 31. The entire Allegheny Plateau appears to be significantly impacted by Marcellus shale natural gas extraction activity. More monitors to capture this long term activity is needed. We have highly significant multiple pollutant impacts at multiple sites throughout PA. (13)**

The Department appreciates the concerns of the commentator. The Department operates over 60 ambient air monitoring stations located throughout the Commonwealth and is adding more monitor locations in the next few months. In the past few years, the Department has made a significant investment in ambient air quality monitoring in areas of the Commonwealth impacted by shale gas operations. In addition, PA DEP has undertaken several research projects and has installed multiple air monitoring stations in response to the activities of the industry. However, inadequate staffing levels continue to be a concern. Please refer to the Department's response to Comment #14 for more detailed information.

- 32. In 2013, DEP declared that it would “conduct monitoring of both the ambient air as well as emissions from shale gas facilities, conduct a thorough analysis of ... the data collected, and based on ... [that] data, install additional monitors as necessary.” DEP’s 2015 Network Plan noted “the agency’s continued commitment to ... assess air quality impacts related to shale gas activities in Pennsylvania, in both the southwestern and Northern Tier regions of the Commonwealth.” In a presentation the following Spring announcing DEP’s proposed expansion of its particulate matter air monitoring network in these regions, then-DEP Secretary Quigley pronounced that “[b]y conducting more robust monitoring we will close a gap in our monitoring capacity and gather more data that will enable us to determine what is and what is not a problem.” While designing this program, DEP considered feedback from “Pennsylvanians living near natural gas activities and compressor stations who expressed concerns about air quality.” Unfortunately, there is limited evidence of DEP following through on these promises. In the past two years, DEP has only added PM_{2.5} monitors to the pre-existing Holbrook (Greene County), Towanda (Bradford County), and Norristown (Montgomery County) sites; there have been no new monitors installed in the oil and gas regions of the Commonwealth over the past 18 months. Rather than commit to taking immediate action or explain the lack of progress to date, the 2017 Network Plan merely assigned new anticipated installation dates for monitoring sites 6 to 18 months into the future.**

DEP also suggested modifications to existing monitoring sites that appear to go against oil and gas monitoring objectives. (1)

The Department appreciates the assertions of the commentator. In response to the first comment, it is important to note that the Annual Network Plan is a “plan” in which activities are proposed by the Department versus serving as “promises.” Despite the Department’s consideration of numerous factors during the development of the Network Plan, there are still factors that arise (for example, budget shortfalls, staffing and/or resource shortages and related factors) that are not anticipated. Consequently, some components of the plan are not able to be implemented as anticipated and proposed. Nonetheless, the Department will continue its efforts to install the new PM_{2.5} monitors in as timely a manner as possible. Regarding the second comment, “existing monitoring sites appear to go against the oil and gas monitoring objectives,” it would be helpful if the commentator provided clarified information such as locations of the “existing sites” and the specific oil and gas monitoring objectives so that the Department can provide a more informative response.

- 33. These two northeastern counties each currently have one VOC monitoring site: Mehoopany in Wyoming County and Springville in Susquehanna County. Both counties have a great deal of oil and gas activity. Accordingly, DEP indicated that both counties would be included in DEP’s expansion of its PM_{2.5} monitoring network and that the monitoring sites would be installed “by the end of 2016.” Although the 2017 Network Plan lists a new installation date of January 1, 2018, the unexplained delay is only one of several monitoring issues the 2017 Network Plan raises for these counties. (1)**

The Department appreciates the comments and recognizes that Wyoming and Susquehanna Counties have a great deal of oil and gas drilling activity. In response, the Department has been conducting ambient air monitoring for VOC and Carbonyl compounds in Springville, Susquehanna County, since February of 2013. Additional monitoring of PM_{2.5}, Nitrogen Dioxide, and Ozone is scheduled to begin in Susquehanna County before the end of 2017. In addition, monitoring for VOCs has taken place in Mehoopany (Wyoming County) since March of 2014. The Department has identified an area consisting of three regions within Wyoming County in which it proposes to install a monitoring station for PM_{2.5}, Carbonyls and VOCs. The current site at Mehoopany for VOC sampling will be relocated to this new location.

- 34. The entire Allegheny Plateau appears to be significantly impacted by shale natural gas extraction activity. As shale gas drilling and infrastructure development has occurred over the past ten years, citizens continue to have doubts about DEP's effectiveness in monitoring the significant emissions of methane, volatile organic compounds, air toxics, nitrogen oxides, and particulate matter from the massive new nonconventional natural gas drilling activity along with conventional natural gas extraction. Public health concerns require that air monitoring be improved. (3, 4)**

The Department appreciates the concerns of the commentator. In the past few years, the Department has made a significant investment in ambient air quality monitoring in areas of the Commonwealth that are impacted by shale gas operations. In addition, PA DEP has undertaken several projects and has installed multiple air monitoring stations in response to

the activities of this industry. However, inadequate staffing levels continue to be a concern. Please refer to the Department's response to Comment #14 for more detailed information.

35. **A state's air quality monitoring plan remains the backstop for timely enforcement of air emissions control limitations as described in the federal Clean Air Act. I have grave concerns about PADEP's ability to correctly monitor the highly significant emissions from the massive new nonconventional natural gas drilling activity along with conventional natural gas extraction, acidic deposition, ground level ozone smog, breathable particulate matter fine soot and toxic air pollutants. These concerns involve the long term reduced funding from EPA for PADEP to accomplish all legally required air emissions monitoring and the disturbing lack of PADEP/BAQ central office staff that are needed to accomplish these goals. Public human health safety requires that enforcement be improved, including air monitoring. (13)**

The Department appreciates the commentator's concerns and will continue to evaluate and modify its ambient air monitoring program as part of an effort to best protect the public health across the Commonwealth.

36. **What is the matter with Pennsylvania? What does Maryland and New York realize that Pennsylvania doesn't? Those who hope to reap riches from fracking downplay the dangers it produces, but what about those of us who live in the fracked areas of Pennsylvania? Are we not allowed to know how much poison we are forced to breath? The least the state can do is require air monitors everywhere fracking is taking place, and the industry should have to pay for them, since they are the ones causing the problems. They cause the problems and society pays the cost with our health. Internalize the profits and externalize the costs. It's an old scheme that needs to end, and we can't do that if we do not know what poisons are being force on us. (5)**

The Department appreciates the concerns of the commentator and will continue to monitor the air to the best of its ability to protect the public health.

Discontinuation / Relocation of Monitoring at Specific Locations Across the Commonwealth

37. **(The commentator) is greatly concerned that, as noted in the current air monitoring plan (p.14), in 2016 DEP discontinued monitoring for VOCs and metals at its Slippery Rock University monitoring site in part because of a "lack of appreciable sample results." DEP should not have discontinued the monitor, but relocated it to an area with growing pollution and greater likelihood of useful results. (2)**

The Department appreciates the concern of the commentator. Although monitoring for VOCs and metals at the Slippery Rock University site has been discontinued, the Department is examining the feasibility of installing the monitors in an area with (a) potential and/or growing contamination and (b) a greater likelihood of obtaining useful results. However, inadequate staffing levels continue to be a concern. Please refer to the Department's response to Comment #14 for more detailed information.

- 38. The Department should withdraw proposed modifications to the Air Toxics Network (proposed discontinuance of monitoring at the Swarthmore site (Delaware County)). The Department proposes to discontinue the air toxic metals and VOC monitor at the Swarthmore site in Delaware County, Pennsylvania. Proposed Plan at 56. This monitoring has been done since 1997 under a partnership agreement with Swarthmore College. Id. The Department states that the building is scheduled for demolition in 2017 as a part of a campus renovation to build a new building in its place. Id. The Department does not provide any further rationale in support of this discontinuation, and it does not indicate whether the monitor will be relocated to another location, such as the new building. The Department offers no good reason for discontinuing a monitor at Swarthmore. See id. at 56. It does not provide any reason at all why a monitor for air toxics metals and VOCs should be discontinued after 20 years. In addition, this monitor is located approximately 3-7 miles north-northeast of Marcus Hook and Chester, industrial areas with environmental justice concerns. The Department should describe the role of the Swarthmore monitor in recording air pollutants from those areas. (9)**

The Department appreciates the concerns of the commentator. The building that currently houses the monitor is scheduled to be demolished in the near future. The Department is in the process of determining whether to relocate the current Swarthmore site to the new building, at an adjacent location, or to rely upon monitoring sites that are in close proximity to the Swarthmore site. The Department continues to assess potential site locations and plans to finalize the location following its consideration of public comments.

- 39. The Department has not attempted to justify the proposed discontinuance under the six reasons for discontinuation of a SLAMS monitoring station, in EPA's regulations. See 40 C.F.R. 58.14(c)(1)-(6). See Proposed Plan at 46. As in the case of the PM10 monitors above, it has not demonstrated the applicability of one of the grounds in the regulations. The grounds for removing a monitor based on logistical problems requires that the monitor be relocated, and not simply removed. See 40 C.F.R. 58.14(c)(6) (allowing for the moving of a monitor to a nearby location with the same scale of representation if logistical problems beyond the State's control make it impossible to continue operation at its current site). The Department has not proposed a relocation of the monitor.**

If the Department is asserting that this (Swarthmore) monitor is a special purpose monitor, it should provide specific information in support of this assertion, and in support of the notion that it is not subject to certain requirements in 40 C.F.R. 58.14. (9)

The Department appreciates the concerns of the commentator. The site at Swarthmore is operated as a special purpose monitor ("SPM") since its installation and is not a State or Local Air Monitoring Station ("SLAMS"). Accordingly, the discontinuation provisions of 40 C.F.R. § 58.14(c)(1)-(6) are not applicable. Moreover, 40 C.F.R. § 58.14(c)(6) does not require the Department to relocate the monitor if logistical problems interfere with operations. In Appendix D of the 2017 Annual Network Plan, all of the air toxics monitors are classified as "other" monitors. The Department is in the process of determining whether to relocate the

current Swarthmore site to the new building, at an adjacent location, or to rely upon monitors that exist in close proximity to the Swarthmore site. The Department continues to assess potential site locations and will finalize a location following its consideration of public comments.

- 40. If VOC monitoring is to be cancelled in Swarthmore since interstate route I 476 has been opened, what monitor downwind of I 476 outside of Philadelphia will pick up the pollution from this densely populated and high VMT area? (13)**

The Department appreciates the concerns of the commentator. The Department conducts monitoring of VOCs and Metals at other locations in close proximity to the Swarthmore site including but not limited to Marcus Hook.

- 41. ...the Department should not take the approach of discontinuing monitors in other locations, simply for the purpose of making monitors available in the Shale Regions. This is apparent in several parts of the Proposed Plan. For example, the Department states that the VOC monitors at Springville and Mehoopany will be relocated to other areas in Susquehanna and Wyoming Counties “as part of the planned network expansion in response to Marcellus shale activities.” See *id.* at 56. This alone is not an adequate legal or technical justification for a relocation of a monitor. For reasons similar to other reasons outlined above, the Department does not appear to have justified the relocation under the regulations in 40 C.F.R. 58.14(c). (9)**

The Department appreciates the concerns of the commentator. The Department recognizes that Wyoming and Susquehanna Counties have a great deal of oil and gas drilling activity. In response, PA DEP has been conducting ambient air monitoring for VOC and Carbonyl compounds in Springville, Susquehanna County, since February 2013. Additional monitoring of PM_{2.5}, Nitrogen Dioxide, and Ozone is scheduled to begin in Susquehanna County before the end of 2017. Monitoring for VOCs has been ongoing in Mehoopany (Wyoming County) since March 2014. The Department has identified an area consisting of three regions within Wyoming County in which it proposes to site a monitoring station for PM_{2.5}, Carbonyls and VOCs. The current site at Mehoopany for VOC sampling will be relocated to this new location. It is also important to recognize that the Department attempts to utilize resources effectively to support monitoring that will allow it to meet monitoring objectives, while generating meaningful data. As any responsible public agency must do, PA DEP must consider the availability of resources when assessing network design. To that end, where PA DEP can reallocate its monitoring efforts to afford greater and more meaningful protection to the public, it is reasonable to expect the agency to assess these considerations. Springville and Mehoopany are being relocated due to logistical reasons. Furthermore, the monitors at Springville and Mehoopany are operated as SPMs and not SLAMS. Therefore, the discontinuation provisions of 40 C.F.R. § 58.14(c)(1)-(6) are not applicable. In addition, data collection from the VOC monitors at Mehoopany and Springville does not compromise implementation of the NAAQS. The U.S. EPA has not established a NAAQS for VOCs. However, the Department is aware of the impact that VOCs have on air quality and is committed to providing consistent and beneficial air quality monitoring throughout the Commonwealth.

42. **Terminating the Washington, PA monitoring site would be counter to DEP's stated need to obtain ambient air quality data in areas with significant oil and gas activities. Data for the monitored parameters at this site – ozone and PM_{2.5} – appear to meet the criteria for site termination listed in 58 C.F.R. § 58.14(c), but not by an overwhelming degree. In addition, PM_{2.5} and ozone are parameters of concern in oil and gas regions. In southwestern Pennsylvania, Washington County likely has more oil and gas development over the past decade and any other county. DEP should reconsider outright termination of this site in light of the concerns DEP has noted concerning emissions from oil and gas activities. At the very least, DEP should consider relocating these monitors to a new site in Washington County. (1)**

The Department appreciates the commentator's concerns regarding the magnitude of shale gas activities in Washington County. PA DEP currently operates three other monitoring sites in Washington County: Charleroi, Florence and Houston. PA DEP agrees that it would be worthwhile to continue to monitor ambient air concentrations at a location in Washington County, downwind of areas with concentrated shale gas activities. Therefore, PA DEP will relocate ozone and PM_{2.5} monitoring from the Washington site to its Houston site. The Houston monitoring site is located nearby and downwind of multiple natural gas wells and compressor stations. The site should provide meaningful data with respect to ambient impacts from shale gas activities.

Proposed Monitoring Site Terminations

43. **Pa DEP needs to continue to monitor the air quality in the Commonwealth. More monitoring stations in Wyoming and Susquehanna Counties, where drilling and compressor stations are abundant, is necessary. There also needs to be increased scrutiny of air quality in SEPA. Closing stations in Ridley Park and Chester is unacceptable considering the plans to pipe materials into Marcus Hook. Fulfill your mission DEP! (6)**

The Department appreciates the comments and concerns of the commentator. As stated in the Network Plan, the Department will continue to evaluate the Marcellus Shale region with respect to the expansion of its air monitoring network in areas impacted by shale gas activities. However, inadequate staffing levels continue to be a concern. Please refer to the Department's response to Comment #14 for more detailed information. Nonetheless, in the past few years, the Department has made a significant investment in ambient air quality monitoring in areas of the Commonwealth being impacted by shale gas operations. It has undertaken several projects as well as installed multiple air monitoring stations in response to the activities of this industry. The Department remains committed to installing and maintaining an ambient air monitoring program as outlined in the 2017 Network Plan.

PA DEP's Ridley Park monitoring site is a source-oriented site dedicated solely to monitoring ambient lead impacts from the nearby Eddystone facility of the Exelon Generation Company. Since its installation in 2010, the Ridley Park monitor has never measured a single exceedance of the level of the lead NAAQS of 0.15 µg/m³. In fact, since its installation, this monitor has measured values below the analysis reporting limit for all but 12 days. The highest concentration measured at this site was 0.073 µg/m³, less than half the level of the NAAQS.

The Eddystone facility is a power generating station, which was converted from coal-fired to natural gas in 2011-2012. Since 2012, the Eddystone Generating Station has reported 0.0 tons per year of lead emissions. The Department does not expect this facility to impact ambient lead concentrations for the foreseeable future. PA DEP will discontinue the Ridley Park monitor upon U.S. EPA approval.

PA DEP's Chester monitoring site is a multi-pollutant monitoring site. At this time, the Department is proposing to discontinue only SO₂ and potentially PM_{2.5} speciation monitoring at this location and not the entire monitoring site. As noted in the Plan, SO₂ minimum monitoring requirements call for one (1) SO₂ monitor for the Philadelphia-Camden-Wilmington, PA-NJ-DE-MD Metropolitan Statistical Area ("MSA"). Currently, Philadelphia Air Management Services ("AMS") operates two (2) SO₂ monitors in Philadelphia County. In addition, Delaware operates four (4) monitors and New Jersey operates one (1) SO₂ monitor within the Philadelphia MSA, bringing the total number of monitors within the MSA to seven. As also noted in the Plan, the concentrations measured at the Chester site are well below the maximums recorded in the MSA and therefore are not needed to characterize the area for attainment determinations. With the monitors in Philadelphia County, along with the five monitors farther downwind in the MSA, ambient air impacts from SO₂ are adequately monitored in the Philadelphia MSA. The Department will discontinue the SO₂ monitor at Chester upon U.S. EPA approval.

- 44. The Department should withdraw proposed modifications to the PM_{2.5} speciation network (proposed discontinuance of monitoring at either the Chester site (Delaware County) or the Marcus Hook site (Delaware County)).**

The Department proposes to discontinue a PM_{2.5} speciation monitor at either the Chester or Marcus Hook sites. Proposed Plan at 51-53. The rationale is that the Department wants to install a PM_{2.5} speciation monitor in Lebanon County, to learn whether there are speciation similarities between Lebanon and two speciation monitors in Lancaster County, to the south. Id. at 52. In addition, this may assist in future state implementation plans. Id. The Council commends the Department for its interest in obtaining speciation data for Lebanon County. But this should not be done at the expense of sacrificing PM_{2.5} speciation monitors in longstanding environmental justice communities in Chester and Marcus Hook.

The Department offers no good reason for discontinuing a monitor at Chester or Marcus Hook. Rather, the reason is to "utilize the resources made available by the discontinuation of this monitor to establish PM_{2.5} speciation monitoring at the Lebanon site." Id. at 52. In addition, the Department relies on the assertion that "PM_{2.5} speciation monitoring is not required by U.S. EPA in this region." Id. This is not sufficient. (9)

The Department appreciates the commentator's concerns regarding utilization of resources. As any responsible public agency must do, PA DEP must consider the availability of resources when assessing network design. PA DEP attempts to utilize resources effectively to support monitoring that will allow it to meet monitoring objectives, while generating meaningful data. As noted in the Plan, the Department is not required to support PM_{2.5} speciation in this region. However, PA DEP agrees with the commentator regarding the significance of collecting PM_{2.5}

composition data in southeastern Pennsylvania. For this reason, PA DEP will retain one speciation monitor in his region.

In addition, the PM_{2.5} speciation monitoring network is supported through U.S. EPA funding. Specifically, PA DEP is responsible for maintaining the monitoring equipment and shipment of filters while EPA provides financial support for analyzing the filters through a third-party contract. In 2015, EPA reduced the number of PM_{2.5} speciation monitors in PA from thirteen to eight to control costs. As part of this reduction, EPA agreed to allow PA DEP to operate PM_{2.5} speciation monitors at its Chester and Marcus Hook sites to determine whether the PM_{2.5} monitor at Chester was being source-influenced. This strategy was originally addressed in PA DEP's 2015 Network Plan. Although not specifically outlined in this Plan, U.S. EPA stated it would only fund two (2) PM_{2.5} speciation monitors in the Chester/Marcus Hook area to support this analysis. When enough data was gathered, U.S. EPA had always planned to discontinue funding of one of the PM_{2.5} speciation monitors.

45. **Chester and Marcus Hook are industrial areas surrounded by environmental justice communities. See Environmental Justice Areas – Southeast Regional Office, http://files.dep.state.pa.us/PublicParticipation/Office%20of%20Environmental%20Advocacy/EnvAdvocacyPortalFiles/Southeast_Regional_Office.pdf (visited August 1, 2017) (Chester is in the green area west of Tinicum and southeast of Philadelphia, and Marcus Hook is the green area east of Tinicum and south of Philadelphia). Indeed, Secretary McDonnell recently held listening sessions on the subject of environmental justice in Chester and Philadelphia. (see article by Kauffman, Rick, “Chester residents to air environmental concerns to Pa.” dated May 23, 2017) <http://www.delcotimes.com/article/DC/20170523/NEWS/170529846>. At the listening sessions, Secretary McDonnell committed to addressing the environmental justice concerns of these communities. (9)**

The Department appreciates the commentator's concerns. However, it disagrees with the commentator's assertion that the Department is not adequately addressing the concerns of the citizens within the environmental justice areas in Chester. The purpose of properly siting PM_{2.5} monitors across southeastern PA is to determine the PM_{2.5} concentrations within ambient air. As stated previously, PA DEP believes that the Chester monitor is being source-influenced. Therefore, the Department is completing an analysis of PM_{2.5} speciation between Chester and Marcus Hook locations. If the results of the analysis support removing the monitor, then the Department anticipates that the remaining PM_{2.5} monitor will be adequate to assess PM_{2.5} speciation within the Chester/Marcus Hook areas.

46. **The definition of “station” includes a single monitor or a group of monitors located at a particular site. 40 C.F.R. 58.1 (definition of “station”). Therefore, the chemical speciation monitor at either Chester or Marcus Hook is a “station.”**

The term SLAMS is defined to mean “state or local air monitoring stations.” 40 C.F.R. 58.1 (definition of “SLAMS”). They include the ambient air quality monitoring sites and monitors that are needed for the monitoring objectives of Appendix D, including NAAQS comparisons. Id. They include NCore monitors, which include sites that measure “speciated PM_{2.5}.” Id. (definition of “NCore”). (By way of contrast, special purpose monitors are excluded from SLAMs. Id. (definition of “SLAMS”). Therefore,

the chemical speciation monitors at Chester and Marcus Hook are part of the NCore network. (9)

The Department appreciates the comments. The PM_{2.5} speciation monitors maintained by PA DEP are part of the Chemical Speciation Network (“CSN”). The CSN contains both Speciation Trends Network (“STN”) sites and Supplemental Speciation Network (“SSN”). All of the Department’s PM_{2.5} speciation monitors are designated SSN monitors. PA DEP agrees with the commentator that the PM_{2.5} speciation monitors it maintains are considered SLAMS monitors (since CSN monitors are included in SLAMS) as defined by U.S. EPA in 40 C.F.R. §58.1.⁹

- 47. The Department has been operating a PM_{2.5} speciation monitor at Chester since 1999 and at Marcus Hook since 2014. Id. The Department provides no technical reason for discontinuing these monitors after 18 years and 3 years, respectively. Id. at 52-53. It merely asserts that “over the last two years, Marcus Hook’s PM_{2.5} concentration has been lower than Chester’s PM_{2.5} concentration.” Id. at 53. This not sufficient.**

The Department cites no legal standards as applying to the proposed discontinuance of a monitor at Chester or Marcus Hook, apparently assuming there are none. This assumption is incorrect.

EPA’s regulations set forth six reasons for allowing a state agency to discontinue a SLAMS monitoring station. 40 C.F.R. 58.14(c)(1)-(6). The Department has not attempted to justify the proposed discontinuance under these provisions. See Proposed Plan at 51-53.

To the extent the Department is relying on regulatory language allowing approval for the discontinuance of a monitor on a case-by-case basis, EPA should reject this request. See 40 C.F.R. 58.14(c). Such a request may only be allowed if the discontinuance does not compromise data collection needed for implementation of a national ambient air quality standard. Id. In the present case, the monitors were installed in Chester and Marcus Hook in furtherance of the Appendix D objective of gathering information regarding population exposure to PM_{2.5}, based on a neighborhood scale. Proposed Plan at D-12 (Chester), D-40 (Marcus Hook). These are the only PM_{2.5} speciation monitors at these sites. See id. Consistent with EPA’s regulations, data from these monitors are relevant to implementation of the national ambient air quality standard for PM_{2.5}. See 40 C.F.R. 58, Appendix D, Section 1.1(b) (“Support compliance with ambient air quality standards and emissions strategy development Data from monitors of various types can be used in the development of attainment and maintenance plans.”). (9)

⁹ U.S. EPA, 40 C.F.R. §58.1: “SLAMS means state or local air monitoring stations. The SLAMS include the ambient air quality monitoring sites and monitors that are required by Appendix D of this part and are needed for the monitoring objectives of appendix D, including NAAQS comparisons, but may serve other data purposes. The SLAMS includes NCore, PAMS, CSN, and all other state or locally operated criteria pollutant monitors, operated in accordance to this part, that have not been designated and approved by the Regional Administrator as SPM stations in an annual monitoring network plan.”

The Department appreciates the comments and concerns. It disagrees that the discontinuance of one of the speciation monitors in Delaware County will compromise data needed for implementation of the PM_{2.5} NAAQS. PA DEP also disagrees with the commentator on the length of monitoring record at the Chester site. The PM_{2.5} speciation monitor at Chester was originally installed in 2002. However, in 2009, the monitor was removed from Chester and relocated to the Johnstown monitoring site, to provide information on possible contributing factors to that site's exceedance of the PM_{2.5} NAAQS. In December 2014, PA DEP installed PM_{2.5} speciation monitors at Chester and Marcus Hook to help determine local source influences on the PM_{2.5} concentrations measured at the Chester site. Both monitors have completed this objective. As noted in the Network Plan, the Department is not required to support PM_{2.5} speciation in this region. However, PA DEP agrees with the commentator regarding the significance of collecting PM_{2.5} composition data in southeastern Pennsylvania. For this reason, PA DEP will retain one (1) speciation monitor in this region.

48. The Department should withdraw proposed modifications to the PM_{2.5} Network (proposed discontinuance of monitoring at the Swiftwater site (Monroe County)).

The Department proposes to discontinue the PM_{2.5} monitor at the Swiftwater site, in East Stroudsburg, in Monroe County, Pennsylvania. Proposed Plan at 49-50. This is one of three monitors for regional transport of PM_{2.5}. See *id.* at D-63 (Swiftwater). The other two are the New Garden monitor in Chester (southeast of Philadelphia) and the Tioga monitor in Tioga County, near the northern border with New York in central Pennsylvania. *Id.* at D-47 (New Garden), D-63 (Swiftwater), D-64 (Tioga). The rationale is that the minimum monitoring criteria for PM_{2.5} in Appendix D do not require any PM_{2.5} monitoring within the East Stroudsburg Metropolitan Statistical Area (MSA). *Id.* at 49.

The Department offers no good reason for discontinuing a monitor at Swiftwater. Rather, the reason appears to be that the Department is already monitoring for PM_{2.5} transport in Tioga, approximately 90 miles away. *Id.* at 50 (“As the Swiftwater and Tioga County monitors measure transport over the northeastern portion of Pennsylvania, PA DEP will discontinue the Swiftwater monitor and retain the Tioga County monitor to continue to support monitoring efforts in areas of increased shale gas activities.”). This is not sufficient.

The Department notes that it has been operating a PM_{2.5} regional transport monitor at Swiftwater since 2010. *Id.* at D-63. The Department provides no good reason for discontinuing this monitor after 7 years. See *id.* The Department implies that the technical reason is that this monitor does not indicate the highest levels of the three monitors. See *id.* at 50 (Swiftwater ranks second for the PM_{2.5} 24-hour 98th percentile, and third for the PM_{2.5} annual average). This not sufficient. The importance of the monitor is not measured in terms of the relative magnitude of the data recorded. Rather, it is lies in its recording of data for an area of the Commonwealth that is different from other areas. Here, the Swiftwater monitor is located approximately 90 miles from the Tioga monitor. (9)

The Department appreciates the comments and concerns of the commentator. PA DEP disagrees, however, that the Swiftwater monitoring site is necessary to provide information

on regional transport across northeastern Pennsylvania. The objective of the Swiftwater site, to monitor for PM_{2.5} regional transport across northeastern Pennsylvania, is met sufficiently by PM_{2.5} monitoring at the Tioga site. Analysis of wind speed and wind direction data from major airports across eastern PA indicate that the prevailing wind direction across eastern PA is from the west. The location of the Tioga site is adequate for addressing transport into northeastern PA from sources in the west (across western PA and the Ohio Valley). As the commentator notes, part of PA DEP's rationale for discontinuing the Swiftwater PM_{2.5} monitor while retaining the Tioga County monitor is based on Tioga County's location with respect to Marcellus Shale gas activities. Tioga County lies within the Marcellus Shale Play region while Swiftwater, in Monroe County, lies just outside. Over the past few years, the Department has expanded the Tioga County site to include both NO₂/NO_x and PM_{2.5} monitoring. Due to shale gas activities, PA DEP expects to retain the expanded monitoring suite at this site for the foreseeable future.

- 49. The Department has not attempted to justify the proposed discontinuance under the six reasons for discontinuation of a SLAMS monitoring station, in EPA's regulations. See 40 C.F.R. 58.14(c)(1)-(6). See Proposed Plan at 49-50.**

To the extent the Department is relying on regulatory language allowing approval for the discontinuance of a monitor on a case-by-case basis, EPA should reject this request. See 40 C.F.R. 58.14(c). Such a request may only be allowed if the discontinuance does not compromise data collection needed for implementation of a national ambient air quality standard. Id. In the present case, the monitor was installed in Swiftwater in furtherance of the Appendix D objective of gathering information regarding regional transport of PM_{2.5}. Proposed Plan at D-63 (Swiftwater). This is the only PM_{2.5} monitor at this site. See id. Consistent with EPA's regulations, data from this monitor are relevant to implementation of the national ambient air quality standard for PM_{2.5}. See 40 C.F.R. 58, Appendix D, Section 1.1(b) ("Support compliance with ambient air quality standards and emissions strategy development SLAMS, and especially NCore station data, will be used to evaluate the regional air quality models used in developing emission strategies, and to track trends in air pollution abatement control measures' impact on improving air quality."). (9)

The Department appreciates the comments. PA DEP disagrees, however, that the discontinuation of the Swiftwater PM_{2.5} monitor would compromise PA DEP's ability to collect data needed for the implementation of the PM_{2.5} NAAQS. The Department maintains a robust PM_{2.5} network that well exceeds the minimum monitoring requirements established by U.S. EPA under federal law.

- 50. The Department should withdraw proposed modifications to the PM₁₀ Network (proposed discontinuance of monitoring at the Altoona site (Blair County) and the Montoursville site (Lycoming County)).**

The Department proposes to discontinue the PM₁₀ monitor at the Altoona site in the Altoona MSA, in Blair County, Pennsylvania. Proposed Plan at 54-55. In addition, it proposes to discontinue the PM₁₀ monitor at the Montoursville site in the Williamsport MSA, in Lycoming County, Pennsylvania. The Department states that the minimum

monitoring criteria for PM₁₀ in Appendix D do not require any PM₁₀ monitoring within the Altoona or Williamsport MSAs. Id. at 54.

The Department offers no good reason for discontinuing a monitors at Altoona or Montoursville. Rather, the reason appears to be that the monitors have been recording levels of PM₁₀ below the national ambient air quality standard. See id. at 55 (“Concentration values at these two monitoring sites have measured values well below the PM₁₀ NAAQS of 150 µg/m³ for the previous five years.”). Id. at 50. This might be relevant, but the Department needs to show more work.

The Department has not attempted to justify the proposed discontinuance under the six reasons for discontinuation of a SLAMS monitoring station, in EPA’s regulations. See 40 C.F.R. 58.14(c)(1)-(6). See Proposed Plan at 54-55. The Department appears to be arguing that these grounds are present, but it has now shown all the work. For example, it has not demonstrated a probability of less than 10 percent of exceeding 80 percent of the national ambient air quality standard during the next three years, based on the levels, trends, and variability observed in the past. See 40 C.F.R. 58.14(c)(1). Nor has it demonstrated consistently measured lower concentrations than another monitor for the same pollutant in the same county, or that control measures scheduled to be implemented or discontinued during the next five years would apply to the areas around both monitors and have similar effects on measured concentrations, such that the retained monitor would remain the higher reading of the two monitors being compared. See 40 C.F.R. 58.14(c)(2). In addition, it has not demonstrated a specific, reproducible approach to representing the air quality of the affected county in the absence of actual monitoring data. See 40 C.F.R. 58.14(c)(3).

To the extent the Department is relying on regulatory language allowing approval for the discontinuance of a monitor on a case-by-case basis, EPA should reject this request. See 40 C.F.R. 58.14(c). Such a request may only be allowed if the discontinuance does not compromise data collection needed for implementation of a national ambient air quality standard. Id. In the present case, the monitors were installed in Altoona and Montoursville in furtherance of the Appendix D objective of gathering information regarding population exposure on a neighborhood scale. Proposed Plan at D-4 (Altoona), D-43 (Montoursville). These are the only PM₁₀ monitors at these sites, and they have been operating for about 22 years and 16 years, respectively. See id. Consistent with EPA’s regulations, data from this monitor are relevant to implementation of the national ambient air quality standard for PM_{2.5}. See 40 C.F.R. 58, Appendix D, Section 1.1(b) (“Support compliance with ambient air quality standards and emissions strategy development. Data from FRM, FEM, and ARM monitors for NAAQS pollutants will be used for comparing an area’s air pollution levels against the NAAQS. Data from monitors of various types can be used in the development of attainment and maintenance plans.”). (9)

The Department appreciates the comments and concerns of the commentator. PA DEP disagrees, however, that the discontinuation of the Altoona and Montoursville PM₁₀ monitors would compromise PA DEP’s ability to collect data needed for the implementation of the PM₁₀ NAAQS. As noted in the Network Plan, during the past 10 years neither monitor has measured an exceedance of the PM₁₀ NAAQS of 150 µg/m³. The highest 24-hour PM₁₀

average concentration measured at the Altoona site was 70 $\mu\text{g}/\text{m}^3$ in 2007, while the highest at the Montoursville site was 49 $\mu\text{g}/\text{m}^3$ in 2008. Due to the monitoring trends from both sites, PA DEP does not expect that either monitor will measure an exceedance of the PM_{10} NAAQS. Accordingly, the Department will discontinue the monitors upon U.S. EPA approval.

51. **The Department should withdraw proposed modifications to the SO_2 Network (proposed discontinuance of monitoring at the Chester site (Delaware County) and the New Castle site (Lawrence County)).**

The Department proposes to discontinue the SO_2 monitor at the Chester site in Delaware County, Pennsylvania. Proposed Plan at 42-44. In addition, it proposes to discontinue the SO_2 monitor at the New Castle site in Lawrence County, Pennsylvania (near the western border with Ohio). *Id.* The Department states that the minimum monitoring criteria for SO_2 in Appendix D do not require any SO_2 monitoring at the New Castle site. *Id.* at 42.

The Department offers no good reason for discontinuing monitors at Chester or New Castle. Rather, the reason appears to be that the monitors have been recording levels of SO_2 below the national ambient air quality standard. See *id.* at 42 (“Concentration values at these two monitoring sites have measured values well below the SO_2 NAAQS of 75 ppb for the previous five years.”). This might be relevant, but the Department needs to show more work.

The Department has not attempted to justify the proposed discontinuance under the six reasons for discontinuation of a SLAMS monitoring station, in EPA’s regulations. See 40 C.F.R. 58.14(c)(1)-(6). See Proposed Plan at 54-55. As in the case of the PM_{10} monitors above, it has not demonstrated the applicability of one of the grounds in the regulations. See 40 C.F.R. 58.14(c)(1),(2),(3).

To the extent the Department is relying on regulatory language allowing approval for the discontinuance of a monitor on a case-by-case basis, EPA should reject this request. See 40 C.F.R. 58.14(c). Such a request may only be allowed if the discontinuance does not compromise data collection needed for implementation of a national ambient air quality standard. *Id.* In the present case, the monitors were installed in Chester and New Castle in furtherance of the Appendix D objective of gathering information regarding population exposure on an urban and neighborhood scale, respectively. Proposed Plan at D-12 (Chester, neighborhood scale), D-46 (New Castle, urban scale). These are the only SO_2 monitors at these sites, and they have been operating for about 43 years each. See *id.* Consistent with EPA’s regulations, data from these monitors are relevant to implementation of the national ambient air quality standard for SO_2 . See 40 C.F.R. 58, Appendix D, Section 1.1(b) (“Support compliance with ambient air quality standards and emissions strategy development. Data from FRM, FEM, and ARM monitors for NAAQS pollutants will be used for comparing an area’s air pollution levels against the NAAQS. Data from monitors of various types can be used in the development of attainment and maintenance plans.”).” (9)

The Department appreciates the comments and concerns of the commentator. The Department, however, disagrees that the discontinuation of the Chester and New Castle SO₂ monitors would compromise PA DEP's ability to collect data needed for the implementation of the SO₂ NAAQS. As noted in the Network Plan, SO₂ minimum monitoring requirements require one (1) SO₂ monitor for the Philadelphia-Camden-Wilmington, PA-NJ-DE-MD Metropolitan Statistical Area. Currently, Philadelphia AMS operates two (2) SO₂ monitors in Philadelphia County. In addition, Delaware operates four and New Jersey operates one (1) SO₂ monitor within the Philadelphia MSA, bringing the total number of monitors within the MSA to seven. Also noted in the Network Plan is that the concentrations measured at the Chester site are well below the maximums recorded in the MSA and therefore are not needed to characterize the area for attainment determinations. With the monitors in Philadelphia County along with the five monitors farther downwind in the MSA, ambient air impacts from SO₂ are being adequately monitored in the Philadelphia MSA. The Department will discontinue the SO₂ monitor at Chester, upon U.S. EPA approval.

In addition, the major SO₂ facility that is impacting the New Castle SO₂ monitor is NRG – New Castle. Due to the 85% decline in SO₂ emissions from the facility over the past fifteen years (from 25551.2 tons in 2002 to 3746.1 tons in 2016), the New Castle monitor has demonstrated a similar decline in SO₂ concentrations during that period. Also, the area surrounding the NRG – New Castle facility was recently designated as unclassifiable as part of U.S. EPA's most recent round of SO₂ designations with respect to the 2010 SO₂ NAAQS. Recent modeling efforts, undertaken as part of the SO₂ data requirements rule, have demonstrated that the area surrounding the NRG New Castle facility is well below the SO₂ NAAQS.

52. The Department should withdraw proposed modifications to the CO Network (proposed discontinuance of monitoring at the York site (York County)).

The Department proposes to discontinue the CO monitor at the York site in York County, Pennsylvania. Proposed Plan at 45-48. The Department states that there are no minimum CO monitoring requirements that apply at the York site. Id. at 45. It also states that the monitor was installed for the purpose of modeling applications under the Prevention of Significant Deterioration program. Id. at 45.

The Department offers no good reason for discontinuing a monitor at York. Rather, the reason appears to be that the monitors have been recording levels of CO below the national ambient air quality standard. See id. at 47 (“Neither site [the York and Arendtsville sites] has measured an exceedance of either the 1-hour (35 ppm) or 8-hour (9 ppm) CO NAAQS,” for 2007-2016). This might be relevant, but the Department needs to show more work.

The Department has not attempted to justify the proposed discontinuance under the six reasons for discontinuation of a SLAMS monitoring station, in EPA's regulations. See 40 C.F.R. 58.14(c)(1)-(6). See Proposed Plan at 45-48. As in the case of the PM₁₀ monitors above, it has not demonstrated the applicability of one of the grounds in the regulations. See 40 C.F.R. 58.14(c)(1),(2),(3).

To the extent the Department is relying on regulatory language allowing approval for the discontinuance of a monitor on a case-by-case basis, EPA should reject this request. See 40 C.F.R. 58.14(c). Under Appendix D, the technical guidance in reference 2 of the Appendix “must be used to relocate an existing site or to locate any new sites.” 40 C.F.R. 58, Appendix D, Section 4.2(c). The name of this technical guidance is Selecting Sites for Carbon Monoxide Monitoring, EPA Publication No. EPA-450/3-75-077 (September 1975). 40 C.F.R. 58, Appendix D, Section 6. See document at this link: <https://www3.epa.gov/ttnamti1/archive/files/ambient/criteria/reldocs/3-75-077.pdf>. The Department does not refer to this document in the Proposed Plan. (9)

The Department appreciates the commentator’s concerns regarding the discontinuation of the CO monitor at York. The York CO monitor was installed in 1974 to monitor NAAQS compliance. Since its installation, the York CO monitor has never measured an exceedance of either the 1-hour or 8-hour NAAQS of 35 and 9 ppm, respectively. The highest 1-hour CO concentration average ever recorded at York site was 17.9 ppm, in 1982. The highest 8-hour average measured at the York site was 8.3 ppm in 1976. During the past ten years, the York CO monitor has achieved a completeness average of 97% of hourly observations. The highest 1-hour concentration measured during the last ten years was 3 ppm. The highest 8-hour average was 1.7 ppm. Owing to these concentration trends, PA DEP does not expect the York CO monitor to measure an exceedance of the CO NAAQS in the foreseeable future. PA DEP cannot locate the specific reference included in the commenter’s comments of “40 C.F.R. 58, Appendix D, Section 4.2(c).”

In its 2015 Annual Network Plan, PA DEP noted that, although not required by minimum monitoring requirements, it would retain five CO monitors across Pennsylvania to assist in Prevention of Significant Deterioration (PSD) modeling applications. As noted in the 2017 Annual Network Plan, PA DEP intends to use data from the Arendtsville, Adams County, site for this provision. Therefore, PA DEP will discontinue the York CO monitor upon U.S. EPA approval.

53. The Department Should Withdraw its Proposed Terminations, in Absence of Justifiable Technical or Legal Reasons.

In addition to proposing the discontinuation of a monitor at a site with multiple monitors, the Department proposes the termination of entire sites with multiple monitors. Proposed Plan at 34-41.

The regulations do not assess any independent significance to a proposed “termination” of all the monitors at a particular site. See generally 40 C.F.R. part 58. The only reference to the concept of termination appears in language requiring the state permitting agency to submit a 5-year report to EPA for certain purposes, including the purpose of determining “whether existing sites are no longer needed and can be terminated” See 40 C.F.R. 58.10(d). Therefore, the Department’s proposed terminations are properly considered as proposed “modifications,” to be reviewed in a manner similar to the proposed modifications discussed above.

However, EPA and the Department should consider the fact that with respect to these terminations, the communities near the sites are left with no monitors whatsoever, to verify the level of air quality that they breathe. (9)

The Department appreciates the comments and agrees with the commentator that the termination of a site (meaning the discontinuation of all monitors at a site) is considered a “system modification” and, as such, should be included in all applicable network design assessment activities required by 40 C.F.R. § 58.10. For this reason, PA DEP has and will continue to provide information regarding discontinuation of all monitors and/or sites in its Annual Network Plan for public comment. Furthermore, the Department does consider the implications of modifications to its monitoring network on the surrounding population and communities.

- 54. The Department should withdraw proposed terminations of the Easton Site (Northampton County) (ozone, SO₂, and H₂S). The Department proposes to discontinue the ozone, SO₂, and H₂S monitors at the Easton site in Northampton County, Pennsylvania. Proposed Plan at 34-36.**

Ozone – The Department states that the minimum monitoring criteria for ozone in Appendix D (three monitors in the MSA) would still be met following the discontinuance of the ozone monitor. Proposed Plan at 34.

The Department offers no good reason for discontinuing the ozone monitor at Easton. Rather, the reason appears to be that the monitor has recorded levels of ozone below other monitors in the MSA. See *id.* at 35 (“the design values for the ozone monitor in Easton have remained consistently below the design values for the ozone monitor in Allentown and Freemansburg, and as such, is not needed to characterize the Allentown-Bethlehem-Easton MSA with respect to nonattainment decisions.”). *Id.* at 35. This might be relevant, but the Department needs to show more work.

The Department has not attempted to justify the proposed discontinuance of the ozone monitor under the six reasons for discontinuation of a SLAMS monitoring station, in EPA’s regulations. See 40 C.F.R. 58.14(c)(1)-(6). See Proposed Plan at 34-35. The closest reason does not apply, because it does not apply to ozone. See 40 C.F.R. 58.14(c)(2) (a monitor which has consistently measured lower concentrations than another monitor for the same pollutant in the same county, and control measures scheduled to be implemented or discontinued during the next five years would apply to the areas around both monitors and have similar effects on measured concentrations, such that the retained monitor would remain the higher reading of the two monitors being compared).

To the extent the Department is relying on regulatory language allowing approval for the discontinuance of a monitor on a case-by-case basis, EPA should reject this request. See 40 C.F.R. 58.14(c). Such a request may only be allowed if the discontinuance does not compromise data collection needed for implementation of a national ambient air quality standard. *Id.* In the present case, the monitors were installed in Easton in furtherance of the Appendix D objective of gathering information regarding population exposure on a neighborhood scale. Proposed Plan at D-16. This is the only ozone

monitor at this site, and it has been operating for about 18 years. See id. Consistent with EPA’s regulations, data from this monitor are relevant to implementation of the national ambient air quality standard for ozone. See 40 C.F.R. 58, Appendix D, Section 1.1(b) (“Support compliance with ambient air quality standards and emissions strategy development. Data from FRM, FEM, and ARM monitors for NAAQS pollutants will be used for comparing an area’s air pollution levels against the NAAQS. Data from monitors of various types can be used in the development of attainment and maintenance plans.”). Accordingly, the Department has not justified the proposed discontinuance. (9)

The Department appreciates the comments but disagrees that discontinuing the Easton ozone monitor will compromise data collection needed for the implementation of the ozone NAAQS. As noted in the Network Plan, ozone minimum monitoring requirements mandate a minimum of three ozone monitors within the Allentown-Bethlehem-Easton MSA. Upon the termination of ozone monitoring in Easton, there will remain two monitors in the MSA, Allentown (Lehigh County) and Freemansburg (Northampton County), as well as one monitor in New Jersey (Warren County), satisfying minimum monitoring requirements. Both the Allentown and Freemansburg monitor have longer historical measurement records than that of the Easton monitor, which started in October 1999. PA DEP began monitoring for ozone at Allentown in 1984 and at Freemansburg in 1997. Furthermore, the Easton monitor appears to be redundant in the MSA. A comparison analysis between annual (2000 – 2016) fourth maximum ozone concentrations at Easton and Allentown results in a Pearson correlation (R^2) of 0.95. The R^2 value between Easton and Freemansburg is 0.97. The results indicate that the air mass measured by Easton monitor is the same air mass monitored by the Allentown and Freemansburg sites. Therefore, as the lowest value ozone monitor that PA DEP operates in the Allentown-Bethlehem-Easton MSA, the Department will discontinue this monitor upon U.S. EPA approval.

- 55. SO₂ – The Department states that the minimum monitoring criteria for SO₂ in Appendix D (one monitor in the MSA) would still be met following the discontinuance of the ozone monitor. Proposed Plan at 35.**

The Department offers no good reason for discontinuing the SO₂ monitor at Easton. Rather, the reason appears to be that the monitor has recorded levels of SO₂ higher than other monitors in the MSA. See id. at 35 (“the site remains higher than other monitors in the central- and northeastern Pennsylvania regions. For this reason, PA DEP will relocate the SO₂ monitor to the Freemansburg monitoring site, also in Northampton County, downwind of population centers in the Allentown-Bethlehem-Easton MSA.”). It is difficult to see why the Department justifies the discontinuance of the ozone monitor at Easton site on the grounds that it reflected design values below those of other monitors in the area, yet it justifies the discontinuance of the SO₂ monitor at Easton site on the grounds that it reflected design values higher than those of other monitors in the area.

The Department has not attempted to justify the proposed discontinuance of the ozone monitor under the six reasons for discontinuation of a SLAMS monitoring station, in EPA’s regulations. See 40 C.F.R. 58.14(c)(1)-(6). See Proposed Plan at 34-35.

To the extent the Department is relying on regulatory language allowing approval for the discontinuance of a monitor on a case-by-case basis, EPA should reject this request. See 40 C.F.R. 58.14(c). Such a request may only be allowed if the discontinuance does not compromise data collection needed for implementation of a national ambient air quality standard. *Id.* In the present case, the monitor was installed in Easton in furtherance of the Appendix D objective of gathering information regarding population exposure on a neighborhood scale. Proposed Plan at D-16. This is the only ozone monitor at this site, and it has been operating for 18 years. See *id.* Consistent with EPA's regulations, data from this monitor are relevant to implementation of the national ambient air quality standard for SO₂. See 40 C.F.R. 58, Appendix D, Section 1.1(b) ("Support compliance with ambient air quality standards and emissions strategy development. Data from FRM, FEM, and ARM monitors for NAAQS pollutants will be used for comparing an area's air pollution levels against the NAAQS. Data from monitors of various types can be used in the development of attainment and maintenance plans."). Accordingly, the Department has not justified the proposed discontinuance. (9)

The Department appreciates the comments and agrees that the section related to the discontinuation of the Freemansburg monitor could have been more clearly worded. Please note that PA DEP disagrees that the Freemansburg monitor should not be discontinued. While the SO₂ graph in the Network Plan showed that the Freemansburg monitor reading was the highest compared to other regional monitor readings, the SO₂ concentrations were still well below the 1-hour SO₂ NAAQS. Conversely, the ozone graph within the Network Plan showed that the Freemansburg monitor readings were below other regional monitor readings but all values were much closer to the ozone NAAQS. In addition, PA DEP agrees with the need for SO₂ monitoring within the Allentown-Bethlehem-Easton MSA, which is why it is proposing to install an SO₂ monitor at its Allentown monitoring site.

56. H₂S – The Department provides no facts in support of its request to discontinue this monitor, other than to assert that "H₂S is not a criteria pollutant, and as such has no federal ambient standard. Therefore, there are no federal minimum monitoring requirements for this pollutant." Proposed Plan at 36.

The Department has not set forth any rationale for the applicability of any of the grounds in See 40 C.F.R. 58.14(c)(1)-(6). Nor has it established that the discontinuance of the monitor would not compromise data collection needed for implementation of a national ambient air quality standard. (Conceivably, data regarding H₂S may be relevant to control strategies for implementation of the national ambient air quality standard for SO₂). (9)

The Department appreciates the comments provided by the commentator. As far as the applicability of 40 C.F.R. § 58.14(c)(1)-(6), this section of the C.F.R. references a "criteria pollutant" monitor (as it relies on a comparison to the NAAQS). Because H₂S is not a "criteria pollutant," the provisions at 40 C.F.R. § 58.14(c)(1)-(6) do not apply to the H₂S monitor at Freemansburg.

57. The Department should withdraw proposed terminations of the Ridley Park Site (Delaware County) (Pb).

The Department proposes to discontinue the Pb monitor at the Ridley Park site in Delaware County, Pennsylvania. Proposed Plan at 36-37. The Department states that Appendix D only requires lead monitoring near sources emitting greater than 0.5 tpy. Id. at 36.

The Department does not provide a sufficient reason for discontinuing the Pb monitor at Ridley Park. Rather, the reason appears to be that the stationary source emitting lead has reported zero emissions from 2012-2015. See id. at 36. In addition, the Department cites data indicating concentrations less than the design value. See id. at 37 (“Lead concentrations measured at the Ridley Park lead monitoring site have remained reliably and consistently well below the lead NAAQS of 0.15 µg/m³.”).

The Department has not attempted to justify the proposed discontinuance of the Pb monitor under the six reasons for discontinuation of a SLAMS monitoring station, in EPA’s regulations. See 40 C.F.R. 58.14(c)(1)-(6). See Proposed Plan at 34-35.

To the extent the Department is relying on regulatory language allowing approval for the discontinuance of a monitor on a case-by-case basis, EPA should reject this request. See 40 C.F.R. 58.14(c). Such a request may only be allowed if the discontinuance does not compromise data collection needed for implementation of a national ambient air quality standard. Id. In the present case, the monitor was installed in Ridley Park in furtherance of the Appendix D objective of gathering information regarding source-oriented concentrations on a middle scale. Proposed Plan at D-55. This is the only Pb monitor at this site, and it has been operating for about 7 years. See id. Consistent with EPA’s regulations, data from this monitor are relevant to implementation of the national ambient air quality standard for Pb. See 40 C.F.R. 58, Appendix D, Section 1.1(b) (“Support compliance with ambient air quality standards and emissions strategy development. Data from FRM, FEM, and ARM monitors for NAAQS pollutants will be used for comparing an area’s air pollution levels against the NAAQS. Data from monitors of various types can be used in the development of attainment and maintenance plans.”).

In addition, a case-by-case request may only be allowed if the requirements of Appendix D continue to be met. See 40 C.F.R. 58.14(c). Under Appendix D, the technical guidance in reference 4 and 5 of the Appendix “should be used in locating new sites or evaluating the adequacy of existing sites.” 40 C.F.R. 58, Appendix D, Section 4.5(b)(3). The first technical guidance is Optimum Site Exposure Criteria for Lead Monitoring, EPA Contract No. 68-02-3013 (May 1981). 40 C.F.R. 58, Appendix D, Section 6, reference 4. The second technical guidance is Guidance for Conducting Ambient Air Monitoring for Lead Around Point Sources, EPA-454/R-92- 009 (May 1997). Id., reference 5. See <https://nepis.epa.gov/> (August 1997 version). The Department does not refer to this document in the Proposed Plan.

If it is physically impossible for the stationary source to have any emissions of lead (as the data would suggest), then the Department should ensure that the facility accepts a federally-enforceable limitation in its permit, to memorialize a prohibition on any

emissions of lead. Otherwise, there is no guarantee that there will not be lead emissions in the future. (9)

The Department appreciates the comments provided by the commentator. Please be aware that PA DEP's Ridley Park monitoring site is a source-oriented site dedicated solely to monitoring ambient lead impacts from the nearby Exelon Generation Co.'s Eddystone facility. Since its installation in 2010, the Ridley Park monitor has never measured a single exceedance of the level of the lead NAAQS of 0.15 µg/m³. In fact, since its installation, this monitor has measured values below the analysis reporting limit for all but 12 days. The highest concentration measured at this site was 0.073 µg/m³, less than ½ the level of the NAAQS. The Eddystone facility is a power generating station, which was converted from coal-fired to natural gas in 2011-2012. Since 2012, the Eddystone Generating Station has reported 0.0 tons per year of lead emissions. Owing to the fuel source change, PA DEP does not expect this facility to impact ambient lead concentrations for the foreseeable future and will discontinue the Ridley Park monitor upon U.S. EPA approval. In addition, PA DEP agrees with the commentator that this type of additional information is helpful to the public and assists with public feedback. The Department will attempt to provide more thorough justifications for any monitor discontinuations in future Annual Network Plans.

- 58. The Department should withdraw proposed terminations of the Washington Site (Washington County) (ozone and PM_{2.5}). The Department proposes to discontinue the ozone, SO₂, and PM_{2.5} monitors at the Washington site in Washington County, Pennsylvania. Proposed Plan at 37-41.**

The Department states that the minimum monitoring criteria for ozone in Appendix D (two monitors in the MSA) would still be met following the discontinuance of the ozone monitor. Proposed Plan at 37.

The Department offers no good reason for discontinuing the ozone monitor at Washington. Rather, the reason appears to be that the monitor has recorded levels of ozone below other monitors in the MSA. See id. at 35 (“the design values for the ozone monitor in Washington have remained consistently at or below the design values for the remaining monitoring sites in the MSA, and well below maximum values. Therefore, the Washington monitor is not needed to characterize the Pittsburgh MSA with respect to nonattainment decisions.”). Id. at 38. This might be relevant, but the Department needs to show more work.

The Department has not attempted to justify the proposed discontinuance of the ozone monitor under the six reasons for discontinuation of a SLAMS monitoring station, in EPA's regulations. See 40 C.F.R. 58.14(c)(1)-(6). See Proposed Plan at 34-35.

To the extent the Department is relying on regulatory language allowing approval for the discontinuance of a monitor on a case-by-case basis, EPA should reject this request. See 40 C.F.R. 58.14(c). Such a request may only be allowed if the discontinuance does not compromise data collection needed for implementation of a national ambient air quality standard. Id. In the present case, the monitors were installed in Washington in furtherance of the Appendix D objective of gathering information regarding population exposure on a neighborhood scale. Proposed Plan at D-70. This is the only ozone

monitor at this site, and it has been operating for about 33 years. See *id.* Consistent with EPA's regulations, data from this monitor are relevant to implementation of the national ambient air quality standard for ozone. See 40 C.F.R. 58, Appendix D, Section 1.1(b) ("Support compliance with ambient air quality standards and emissions strategy development. Data from FRM, FEM, and ARM monitors for NAAQS pollutants will be used for comparing an area's air pollution levels against the NAAQS. Data from monitors of various types can be used in the development of attainment and maintenance plans.").

The Department states that the minimum monitoring criteria for PM_{2.5} in Appendix D (three monitors in the MSA) would still be met following the discontinuance of the PM_{2.5} monitor. Proposed Plan at 39.

The Department offers no good reason for discontinuing the PM_{2.5} monitor at Washington. Rather, the reason appears to be that the monitor has recorded levels of PM_{2.5} lower than other monitors in the MSA. See *id.* at 35 ("the design values for the PM_{2.5} monitor in Washington have remained consistently at or below the design values for the remaining monitoring sites in the MSA, with the exception of Florence, which serves as a PM_{2.5} background site."). *Id.* at 40. This might be relevant, but the Department needs to show more work.

The Department has not attempted to justify the proposed discontinuance of the PM_{2.5} monitor under the six reasons for discontinuation of a SLAMS monitoring station, in EPA's regulations. See 40 C.F.R. 58.14(c)(1)-(6). See Proposed Plan at 34-35. The closest reason does not apply, because it does not apply to PM_{2.5}. See 40 C.F.R. 58.14(c)(2) (a monitor which has consistently measured lower concentrations than another monitor for the same pollutant in the same county, and control measures scheduled to be implemented or discontinued during the next five years would apply to the areas around both monitors and have similar effects on measured concentrations, such that the retained monitor would remain the higher reading of the two monitors being compared).

To the extent the Department is relying on regulatory language allowing approval for the discontinuance of a monitor on a case-by-case basis, EPA should reject this request. See 40 C.F.R. 58.14(c). Such a request may only be allowed if the discontinuance does not compromise data collection needed for implementation of a national ambient air quality standard. *Id.* In the present case, the monitor was installed in Washington in furtherance of the Appendix D objective of gathering information regarding population exposure on a neighborhood scale. Proposed Plan at D-70. This is the only PM_{2.5} monitor at this site, and it has been operating for about 18 years (for daily monitoring) about 7 years (for continuous monitoring). See *id.* Consistent with EPA's regulations, data from this monitor are relevant to implementation of the national ambient air quality standard for PM_{2.5}. See 40 C.F.R. 58, Appendix D, Section 1.1(b) ("Support compliance with ambient air quality standards and emissions strategy development. Data from FRM, FEM, and ARM monitors for NAAQS pollutants will be used for comparing an area's air pollution levels against the NAAQS. Data from monitors of various types can be used in the development of attainment and maintenance plans.").

(9)

The Department appreciates the comments provided by the commentator. PA DEP disagrees that the information provided in its Annual Network Plan is insufficient to support the discontinuation of ozone and PM_{2.5} monitoring at its Washington monitoring site. (PA DEP believes the commentator has made a typographical error in the beginning of this comment – there is no SO₂ monitor at Washington.) However, in response to considerations presented in the public comments, PA DEP will relocate ozone and PM_{2.5} monitoring from the Washington site to its Houston site. The Houston monitoring site is located nearby and downwind of multiple natural gas wells and compressor stations, and should provide meaningful data with respect to ambient impacts from shale gas activities.

In addition, the Department recognizes the expansive area encompassed by the Pittsburgh MSA, including varying topographies and concentrations of sources. As noted in the plan, the number of monitors being operated within the Pittsburgh MSA is substantially greater than is required by minimum monitoring requirements set forth by U.S. EPA in 40 C.F.R. Part 58, Appendix D. These include monitors being operated within Allegheny County by the Allegheny County Health Department (ACHD), as well as in the surrounding counties by PA DEP. The current complement of monitors within the Pittsburgh MSA is adequate to provide a robust characterization of the MSA.

Health Issues and Requests for Air Monitoring for Specific Air Contaminants and in Specific Areas of the Commonwealth

- 59. PM_{2.5} monitors are readily available and not cost prohibitive. By now monitors for even smaller particles are available, and particularly important as VOC's and BETEX chemicals attach to them and go deep into our lungs. Also particular to us is the radioactivity of the Marcellus particles because we are so close to the source. Our population is breathing these undiluted by the diluting affect of surrounding clean air which measures a reduced amount of harm in ambient air further away from those living here at the source. (10)**

The Department appreciates the comment. While there are multiple low-cost monitors available for sampling the PM_{2.5} fraction, monitors that the Department uses to demonstrate compliance with the NAAQS must meet EPA criteria. On average, the Department spends approximately \$40,000 per piece of PM_{2.5} manual monitoring equipment (specifically, the Teledyne API Model 602 PM_{2.5} monitor) and \$17,500 on the PM_{2.5} continuous monitor (specifically, the Thermo FRM Model 2025). These costs include only the cost for purchase of the equipment and do not include laboratory analysis of the samples. As stated in the 2017 Annual Ambient Air Monitoring Network Plan, PM_{2.5} monitoring is scheduled to begin in Susquehanna County before the end of 2017.

- 60. I will attempt to keep this message mercifully brief, and simply list some realistic goals that I would like to see accomplished for Susquehanna County (my home) and other heavily-fracked counties like it. On April 22, 2016, the US Department of Health released its health consultation regarding PM_{2.5} particulate matter in Brooklyn Township, which is about 10 miles from my home. Brooklyn Township is home to the Williams Central compressor station, one of 40 operating compressor station in Susquehanna County. The study found levels of PM_{2.5} that could be harmful to the**

general population in the long term, spurring the PA DEP to commit to expanding air quality monitoring to Susquehanna County, and nine other counties, by the fall of 2017. As I write this letter, on July 31, I have seen no evidence of this project moving forward in Susquehanna County. Conversations with Barry Miller at the Department of Health have indicated that there has been trouble choosing a site. My request is that you ensure that this project moves forward on its original schedule. Please include specific dates in this plan. Please do not remove air monitors from any of the counties that have them. (11)

The Department appreciates the comments and is understanding of the goals of citizens of Susquehanna County and other counties across the Commonwealth where oil and gas drilling operations are more prevalent. In addition, PA DEP is familiar with the US Department of Health study conducted in Brooklyn Township over an 18-day period starting in August 2015. As stated in the 2017 Annual Ambient Air Monitoring Network Plan, PM_{2.5} monitoring is scheduled to begin in Susquehanna County by the end of 2017.

- 61. We have been promised a PM_{2.5} air monitoring station in Susquehanna County for some time now and the reasons are already known to the DEP or they would not have already made the promise. Keep your word and get it done. (12)**

The Department appreciates the comment and wishes to clarify that ambient air monitoring for VOC and Carbonyl compounds has been taking place in Springville, Susquehanna County, since February of 2013. Additional monitoring of PM_{2.5}, Nitrogen Dioxide, and Ozone is scheduled to begin in Susquehanna County before the end of 2017, as stated in the 2017 Annual Ambient Air Monitoring Network Plan.

- 62. We need permanent methane monitors in PA. What we don't need is the proposed ethane cracker in western PA. With the recent calculation of over 13.8 Billion tons of plastics produced since the inception of plastics production and the fact that all these plastics are produced using virgin petroleum products, we should be mining our landfills for their plastic resource and our state should reject all new proposed sources and facilities. Our huge new nonconventional natural gas extraction sources have provided highly significant new sources of air pollutants that are already drastically affecting human health. (13)**

The Department appreciates the concerns of the commentator. The 2017 Annual Ambient Air Monitoring Network Plan outlines the changes and modifications proposed for the coming 18 months. The approval and permitting of the ethane cracker in western Pennsylvania is beyond the scope of the monitoring network plan process. Opportunities to express concerns about such issues are provided through different forums. As staff and funding is available, the Department will continually seek to expand its suite of monitoring equipment, which includes methane monitors.

- 63. 40 C.F.R. Part 58, Appendices A, C, D, E describe what is needed to properly site an air pollution monitor. While I cannot comment on most of these proposed sites at this time, I would like to make a suggestion for monitor #62, at the PA Grand Canyon/Pine Creek Gorge. Pine Creek flows north-south, with extensive Marcellus shale natural gas drilling activity within the Pine Creek Valley and floodplain, and located within Tioga**

county. The placement of the air pollution monitor in south east Tioga county may well miss the highly significant pollution emitted there. The Pine Creek valley in some locations is 800 feet below the surrounding plateau. Monitor siting on the upper surface of the plateau would not properly capture the NOx, VOC, air toxics and PM 2.5 emissions. Nor would the current location in the very southeast tip of the county. (13)

The Department appreciates the information provided by the commentator. All sites in the monitoring network are evaluated annually for continued operation. The Department has identified the Tioga site as a possible candidate for relocation. If PA DEP makes the determination in a future Network Plan to relocate this site, it will take the information provided into consideration.

- 64. There is difficulty in siting a new fracking monitor in McKean county due to the heavy forestation. Is the atmospheric Acidic Precipitation site in Warren PA an appropriate site to capture the fracking pollutants? (13)**

The Department appreciates the suggestion provided by the commentator. If the commentator is referring to the site in Kane, Warren County, the Department will take this acidic precipitation site into consideration as it develops a plan for siting an air quality monitoring station. In past efforts to identify a site to conduct air quality monitoring for areas of McKean County, the Department has been unsuccessful thus far.

- 65. What is the status of air toxics pollution in the Blue Mountain region of eastern PA? What is the status of Zinc, cadmium and other heavy metal and air toxics pollutants? (13)**

The Department appreciates the questions from the commentator. Because the Blue Mountain Region of Pennsylvania stretches from Adams County past the Wilkes-Barre-Scranton area, it is difficult to entertain a question regarding such a broad area. On its website, the Department maintains a map with the locations of all toxic air quality monitoring sites in Pennsylvania as well as data retrieved from the sites. It might be helpful to the commentator to review the map of toxic monitoring sites as well as the monitoring data located on the Department's website at:

<http://www.dep.pa.gov/Business/Air/BAQ/MonitoringTopics/ToxicPollutants/Pages/Toxic-Monitoring-Sites-in-Pennsylvania.aspx#.ViaHEE3D-Uk>

- 66. We appreciate the Department's past efforts to monitor our air quality by placing a VOC monitor within Mehoopany. All criteria pollutants, VOCs and HAPs are on the rise within our watershed since the beginning of the unconventional drilling. We are concerned and not without reason. These harmful emissions are known to affect public health, safety and our environment. The Department has determined to further expand their efforts within the Marcellus Shale formation where there was no or limited monitoring. As part of this effort they have identified within Wyoming County an area consisting of three regions where they propose to site a monitoring station for PM_{2.5}, Carbonyls and VOCs. Finally, one siting aspect that makes this Region (Washington Park) particularly viable is the availability of a parcel within the area that would be suitable for a monitoring station... This location is within a mile of the Regency location and only slightly beyond a mile is the UGI complex. The vacant land is located on**

Washington Park Road and is owned by the Tunkhannock Area School District. It appears to be a location worthy of evaluation. (14)

The Department appreciates the concerns of and information provided by the commentator. The Department is aware of the impacts that this industrial activity can have on particular areas and is committed to expanding air quality monitoring sites throughout the Commonwealth to ensure the protection of public health and the environment. The Department will take all public comments into consideration as it continues to determine the best possible location for performing air quality monitoring, and it will finalize the site locations following consideration of public comments.

- 67. Based on DEP's oil and gas emissions inventory data submitted to EPA through the National Emissions Inventory (NEI), it is clear that emissions from the oil and gas production sector are growing rapidly. According to NEI data, between 2011 and 2014, the oil and gas production sector in Pennsylvania increased emissions of VOCs as a federal criteria pollutant by nearly 500% and of VOCs as Hazardous Air Pollutants (HAPs) by nearly 700%. VOCs are directly implicated in rising asthma rates in Pennsylvania, as well as other direct health impacts. (2)**

PA DEP's emission inventory shows that VOC emissions from the unconventional natural gas industry are increasing from 3,606 tons in 2012 to 6,410 tons in 2015, which is an approximate 44% increase. This represents about 23% of all VOCs emitted from stationary sources in Pennsylvania in 2015. VOCs as HAPs increased from 488 in 2012 to 519 in 2015, an approximate 6% increase. These increases are directly related to increased natural gas production and the development of "wet gas" formations in western Pennsylvania. Increased use of natural gas for electrical generation has reduced overall SO₂, PM_{2.5} and CO₂ emissions over the same time period.

- 68. On the ground, well pads differ from operator to operator. There's virtually no well pad of consequence that has only a mere well head. All pads include wellheads, tanks, equipment that either subtly and most noticeably release pollution even when there is neither a rig nor crew onsite. Below are photos of a typical well pad in Washington Township. There are several pieces of equipment where pollutants are released. (14)**

The Department appreciates the comments and agrees with the commentator.

- 69. While year after year the Department has continued to improve the quality of data within the NG EI, still there remains to be problems with the data. This makes it particularly difficult to rely solely on the data with regards to siting monitors. The data set (2015) is nearly two years old which also adds to the issue of reliability, the gas fields are dynamic rather than static. The data which is industry submitted lacking any audit is cumbersome in that it isn't reported in any easily verifiable way by some operators and there are instances where submitted data just isn't making sense. And then there is the problem with the way the data is collected.**

For example, it is readily seen by careful review of the data that operators tend to submit data in any fashion to their liking. It is easy to see that Carrizo as an example, submits each individual well, and this is the appropriate method. The regulator can

easily see that all data is submitted. However, regarding other other operators it is very difficult to know what they are reporting. For example, the Cappucci well pad within the Mehoopany Creek Watershed has three wells. Chesapeake reports emissions for the Cappucci 2H and HJMM 1H, but there is no reporting for Cappucci N 4H. This example indicates that at least in this situation the operator isn't submitting the entire well pad emissions under the name of one well or the well pad. There is missing data here. Another Chesapeake example is the Penecale Pad having five wells. Only two wells are reported, Penecale 5H and Evelyn Wyo 1H. Where's the data on the other three wells? (14)

The Department appreciates the information provided by the commentator. PA DEP continues to work to improve the quality and timeliness of the emission inventory data. However, PA DEP disagrees with some of the information provided by the commentator. Wells labeled "CAPPUCCI 2H", "CAPPUCCI N 4H", "CAPPUCCI N WYO 1H" and "CAPPUCCI WYO 1H" are all combined in the "CAPPUCCI WYO" pad. Also, Wells "PENECALE 5H", "PENECALE N WYO 2H", "PENECALE WYO 1H", and "PENECALE WYO 3H" are all combined under the "PENECALE WYO" pad. Well "EVELYN WYO 1H" stands on its own under the "EVELYN WYO" pad.

70. Every well needs to be reported including zero emissions so the Department can be assured of complete submissions. The Department needs to require the operators submit by well permit number, the number that is referenced on all oil and gas and even API reporting that the industry also utilizes. The WY 18 WEST PAD OG ESCGP had a West 2H well spud the end of 2015 (12/30/2015), so we know from this that Southwestern didn't and perhaps other operators as well don't report emissions during the spudding phase.

The Department needs to have a code or some way to sort out emissions from well pads versus compressor, dehydration stations and the like. The Department makes assumptions that the greater part of emissions is points from stations, yet there is no easy way to determine that either on a statewide, county or municipal basis. The data user needs to segregate out all these facilities within the area of evaluation and then subtract them from the total emissions inventory. When this is done, a different result may be the case than this assumption the Department makes. Only by doing this cumbersome tally can we effectively know how much emissions are from well pads and how much are from compressor stations. This will become increasingly more important as the resource depletes and operators are moving to place compressor engines on site to lift gas out of the well. There are some places where this is already being done. This equipment must not be exempt from emission controls or inventory reporting. (14)

The Department appreciates the information provided by the commentator and continues to work to improve the quality and usefulness of the emission inventory data.

71. The results of the NG EI isolated for Wyoming County tells an interesting story. And that story is that most of the emissions are from well pad source points.

SOURCE CO NOX PM10 PM2.5 SOX VOC

Percentage attributed to Compressor Stations 29.1% 38.9% 25.3% 25.3% 49.5% 66.5%

Percentage attributed to Wells 70.9% 61.1% 74.7% 74.7% 50.5% 33.5%

Total 100.0% 100.0% 100.0% 100.0% 100.0% 100.0%

Thus, it is imperative that the Department include a strategic location that includes a density of well pads. (14)

The Department agrees with the commentator that most of the emissions are from well pad source points. In addition, the Department will consider including a strategic location that includes a density of well pads.

72. If we disregard GHGs in regards to municipal emissions, we can easily see that Washington, Lemon and Meshoppen Townships have the most emissions overall. It's no coincidence that Washington, Lemon, Meshoppen and Windham have the most wells, since we've seen the majority of emissions are from wells. (14)

The Department agrees with the commentator that most of the emissions are from wells.

Compliance with Title 40 of the Code of Federal Regulations, Part 58

73. The Clean Air Act requires each state implementation plan to “provide for establishment and operation of appropriate devices, methods, systems, and procedures necessary to ... monitor, compile, and analyze data on ambient air quality.” Title 40 of the Code of Federal Regulations, Part 58, specifies requirements for conducting “Ambient Air Quality Surveillance” capable of producing data to support “the State Implementation Plans (SIP), national air quality assessments, and policy decisions.” In addition to compliance monitoring, objectives for a monitoring network also include providing “air pollution data to the general public in a timely manner” and supporting “air pollution research studies.” (1)

The Department appreciates the comment. PA DEP provides the purpose and objective of each monitor in “Appendix D – Pennsylvania Monitoring Network Site Details” of the Network Plan. As stated in the Network Plan, the Department operates all criteria pollutant monitoring in accordance with SLAMS siting, network design, quality assurance and data reporting criteria set forth in Title 40 C.F.R. Part 58. As such, data generated by these monitors can be used for the purposes noted by the commenter. In addition, PA DEP provides monitoring data, including real-time monitor data as well as Air Quality Index (AQI) characterizations and forecasts to the public via the Department’s website at: <http://www.dep.pa.gov/Business/Air/BAQ/MonitoringTopics/PrincipalPollutants/Pages/default.aspx>.

74. DEP must establish, unequivocally, the specific details of its plan to monitor the air quality impacts of oil and gas industry in Pennsylvania. DEP has flouted the clear

requirements of 40 C.F.R. § 58.10(b)12 regarding these sites for several years. EPA should not accept or approve DEP’s 2017 Network Plan until DEP corrects these deficiencies with respect to, at the very minimum, the subsequently listed sites. (1)

The Department appreciates the comments and concerns of the commentator. PA DEP provides this for all active monitoring sites in its air monitoring network. The Department will continue to include all available information for proposed sites in future Annual Network Plans. Specifically, PA DEP will provide the expected monitoring methods, objective, scale of representativeness, sampling schedule and proposed AQS site identification code for all proposed sites. In cases where the Department is requesting input from the public to determine an appropriate site location, and cannot therefore provide the specific address or latitude and longitude, PA DEP will attempt to further clarify the monitoring objective of the proposed site with respect to population distribution, core-based statistical areas and/or source locations, as appropriate, to allow for more specific public participation in the siting of proposed monitors.

- 75. In July of 2015, DEP declared that it would add a new monitoring site in Fayette County to address concerns over emissions from oil and gas activities. This marked the first instance of DEP violating 40 C.F.R. § 58.10(b). DEP’s proposal for the Fayette County site did not include, among other requirements, the “AQS site identification number[;] ... location, including street address and geographical coordinates[;] ... sampling and analysis method(s) for each measured parameter[; or] ... operating schedules for each monitor.” (1)**

The Department appreciates the comments. Please be aware that Figures 7 and 8 in the Plan provide an overview of the area that PA DEP proposes to install the Fayette County monitoring site. The Department is requesting public comment to assist in determining the most appropriate site location within this area and therefore cannot provide the specific address or latitude and longitude. The commentator is correct that the specific monitoring methods and sampling schedules for the proposed monitoring suite of ozone, NO₂, PM_{2.5}, carbonyls and VOC are not specifically noted in this section of the Network Plan. PA DEP will provide this information for all proposed monitors in future Annual Network Plans. For information purposes, the monitoring methods that will be employed at the Fayette County monitoring site are those contained in Table D-1 of the Plan.

- 76. The 2016 Network Plan did not correct these deficiencies. In fact, the 2016 Network Plan merely repeated – almost verbatim – the claim made in the 2015 Network Plan: that DEP will establish “a new ambient air monitoring site in Fayette County,” which will include “monitors for ozone, NO₂, PM_{2.5}, carbonyls and VOC.” DEP went on to state that it intended “to establish this site by the end of 2016.” Worth noting is that GASP submitted a comment on the 2016 Network Plan citing DEP’s failure to comply with 40 C.F.R. § 58.10(b). DEP responded stating “the Department will reopen the pertinent portion of the Network Plan for public comment” after DEP “completes its analysis and proposes new PM_{2.5} locations.” (1)**

The Department appreciates the comments and concerns of the commentator. As the commentator references, the Fayette County monitoring site was not established by the planned installation date; therefore, a re-opening of the public comment period for previous

Annual Network Plans was not necessary. PA DEP requested comments regarding the establishment of the Fayette County monitoring site as part of the 2017 Annual Network Plan public comment period.

- 77. In the 2017 Network Plan, DEP again failed to comply with the requirements of 40 C.F.R. § 58.10(b). The fact that DEP included two maps of the generalized area in which DEP intends to install the monitors cannot serve as a substitute for the “location, including street address and geographical coordinates” required by 40 C.F.R. § 58.10(b)(2). In addition, DEP’s request for “public input to assist in siting the planned monitoring station in Fayette County” must fail as the “public notice and comment” period required under 40 C.F.R. § 58.10(a). The roughly two-square-mile area DEP proposed is not specific enough for any reader to offer a substantive comment regarding a site location. Moreover, one of the “three facilities” depicted near the proposed area does not exist. If such inaccuracies are indicative of DEP’s commitment to monitor impacts from the oil and gas industry in Fayette County, EPA must now insist that DEP comply with 40 C.F.R. Part 58 and move more purposefully toward installing the promised monitors without further delay. (1)**

The Department appreciates the comments and concerns of the commentator. PA DEP disagrees that the proposed monitoring site location area indicated in Figure 8 of the Plan is too large to allow substantive public comment. PA DEP expects that suitable locations within the delineated area would measure similar concentrations, owing to location and topography. PA DEP requested public comments to provide the following for use in decision-making:

- Support or opposition to the delineated area in general, as opposed to a separate area within Fayette County that would be suggested by the commentator;
- Information regarding the suitability or non-suitability for specific locations within the delineated area, which would be identified by the commentator.

As the commentator noted, one of the “three facilities” depicted near the proposed area does not exist. The one facility is the Shoaf compressor station, which has a permit that will expire in October 2017. PA DEP would be remiss if it did not include a planned compressor station when trying to monitor PM_{2.5} concentrations in the future. The information provided in the 2017 Annual Network Plan meets the requirements for soliciting adequate public input for site location decisions.

- 78. In addition, the sites grid and the individual site descriptions in Appendix D to the 2017 Network Plan indicate that the Mehoopany and Springville sites will be discontinued. One section of the 2017 Network Plan explained that the existing sites are not capable of housing PM_{2.5} monitors so new sites must be established. A separate section of the 2017 Network Plan, which also referred to these sites, stated that modifications to the monitoring network in the coming year would include relocations of “VOC sampling from Springville (Susquehanna County) and Mehoopany (Wyoming County) and ... [adding] Carbonyl sampling to each of these sites.” The use of the word “site” in this phrase is confusing insofar as it adds doubt to the prior declaration that the original monitoring sites are being discontinued; this reads as though the DEP is abandoning VOC monitoring and replacing it with carbonyl monitoring. Finally, a third statement declares that the new Susquehanna County site will monitor PM_{2.5} and the new**

Wyoming County site will monitor PM_{2.5} and carbonyls; this section did not mention VOC monitoring. Taken together, there is no conceivable way for any member of the public to discern what DEP will to monitor in Susquehanna and Wyoming Counties. DEP must comply with 40 C.F.R. § 58.10(b), in particular the sections requiring definitive locations for monitors and a clear list of the parameters that will be monitored at those locations. (1)

The Department appreciates the comments and concerns and thanks the commentator for identifying this error. The Department agrees that Table 6 in the proposed Network Plan does not reference VOCs. This was a typographical error and accidental omission. PA DEP will correct this in the final Annual Network Plan that will be submitted to U.S. EPA. To clarify this issue, the Department will remove the VOC monitors from the geographic locations currently identified as the Springville and Mehoopany monitoring sites. PA DEP will establish new monitoring locations in Susquehanna and Wyoming Counties, respectively, and expand the monitoring suite to include VOC, Carbonyls and PM_{2.5}, as indicated on page 56 of the Network Plan. The Department does not expect that the new Susquehanna and Wyoming County sites will be located close enough to the current Susquehanna and Wyoming County sites to retain the current AQS site identification codes. Therefore, the sites (insofar as the term “site” is a reference to a specific geographical location and identified by a unique AQS site code) will be discontinued, since the specific geographic locations currently identified as Springville and Mehoopany will no longer contain monitoring equipment. The VOC monitoring performed at the current Springville and Mehoopany sites will continue at the new Susquehanna and Wyoming County sites, and may be considered to be a relocation.

- 79. With respect to the proposed monitoring sites in Clarion and Jefferson Counties, the schedule listed for installation in the 2017 Network Plan mirrors the schedule established in the 2016 Network Plan. While admirable, the current proposal for these sites violates the requirements of 40 C.F.R. § 58.10(b). As was the case with Wyoming and Susquehanna Counties, the public cannot offer meaningful monitoring-site commentary on multiple, vast tracts of land in the vicinity of oil and gas activities. DEP must provide additional details regarding these proposed sites. (1)**

The Department appreciates the comments and concerns of the commentator. PA DEP disagrees that the proposed monitoring site location areas indicated in Figures 6, 10, and 11 of the proposed Network Plan are too large to allow substantive public comment. PA DEP expects that suitable locations within each of the delineated areas would measure similar concentrations, owing to location and topography. PA DEP requested public comments to provide the following for use in decision-making:

- Support or opposition to the delineated areas in general, as opposed to each other, to a separate area within Clarion or Jefferson Counties that would be suggested by the commentator;
- Information regarding the suitability or non-suitability for specific locations within the delineated areas, which would be identified by the commentator.

The information provided in the 2017 Annual Network Plan meets the requirements for soliciting adequate public input for site location decisions.

- 80. The text of 40 C.F.R. §58.10(a)(5)(iii) requires a single near-road NO₂ monitor in any CBSA with a population greater than 1,000,000. To comply with this requirement, the Allegheny County Health Department (“ACHD”) – perhaps under the assumption that it would satisfy this minimum requirement for the entire Pittsburgh MSA – established a near-road NO₂ monitor in Allegheny County in 2014. However, “[f]ull monitoring requirements apply separately to each affected State or local agency in the absence of an agreement between the affected agencies and the EPA Regional Administrator.” Having been informed by ACHD staff that no such agreement exists, it follows that ACHD’s portion of the Pittsburgh MSA and the portion of the Pittsburgh MSA under DEP’s control should each meet “full monitoring requirements.”**

Population figures from the 2010 census indicate that Allegheny County had a population of 1.22 million. By subtracting Allegheny County’s population from the population figure for the entire Pittsburgh MSA, the population of the remaining six counties would be 1.13 million. By this reasoning, DEP must comply with 40 C.F.R. §58.10(a)(5)(iii) and provide a second near- road NO₂ monitor in the Pittsburgh MSA.

In the alternative, ACHD, DEP, and the Region III Administrator should memorialize and make public an agreement covering any and all joint monitoring efforts. The lack of such an agreement is especially troubling given that DEP may be required to comply with monitor siting requirements under Appendix D § 4.3.2(a)(1). Meeting those requirements might require DEP to locate a monitor within or adjacent to the Allegheny County line. In keeping with the requirements set forth in Appendix D § 2(e), ACHD and DEP must work collaboratively to ensure an effective network design. (1)

The Department appreciates the comments. PA DEP maintains agreements with both ACHD and Philadelphia AMS in *Pennsylvania Code* Title 25, Chapter 133. The requirement can be found at: <http://www.pacode.com/secure/data/025/chapter133/chap133toc.html>. Specifically, 25 Pa. Code § 133.4(b)(7) lays out a requirement that those agencies must establish a continuous air monitoring system.

- 81. (The commentator) supports the comments submitted by the Group Against Smog and Pollution (GASP) on the 2017 air monitoring plan. In particular, we agree with GASP that DEP has once again (as in the 2016 air monitoring plan) failed to comply with the requirements of 40 C.F.R. § 58.10(b). Specifically, the 2017 air monitoring plan again omits detailed information on the location, sampling and analysis methods, and operating schedule for each proposed monitor. This information is necessary to ensure transparency and accountability, and DEP should include it in the final 2017 air monitoring plan. (2)**

The Department appreciates the comments. PA DEP provides the information referenced by the commentator for all active monitoring sites in its air monitoring network. The Department will include all available information for proposed sites in future Annual Network Plans. Specifically, PA DEP will provide the expected monitoring methods, objective, scale of representativeness, sampling schedule and proposed AQS site

identification code for all proposed sites. In cases where the Department is requesting input from the public to determine an appropriate site location, and cannot therefore provide the specific address or latitude and longitude, PA DEP will attempt to further clarify the monitoring objective of the proposed site with respect to population distribution, core-based statistical areas and/or source locations, as appropriate, to allow for more specific public participation in the siting of proposed monitors.

Discrepancies and/or Errors in the Current and in Previous Annual Network Plans

82. DEP's 2016 Plan listed the Conemaugh, Shelocta, and Upper Strasburg monitoring sites under "Site Terminations" in the "Summary of Changes to the PA DEP Air Monitoring Network 2016-2017." Each site only monitored lead and the "Conemaugh ... and Shelocta lead sites [had] maintained emission rates below the 0.5 tpy threshold for the ... [previous] five years." Although the rationale for eliminating the Upper Strasburg site was not the same, at that time DEP did "not expect higher rates of lead emissions from" the Letterkenny Army Depot. Per 58 C.F.R. § 58.14(c)(1), DEP had adequate support for terminating these sites.

DEP's 2017 Plan noted that it "[d]iscontinued lead monitoring sites at Shelocta (Indiana County) and Upper Strasburg (Franklin County)" Neither the Shelocta site nor the Upper Strasburg site appeared in Table C-19, listing DEP's lead monitoring sites. This would appear to indicate that DEP terminated these two sites. However, both of these sites appeared on the map of statewide sites and on the matrix of sites showing parameters monitored. They are also listed in Appendix D to the 2017 Network Plan, which describes the details of each monitoring site.

With respect to the Conemaugh site, as noted above, DEP appeared to have had a valid basis for terminating the site. However, like Shelocta and Upper Strasburg, Conemaugh appears in the map of sites, matrix of sites showing parameters, and Appendix D. However, unlike those sites, DEP listed Conemaugh in Table C-19. While it was not listed under site terminations for the past year in the 2017 Network Plan, DEP did not add an explanatory note in the Plan discussing a basis for continuing it (as it did with respect to the Norristown, Montgomery County site). Given these contradictory indications as to the continued operation of these three sites, DEP must verify and state clearly the status of these sites. (1)

PA DEP thanks the commentator for identifying the discrepancies in its 2017 Annual Network Plan regarding the discontinuation of lead monitoring sites. The commentator is correct that this information was not correctly updated and/or included in the proposed 2017 Annual Network Plan available for public comment. The Department corrected the final 2017 Annual Network Plan accordingly. As the commentator referenced, in its 2016 Annual Network Plan, the Department proposed to discontinue lead monitoring at the Conemaugh, Shelocta and Upper Strasburg sites. PA DEP discontinued the Shelocta and Upper Strasburg sites effective March 31, 2017. U.S. EPA, however, asked the Department to retain the Conemaugh site due to a lack of data completeness for the 2014-2016 design value period. Therefore, PA DEP has not discontinued the Conemaugh site and is not proposing to discontinue the site during the 18-month period covered by the 2017 Annual Network Plan.

Monitoring Requirements and the Siting of Air Monitoring Stations

- 83. In the 2017 air monitoring plan, DEP maintains the longstanding inclusion of seven counties in one very large air quality region, the Pittsburgh-Beaver Valley Area (Allegheny, Armstrong, Beaver, Butler, Fayette, Washington and Westmoreland Counties). We question this approach, which rolls together many disparate sources of emissions spread out over a large geographical region, making it much more difficult to pinpoint and reduce the specific causes of pollution. (2)**

PA DEP appreciates the commentator's concerns. U.S. EPA has set network design criteria, including monitoring requirements, based on population and/or historical measured pollutant concentrations. U.S. EPA specifically references and requires the use of Metropolitan Statistical Areas (MSAs), as delineated by the federal Office of Management and Budget, to set these criteria in 40 C.F.R. Part 58, Appendix D. Accordingly, the Department utilizes an MSA-based approach in many of the sections of the Network Plan. PA DEP recognizes the expansive area encompassed by the Pittsburgh MSA, including varying topographies and concentrations of sources, and understands the need to monitor ambient air impacts due to shale gas activities within the MSA. For these reasons and as noted in the plan, the number of monitors being operated within the Pittsburgh MSA is substantially greater than required by minimum monitoring requirements set forth by U.S. EPA in 40 C.F.R. Part 58, Appendix D. These include monitors being operated within Allegheny County by the ACHD, as well as in the surrounding counties by PA DEP:

- Ozone – The minimum ozone monitoring requirement for the Pittsburgh MSA is two monitors. ACHD operates three ozone monitors within Allegheny County. PA DEP's 2017 Annual Network Plan, as proposed, included eight monitors in Armstrong, Beaver, Fayette, Washington and Westmoreland Counties, for a total of eleven monitors. In response to concerns expressed in the public comments to the plan, PA DEP will relocate the ozone monitor from its Washington site to its Houston site. With this change, the total number of ozone monitors located within the Pittsburgh MSA remains eleven.
- SO₂ – The minimum SO₂ monitoring requirement for the Pittsburgh MSA is two monitors. ACHD operates five SO₂ monitors within Allegheny County. PA DEP operates four monitors in Beaver and Washington Counties, for a total of nine monitors located within the Pittsburgh MSA.
- PM_{2.5} – The minimum PM_{2.5} monitoring requirement for the Pittsburgh MSA is three monitors. ACHD operates nine PM_{2.5} monitors within Allegheny County. PA DEP's 2017 Annual Network Plan, as proposed, included six monitors in Armstrong, Beaver, Fayette, Washington and Westmoreland Counties, for a total of fifteen monitors. In response to concerns expressed in the public comments to the plan, PA DEP will relocate the PM_{2.5} monitor from its Washington site to its Houston site. With this change, the total number of PM_{2.5} monitors located within the Pittsburgh MSA remains at fifteen.
- PM₁₀ – The minimum PM₁₀ monitoring requirement for the Pittsburgh MSA is a range of two-to-four monitors. ACHD operates nine PM₁₀ monitors within Allegheny County. PA DEP operates one additional monitor in Beaver County, for a total of ten monitors within the Pittsburgh MSA

- NO₂ –ACHD operates one area-wide NO₂ monitor in Allegheny County, PA DEP operates three area-wide monitors in Beaver and Washington Counties, for a total of four monitors within the Pittsburgh MSA.

The current complement of monitors within the Pittsburgh MSA is adequate to provide a robust characterization of the MSA.

84. **In addition, a broad regional approach cannot reflect pollution in areas where oil and gas wells and infrastructure have been more prevalent and may be a significant local source of emissions. This is particularly concerning in light of DEP’s April 2017 recommendation to the EPA that the Pittsburgh-Beaver Valley Area be designated as in attainment for the 2015 ozone National Ambient Air Quality Standards (NAAQS).**

This new position directly contradicts the recommendation that DEP made to the EPA just six months earlier, in October 2016, that the Pittsburgh-Beaver Valley Area was still in non-attainment for ozone.

This sudden shift is puzzling because both recommendations were based on the same federal ozone standard (i.e., an 8-hour standard of 70 parts per million). DEP based its ozone attainment determination for the Pittsburgh-Beaver Valley Area on only a single year of additional air monitoring data (2016), while a previous year (2013) was dropped from the analysis. In other words, it appears that DEP is selectively used air monitoring data to justify an attainment determination that would be unsupported by a more complete body of evidence.

Unfortunately, throughout the comment period on the 2017 air monitoring plan, DEP had not posted online any information on the April 2017 recommendation of ozone attainment status for the Pittsburgh-Beaver Valley Area. Following an inquiry on this omission by Earthworks, DEP posted its submittal letter to EPA and a table and map showing attainment status for counties statewide on the last day of the comment period (today, August 1).

However, unlike for the 2016 non-attainment recommendation, DEP has still not provided to the public the detailed monitoring results and county-level emissions data that DEP presumably is using to support the current recommendation of ozone attainment for the Pittsburgh-Beaver Valley Area.

This lack of publicly available data precludes a comparison of emissions trends in both specific counties in the Pittsburgh-Beaver Valley Area and the air quality region as a whole. In turn, it is difficult for Earthworks and other commenters to meaningfully evaluate DEP’s 2017 ozone attainment recommendation in the context of the 2017 air monitoring plan.

However, it does appear that DEP has ignored the growing impact on air quality from the oil and gas industry when reversing the ozone non-attainment status for the Pittsburgh-Beaver Valley region. Of particular concern is the fact that DEP does not conduct air monitoring for ozone and its precursors (VOCs and NO_x) in key parts of the region with increasing gas drilling, compression, and processing operations. As

noted above, DEP should do so going forward and include such plans in the final 2017 air monitoring plan.

DEP's reversal of ozone status for the Pittsburgh-Beaver County Area is precipitous given that the Area overlaps with a tri-state region comprising much of southwestern Pennsylvania, eastern Ohio, and northwestern West Virginia that is rapidly becoming a hub for oil and gas infrastructure. In 2015, governors of the three states signed a cooperative agreement to advance natural gas development. This will inevitably mean even more air pollution across the region going forward.

Yet DEP has proposed to lock the entire Pittsburgh-Beaver Valley region into ozone attainment status. Such an action could potentially make it much easier for the oil and gas industry to obtain air permits for operations that emit high levels of VOCs and NO_x, the precursors of ozone.

In particular, a new status of ozone attainment in the Pittsburgh-Beaver Valley region would ease regulatory requirements for the purchase of Emission Reduction Credits (ERCs) for pollutants that cause ozone. ERCs allow operators whose facilities would violate air standards in a given area to offset excessive emissions by trading or purchasing credits representing pollution elsewhere. Shell's ethane cracker plant, slated to be built in Beaver County, is a glaring example of the large offsets that operators of oil and gas facilities must purchase in a region with a non-attainment status for ozone.

Currently, the entire state of Pennsylvania has the status of non-attainment for ozone and is part of the Ozone Transport Region (OTR), a 13-state area across which EPA requires additional measures to control pollutants that create ozone and to keep ozone pollution below a certain level. It is unclear whether DEP's new attainment status recommendation might be intended to pave the way for Pennsylvania's removal from the OTR and its subsequent pollution limitations. However, the April 2017 recommendation would leave only six counties—all in eastern Pennsylvania absent of oil and gas operations—in non-attainment status, while the rest of the state would be deemed "unclassifiable/in attainment."

Nonetheless, DEP has continued to issue permits for natural gas drilling, compression, and processing, in part because of growing political pressure to do so. Given this, the Department must find a way to simultaneously fulfill its legal mandate to protect air quality and health. The comprehensive, accurate air monitoring of oil and gas operations statewide is a key step in this direction. (2)

The Department appreciates the comments and concerns of the commentator. However, PA DEP believes that these comments are beyond the scope of the Annual Network Plan. Any comments regarding an increase in gas activity across Pennsylvania and its importance in attainment of the 2015 ozone standard would be more applicable to EPA's anticipated ozone designations.

Nitrogen Dioxide and Ozone Monitoring Stations

- 85. DEP has no monitoring station for ozone in Cumberland County. DEP's draft plan indicates that near-road NO₂ monitors, previously scheduled to be installed near Harrisburg, Lancaster, Scranton-Wilkes-Barre, and Allentown, will not be installed. The stated reason is that EPA found NO₂ concentrations in heavily populated areas to be lower than expected. While this may be true nationwide, we still have no reliable information about NO₂ concentrations in heavily populated and heavily travelled Pennsylvania cities. (3)**

The Department appreciates the comments and concerns of the commentator. U.S. EPA has set minimum monitoring requirements for ozone (40 C.F.R. Part 58, Appendix D, Section 4.1) based upon both the population and historical measured ozone concentrations of MSAs, as delineated by the federal Office of Management and Budget. Cumberland County is part of the Harrisburg-Carlisle MSA, which includes Cumberland, Dauphin and Perry Counties. As provided in the Network Plan, PA DEP operates two ozone monitors within this MSA: one at the Harrisburg (Dauphin County) and one at the Hershey (Dauphin County) monitoring site, meeting the minimum ozone monitoring requirements for the MSA. Ozone is primarily a secondary pollutant, forming in the atmosphere in the presence of sunlight, from ozone precursors NO_x and VOC. By locating the required ozone monitors in the middle and western portions of the MSA, PA DEP expects that the maximum ozone concentrations occurring and/or originating in the Harrisburg-Carlisle MSA will impact these monitors. In addition, both of these monitoring sites are located within densely populated regions containing heavily-traveled roads. Finally, and as stated in the Network Plan, U.S. EPA has revoked the requirement for near-road NO₂ monitoring for MSAs that have populations less than 1,000,000 persons. The rationale and details for revoking this requirement are provided by U.S. EPA and can be found at the following U.S. EPA ambient NO₂ monitoring webpages:

<https://www.epa.gov/no2-pollution/ambient-nitrogen-dioxide-monitoring-requirements>

<https://www3.epa.gov/ttnamti1/nearroad.html>

<https://www.epa.gov/no2-pollution/primary-national-ambient-air-quality-standards-naaqs-nitrogen-dioxide>

- 86. Since DEP is not installing monitors to record NO₂, and ozone is the resultant pollutant from NO₂ emissions, DEP should consider increasing the number of ozone monitors in and near heavily populated areas. Currently, there are many counties in Pennsylvania that do not have ozone monitors. DEP frequently declares air quality action days for these counties, including Cumberland County, but does not have relevant monitoring stations these counties. (3)**

Since DEP is not installing monitors to record NO₂, and ozone is the resultant pollutant from NO₂ emissions, DEP should consider increasing the number of ozone monitors in and near heavily populated areas. Currently, there are many counties in Pennsylvania that do not have ozone monitors. DEP frequently declares air quality action days for these counties, but does not have real-time monitoring in these counties. (4)

The Department appreciates the comments and recommendations. PA DEP has a robust ozone monitoring network. Across PA, ozone is a regional pollutant, which means that precursors are transported into the state from areas outside of the state. In the Harrisburg-York-Lebanon Combined Statistical Area (“CSA”) alone, PA DEP operates five ozone monitors (at Harrisburg, Hershey, Lancaster, Lebanon, and York). In addition, when the Department issues its daily air quality forecasts, it is forecasting for maximum ozone concentrations within the entire 5-county CSA. The five ozone monitors in the CSA not only meet the minimum monitoring requirements (as outlined within the Network Plan) but provide adequate representation of ozone concentrations within the CSA.

It is important to note that the Department continues to be constrained by insufficient staffing levels. Please refer to the Department’s response to Comment #14 for more detailed information. Without a significant increase in resources, the number of monitoring locations throughout the Commonwealth will not be able to expand more than is already outlined in the 2017 Annual Ambient Air Monitoring Network Plan. Nonetheless, in the past few years, the Department has made a significant investment in ambient air quality monitoring in numerous areas of the Commonwealth. The Department remains committed to installing and maintaining an ambient air monitoring program as outlined in the 2017 Annual Ambient Air Monitoring Network Plan.

- 87. DEP's draft plan indicates that near-road NO₂ monitors, previously scheduled to be installed near Harrisburg, Lancaster, Scranton-Wilkes-Barre, and Allentown, will not be installed. The stated reason is that EPA found NO₂ concentrations in heavily populated areas to be lower than expected. While this may be true nationwide, we still have no reliable information about NO₂ concentrations in heavily populated Pennsylvania cities. (4)**

The Department appreciates the comments and concerns of the commentator. As stated in the Network Plan, U.S. EPA has revoked the requirement for near-road NO₂ monitoring for MSAs with populations less than 1,000,000 persons. The rationale and details for revoking this requirement are provided by U.S. EPA and can be found at the following U.S. EPA ambient NO₂ monitoring webpages:

<https://www.epa.gov/no2-pollution/ambient-nitrogen-dioxide-monitoring-requirements>

<https://www3.epa.gov/ttnamti1/nearroad.html>

<https://www.epa.gov/no2-pollution/primary-national-ambient-air-quality-standards-naaqs-nitrogen-dioxide>

With the promulgation of this rule change, the Department does not expect U.S. EPA to make available any funding for near-road sites not required by the modified rule. In light of the lower value NO₂ concentrations already available from near-road stations next to heavily-traveled roads, PA DEP does not expect to measure concentrations leading to an NO₂ design value in exceedance of the NAAQS at any of its previously planned near-road sites. The commentator is incorrect regarding near-road NO₂ data availability from Pennsylvania monitoring sites. There are three near-road NO₂ monitoring locations in Pennsylvania – the Parkway East monitoring site in Allegheny County and the Montgomery and Torresdale sites

in Philadelphia County. NO₂ concentrations measured at these sites are well below the NO₂ NAAQS. In fact, since their installation in 2014 and 2015, none of these sites have measured a single 1-hour NO₂ concentration in exceedance of 65 ppb, which is approximately two thirds the level of the NO₂ NAAQS. Accordingly, PA DEP's limited resources are best utilized for other aspects of its monitoring network.

88. The Department Should Install a Monitor in Southeast Armstrong County or Northwest Westmoreland County, to Address SO₂ Emissions from the Cheswick Generation Station in Allegheny County, Which Continue to Avoid Monitoring Networks.

The Cheswick Generating Station near Springdale is the largest source of SO₂ emissions in Allegheny County. These emissions affect or have the potential to affect neighboring communities in Allegheny County, Westmoreland County, and Armstrong County. To date, there is no SO₂ monitor near the Cheswick facility, under either the jurisdiction of Allegheny County or the Department.

The Council and other environmental groups have submitted comments about this deficiency to Allegheny County. To date, Allegheny County has not adequately addressed these concerns. Because Allegheny County has not addressed these concerns, the Department should address it.

To the extent that the Department succeeds in its proposal to discontinue a number of SO₂ monitors, this would make a monitor available for either Allegheny County or the Department to relocate a monitor near the Cheswick facility. See Proposed Plan, pages 42-44.

Installing an SO₂ monitor near the Cheswick Generating Station would result in a more complete representation of SO₂ emissions in Southwestern Pennsylvania, and correct a longstanding deficiency in the air monitoring networks in the Commonwealth. (9)

The Department appreciates the comments provided by the commentator. The SO₂ emissions from the Cheswick Generating Station were adequately addressed through the requirements of the SO₂ Data Requirements Rule, 80 FR 51052 (August 21, 2015). In fact, U.S. EPA recently proposed an unclassifiable designation with respect to the Cheswick Generating Station as part of its most recent round of SO₂ designations for the 2010 SO₂ NAAQS.

89. I am concerned that discontinuing the SO₂ monitor in Chester County will interfere with PADEP/BAQ's multipollutant and multisource air emissions control strategy for the city of Chester, where public health protection is paramount. Does this involve monitors #53 and #60? Does a PM speciation monitor in Chester county participate in defining multiple pollutant reduction strategies? (13)

The Department appreciates the comments. It appears that the commentator has made a typographical error in the first sentence of this comment, and is in fact referring to PA DEP's Chester monitoring site located in Delaware County, and not to Chester County. (PA DEP does not monitor for SO₂ in Chester County.) In the Network Plan, PA DEP is proposing to discontinue SO₂ monitoring at its Chester, Delaware County site. Monitors #53 and #60,

identified in Figure 3 of the Network Plan, are Ridley Park and Swarthmore, respectively, both of which are located in Delaware County. In the Network Plan, PA DEP is proposing to discontinue one PM_{2.5} speciation monitor from either the Chester or Marcus Hook site, both of which are located in Delaware County. PA DEP believes that the removal of one PM_{2.5} speciation monitor in Delaware County would not impact any multiple pollutant reduction strategies. PA DEP does perform PM_{2.5} speciation monitoring at its New Garden, Chester County site.

- 90. Near the ABE – i.e. Allentown, Bethlehem and Easton – region, monitor #14 – for ground level ozone, 8 hour - has been proposed to be discontinued. Since its design value is so close to and/or just meeting the ozone 8 hour emission standard level, I do not believe that this area will not return to nonattainment in the relatively near future. How will we know when the automatic maintenance plan provisions should kick in? (13)**

The Department appreciates the comments. It appears that the commentator has made a typographical error in the second sentence of this comment and is in fact referring to the 8-hour Ozone National Ambient Air Quality Standard (NAAQS) and not to an “emission standard.” As noted in the Network Plan, the Easton monitoring site has consistently measured ozone concentrations below that of Allentown and Freemansburg, the remaining two sites in the Pennsylvania portion of the Allentown-Bethlehem-Easton, PA-NJ MSA. If the MSA is designated as “nonattainment” in the future, the remaining two monitoring sites would provide the most protective monitoring strategy for the MSA. In addition, as part of the implementation of the 2015 ozone NAAQS, the 2008 ozone NAAQS was proposed to be revoked by U.S. EPA for areas meeting the 2008 ozone NAAQS (see <https://www.epa.gov/ozone-pollution/implementation-2015-national-ambient-air-quality-standards-naaqs-ozone-state>). The Allentown-Bethlehem-Easton area was designated as nonattainment with respect to the 2008 ozone NAAQS. On April 3, 2008, U.S. EPA issued a “Clean Data Determination” for the Allentown-Bethlehem nonattainment area (see <https://www.gpo.gov/fdsys/pkg/FR-2008-03-04/pdf/E8-4029.pdf#page=1>). Therefore, since the Allentown-Bethlehem-Easton area is monitoring attainment of the 2008 ozone NAAQS and since the 2008 ozone NAAQS is being revoked for areas meeting the 2008 ozone NAAQS, the maintenance plan provisions have been discontinued.

- 91. Again, in Washington PA monitor #68 is too close to the emissions standard limitation to discontinue use of that monitor. Again, how will we know when the maintenance plan provisions should automatically engage to reduce that pollutant? Additionally, why wouldn't PADEP/BAQ wish to continue to receive ozone cross boundary emissions data from Ohio, Kentucky and West Virginia? Will another monitor be used to differentiate cross state boundaries pollution? (13)**

The Department appreciates the comments and questions provided by the commentator. It appears that the commentator has made a typographical error in first sentence of this comment and is referring to the National Ambient Air Quality Standards (NAAQS) and not to an “emission standard.” In addition, it is unclear to which NAAQS the commentator is referring since both ozone and PM_{2.5} are monitored at PA DEP's Washington site. Regardless, PA DEP believes that it has an adequate network of monitors to address cross-state pollution. The Department has monitors in Holbrook (Greene County), Florence (Washington County), Hookstown (Beaver County) and Farrell (Mercer County). All of the

monitors are located in close proximity to state lines and adequately monitor air contaminants that migrate to Pennsylvania from out of state.

- 92. The addition of monitoring in the Gettysburg and Chambersburg locations makes sense since they receive significant mobile sources pollution from Route 15 in PA and Maryland routes 40 and 70, in addition to point source pollution and cross boundary downwind transport from the southwest corner of PA. (13)**

The Department appreciates and agrees with the comments provided by the commentator.

- 93. I question the removal of the Swiftwater, Monroe county PM_{2.5} monitor. Fracking is increasing in Monroe county, the Poconos. I do not see either an existing or a new monitor that can pick up the slack and record PM_{2.5} pollution through that area. Is this setting up a possible protest from New Jersey to our monitoring plan? (13)**

The Department appreciates the comments and questions provided by the commentator. As noted in the Plan, U.S. EPA minimum monitoring requirements do not require PM_{2.5} monitoring in Monroe County, which is the entirety of the East Stroudsburg MSA. In addition, historical PM_{2.5} concentrations measured at the Swiftwater site are substantially below the 24-hour and annual PM_{2.5} NAAQS of 35 and 12.0 µg/m³, respectively. Since its installation in 2010, the highest 24-hour average and highest 98th percentile measured by the PM_{2.5} monitor at Swiftwater was in 2013, at 29.3 and 21.7 µg/m³, respectively. The highest PM_{2.5} annual average recorded at Swiftwater was 9.4 µg/m³, also measured in 2013. Given this historical trend, PA DEP does not expect that PM_{2.5} concentrations at the Swiftwater site will exceed the level of the PM_{2.5} NAAQS in the foreseeable future. Although Monroe County is not part of the Marcellus Shale Play itself, the Department will continue to evaluate all of the Marcellus Shale region and surrounding areas with respect to the expansion of its air monitoring network in areas impacted by shale gas activities. To date, PA DEP has not received any comments on its 2017 Annual Network Plan from the state of New Jersey.

- 94. Is this a bad joke? The combination of State College and DuBois MSA's is senseless. These towns are located several counties apart. State College is a growing municipality while DuBois has been stagnant for a very long time. There continues to be inadequate air pollution monitoring in State College which has enormous mobile source pollution that has not been accounted for with the new I 99 route through Centre County. State College is a retirement destination and has significant growth in student and long term residential populations. There are three high rise student housing buildings being constructed in State College right now. Both DuBois and State College experience pollution from nearby interstate Route 80. The placement of the monitor that may " ... NOT (sic) be in area of expected ozone maximum concentration" will continue to condemn State College and Centre County residents to inadequate health protections, while at the same time violating the Clean Air Act requirements for reductions of ozone precursor pollutants and for protection of human health from air pollutants as 'expeditiously as practicable'. 40 C.F.R. Part 58, Appendix D requires that the " ... ozone monitor network must be designed to record the maximum concentration for that particular metropolitan area." It goes on to require that the network must be designed to account for the full breath of "... geographic size, population density, complexity of terrain and meteorology, adjacent monitoring programs, ozone transport**

from neighboring areas and measured air quality in comparison to all forms of the Ozone NAAQS.”

Exactly where do you have a population center where a monitor could be sited that would adequately protect both State College, Centre County and DuBois which is an hour and a half drive from State College?

DuBois is located on the Allegheny Plateau and State College is part of the Ridge and Valley Physiographic provinces. State College deserves more air monitors and more consistent health protections from air pollutants. Dubois deserves its own ozone monitor if its population density and mobile source pollution dictates that it should receive it to protect public health. (13)

The Department appreciates the comments and questions provided by the commentator. U.S. EPA’s network design requirements as set forth in 40 C.F.R. Part 58, Appendix D, § 4.1, mandating ozone monitoring for maximum concentrations, specifically reference the use of Combined Statistical Areas and Metropolitan Statistical Areas. CSA and MSA are defined by the federal Office of Management and Budget and can be accessed through the Census Bureau’s website at <https://www.census.gov/programs-surveys/metro-micro/guidance.html>. PA DEP utilized both MSA and combined MSA to identify areas listed in Table C-11 of the Plan. According to the latest Office of Management and Budget bulletin, dated July 15, 2015, the State College-DuBois CSA encompasses the State College MSA, as well as the DuBois micropolitan statistical area, which is defined as Clearfield County. PA DEP appreciates the commentator’s concerns regarding the siting of monitoring stations in relation to mobile sources within the State College-DuBois CSA. PA DEP currently operates two monitors within the State College-DuBois CSA: the State College site in Centre County and the Moshannon site in Clearfield County. The Department will take these concerns into account as part of its network review process.

General Topics

- 95. In July 2012, DEP launched what was to be a one-year, continuous monitoring study of emissions and air quality near gas compression and processing facilities in Washington County. More than five years later, DEP has still not released the results of this study and the public remains without valuable information on the pollution caused by shale gas operations—and in turn impacts on their health and well-being. (2)**

The Department acknowledges the comment. Although the “Marcellus Shale LTMP” report is beyond the scope of the Annual Network Plan, it is important to bear in mind that, over the duration of the approximate 1.5-year project (July 2012 through December 30, 2013), data for numerous hazardous air pollutants (HAP) and criteria pollutants had been collected at five (5) monitoring sites. This resulted in the collection of a plethora of data, all of which needed to be processed using validation and usability determinations, quality-assured, analyzed, and interpreted. Since the draft report was completed, the Department has been relying on the assistance of agencies such as the PA Department of Health and the Agency for Toxic Substances and Disease Registry (ATSDR) for the evaluation of possible health impacts. These agencies are providing input regarding data interpretation and health-risk assessments. All processes involved including data collection, analysis, interpretation,

completing a draft report, working with other agencies, and similar processes have resulted in the need for a greater amount of time than originally anticipated. The Department looks forward to providing the final report to the public by the end of the year.

- 96. (The Commentator) recognizes that for several years, DEP has faced budget and staffing reductions, and that the US Environmental Protection Agency under the current administration has proposed drastic cuts for state and local air quality management grants. (2)**

The Department appreciates the comments. Despite the reductions in budget and staffing, the Department remains committed to providing the residents of Pennsylvania with the highest quality of air monitoring to ensure the protection of the public health.

- 97. Would PADEP/BAQ chose to place additional monitors throughout Pennsylvania if more funding was available for siting and maintenance from EPA? (13)**

The Department appreciates the question/comment. It would be helpful; however, such an increase in funding would have to be sufficient to be able to increase staffing levels and expand the number of monitoring stations across the Commonwealth beyond what is outlined in the Annual Network Plan.

- 98. Without any explanation, DEP moved McKean County's new monitor installation date from the "end of 2017" to "January 1, 2019," Indiana County's new monitor installation date from the "end of 2016" to "January 1, 2019," and Lycoming County's new monitor installation date from the "end of 2016" to "July 1, 2018." What is now a reoccurring theme in this section, DEP should provide an explanation for the delays in implementing these monitors and must comply with 40 C.F.R. § 58.10(b). (1)**

The Department appreciates the concerns expressed by the commentator. Despite the Department's consideration of numerous factors during the development of the Annual Network Plan, there are factors that arise such as budget shortfalls and staffing/resource shortages that are not anticipated. Consequently, some components of the plan were not able to be implemented in the time period that was initially proposed by the Department. This has resulted in changes to the original proposed timeframes for the installation of air quality monitors. For example, and with reference to the Department's response to Comment #1 on page 6, the monitoring locations in Indiana and McKean Counties will not be operational by January 1, 2018. The Department was not able to find suitable locations for the air monitors due to the heavily forested or otherwise unsuitable areas in these counties. Despite these unanticipated occurrences, the Department is continuing with its efforts to install the monitors in as timely a manner as possible and in accordance with 40 C.F.R. § 58.10(b). The Department intends to install the Indiana and McKean County monitoring sites in late 2018 or early 2019.

- 99. The proposed site locations suffer from a vagueness issue similar to the Fayette County site, but here made even worse by the multiple "potential site location" boxes drawn by DEP.¹⁰ As was the case with the Fayette County site, the public has no way to make a**

¹⁰ 2017 Network Plan, *supra* at 30-32 (Wyoming County), at 26-29 (Susquehanna County).

meaningful comment when DEP's proposed sites are rough estimates that cover multiple square miles. (1)

The Department appreciates the concerns of the commentator. The Department continues to assess potential monitoring site locations and plans to finalize the location following its consideration of public comments.

- 100. Please, accept the assistance of those residents in this county who are aware of the sites where these monitors need to be placed. Peer reviewed citizen science has been done by residents here in Susquehanna County with professionals and already know where monitors are locally needed the most, where residents are exposed to the highest spikes of harmful emissions. (10)**

The Department appreciates the comment and is aware of and has been maintaining contact with several citizens and citizen groups throughout the Commonwealth that are offering assistance with the monitoring process. The Department values this involvement with citizens and looks forward to continued interaction and information sharing.