

Response to Comments

West Virginia Department of Environmental Protection - Division of Air Quality

2022 Ambient Air Monitoring Annual Network Plan

June 30, 2022

Overview

On May 3, 2022, the West Virginia Department of Environmental Protection Division of Air Quality (DAQ) posted the proposed 2022 Ambient Air Monitoring Annual Network Plan (ANP), and SO₂ Data Requirement Rule Annual Report, included as an appendix, to our website at www.dep.wv.gov/daq/ in the “Public Notice and Comment” section. The 30-day public review and comment period ended at the close of business on June 1, 2022. No comments were received regarding the SO₂ Data Requirement Rule Annual Report. One (1) comment was received regarding the 2022 Ambient Air Monitoring Annual Network Plan. After the close of business on June 1, 2022, the commenter submitted another email with several attached pages of names and address of persons claimed to be co-signers to the original comment. Comment summaries and the DAQ’s responses follow the List of Commenters. The original comment, and subsequent attachments, in their entirety, will be shared with the United States Environmental Protection Agency (EPA) Region 3.

List of Commenters for DAQ’s 2022 Ambient Air Monitoring Annual Network Plan

1. Willie Dobson, Central Appalachian Field Coordinator, Appalachian Voices

Comment: The state’s particulate matter monitoring network does not accurately reflect ambient air quality throughout West Virginia since no such monitors are stationed within the southwestern and southern central portions of the state, where the coal mining industry is most heavily concentrated, and most active. As a result, the state’s particulate matter data fails to reflect the air quality impacts of this major industry. This lack of comprehensive monitoring causes the state’s implementation of clean air statutes to be insufficiently protective of citizens who live near coal mines and associated infrastructure.

Response: The DAQ acknowledges the concerns expressed. Numerous factors are involved in determining a monitoring site location. The ambient air monitoring the DAQ conducts is designed to help assess compliance with federal national ambient air quality standards (NAAQS), thereby, protecting air quality throughout the state. Currently, the DAQ operates 17 ambient air monitoring stations located throughout the state, under an air network plan approved by the EPA with the exception that the EPA uses continuous PM_{2.5} data from a federal equivalent method (FEM) monitor for NAAQS determination, instead of exclusively data from a monitor

using the federal reference method (FRM) methods at the NCore site. The EPA reviews the monitoring plan to ensure the agency meets the obligations of the air monitoring program. The air monitoring sites are typically located to assess air quality levels based on population exposure, and industry emissions to determine compliance with the NAAQS and background levels. In general, procedures to establish a monitoring station are found in 40 CFR Part 58, Appendix D which can be found at: [https://www.law.cornell.edu/cfr/text/40/appendix-D to part 58](https://www.law.cornell.edu/cfr/text/40/appendix-D%20to%20part%2058). Monitoring equipment and analysis methods must use FRM or FEM standards. These are the guidelines used by the DAQ to construct and maintain the ambient air monitoring network.

The DAQ's current PM_{2.5} monitors are sited near higher population areas to capture ambient air near where the most people live. This is in accordance with *EPA Guidance for Network Design and Optimum Site Exposure For PM_{2.5} And PM₁₀* (December 1997) at (<https://www3.epa.gov/ttnamti1/files/ambient/pm25/network/r-99-022.pdf>).

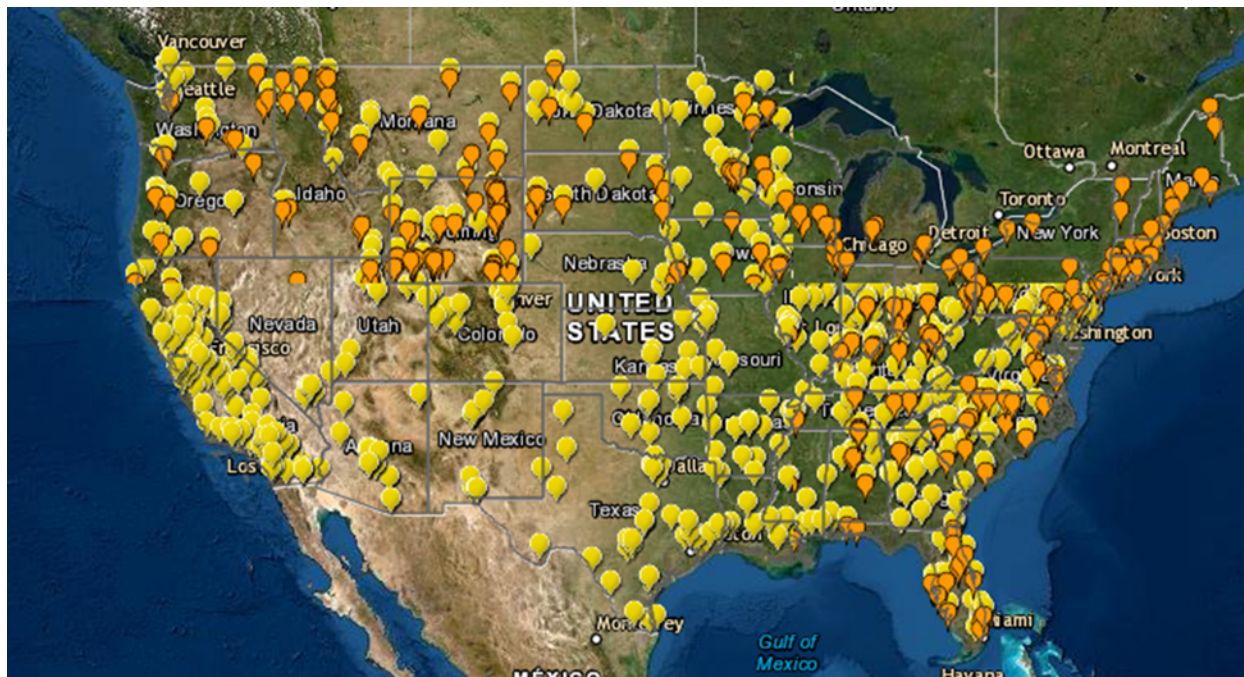
As stated in the Abstract:

PM_{2.5} monitoring sites are to be population-oriented, measuring exposures where people live, work, and play. For comparison to the annual PM_{2.5} standard, the locations must be community-oriented and as such, these do not necessarily correspond to the locations of highest PM concentrations in an area. Existing Metropolitan Statistical Areas are first examined to determine where the majority of the people live in each state. These are then broken down into smaller populated entities which may include county, zip code, census tract, or census block boundaries. Combinations of these population entities are combined to define Metropolitan Planning Areas. These may be further sub-divided into Community Monitoring Zones, based on examination of existing PM measurements, source locations, terrain, and meteorology. Finally, PM_{2.5} monitors are located at specific sites that represent neighborhood or urban scales to determine compliance with the annual standard and at maximum, population-oriented locations for comparison with the 24-hour standard. Transport and background sites are located between and away from planning areas to determine regional increments to PM measured within the planning area.

It should be noted that regardless of air monitoring site placement, air quality statutes, rules and regulations are implemented across the state.

To help provide context for the particulate matter monitors across the United States, including in West Virginia, the map in Figure 1, below, shows active sites for PM_{2.5} (yellow pins) and PM₁₀ (orange pins). As can be observed, these particulate monitors tend to be sited in higher-population areas, consistent with EPA's federal guidelines.

Figure 1: Map of active sites for PM_{2.5} (yellow pins) and PM₁₀ (orange pins) from EPA's interactive map of air quality monitors.



Data collected at outdoor air monitors across the United States, including those noted above, as well as those located throughout West Virginia, can be found at <https://www.epa.gov/outdoor-air-quality-data>. The interactive map with monitor locations is useful; pre-generated data files are available for download as well. This data is updated on a quarterly basis.

Comment: The community of Eunice in Raleigh County is dealing with a cloud of fugitive coal mine dust on a daily basis. This particulate matter blows off the permitted area for the Alpha Metallurgical Resources' Black Eagle Deep Mine into the adjacent neighborhood. The presence of excessive airborne particulate matter may aggravate and exacerbate individuals with pre-existing health conditions. Commentor alleges §45 CSR 17.3-1 and §22 CSR 5-2(6), West Virginia State Code dealing with statutory air pollution within the jurisdiction of Division of Mining and Reclamation (DMR) and DAQ, respectively, are not being met in Eunice, WV. Commenter states that appeals to DMR have resulted in adequate fugitive dust controls at Alpha Metallurgical Resources' operations.

The ANP is not meant to address citizen complaints. Nevertheless, information is provided here regarding the WVDEP's Division of Mining and Reclamation which regulates the control of fugitive dust from permitted mine sites in the state. The DMR has received citizen complaints on various issues about the Black Eagle facility, including dust. The DMR investigated each complaint it received and took enforcement action whenever appropriate. It should be noted that the DMR conducted 16 on-site inspections and one aerial inspection -- all for dust -- from January 2021 to September 2021, all at varying hours, including after midnight. No dust was observed during any of these inspections.

The DMR policy regarding citizen complaints is available here:

<https://dep.wv.gov/dmr/handbooks/Pages/I%20and%20E%20Handbook.aspx>, under section 18 – Citizen Actions. This policy requires that an MR-35 Complaint Investigation form is to be filled out whenever a citizen complaint is received, whether written or verbal, and an attempt to contact the complainant must be made within 48 hours of notification of a complaint. It also states that citizens are to be informed of the results of the inspection and any actions taken to rectify the situation within 10 days of inspection.

Once the complaints have been investigated by the DMR and resolved, the forms are uploaded into WVDEP’s document management system, Application Xtender (AX) and made available to the public.

Residents are encouraged to call the WVDEP’s Fayetteville Office at (304) 574-4465, which is the regional office responsible for inspections of the site if they have a complaint. However, citizens can also call the WVDEP headquarters in Charleston at (304) 926-0499.

In February 2012, in response to coalfield citizens’ concerns regarding air quality near surface mine blasting sites in West Virginia, the WVDEP commissioned a two-week ambient air quality study in Clear Fork, Raleigh County. It was determined from sampling data that the local air quality was well within applicable health-based standards and there was not any conclusive evidence of impact of blast emissions on air quality in the study area. The report, West Virginia Air Quality Assessment Near a Surface Coal Mine Blasting Operation, can be found at <https://dep.wv.gov/SiteCollectionDocuments/Battelle%20Study%20cover%20letter.pdf>. Please note that more mining activity occurred in West Virginia in 2012 (132 million tons of coal mined) vs. 2021 (82 million tons mined).

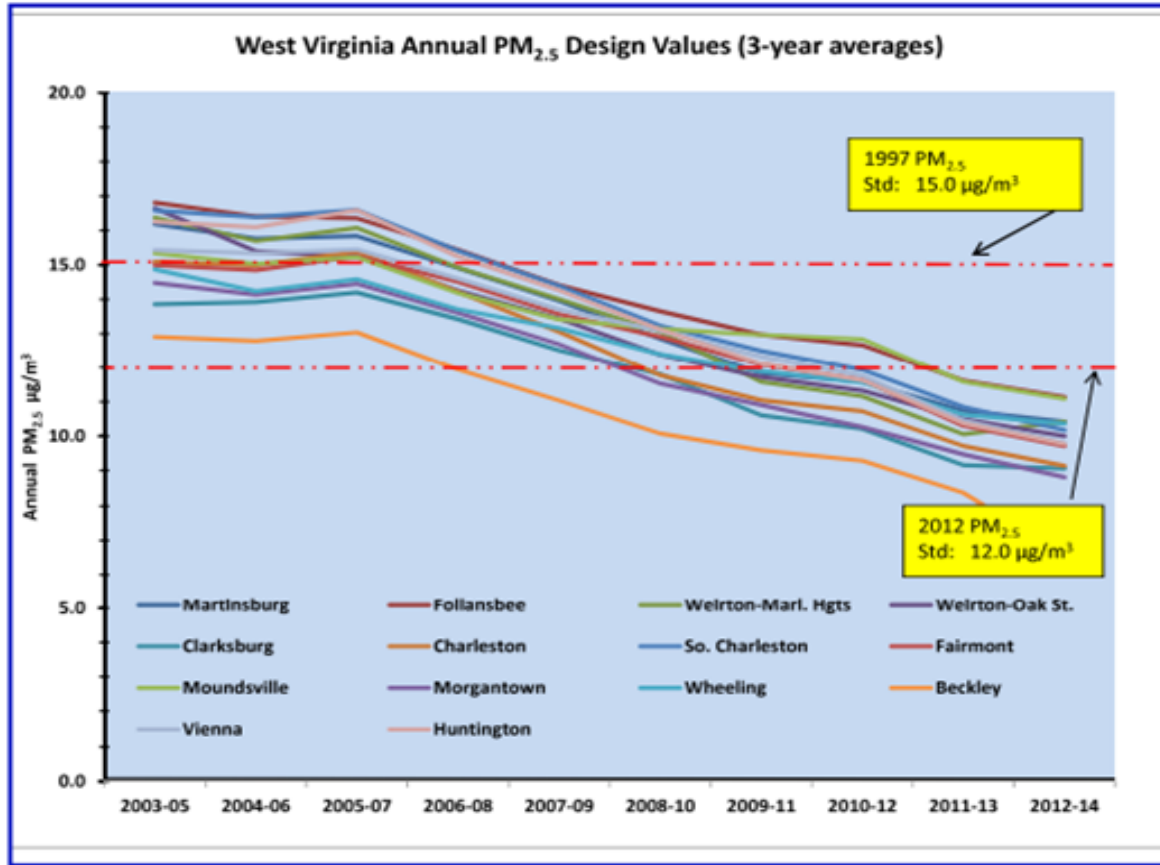
Comment: Commenter requests DAQ examine the impacts of fugitive mine dust on ambient air quality, specifically in Eunice, and more broadly across the southern WV coalfields, by placing PM₁₀, PM_{2.5} and TSP monitoring devices in Eunice and in other communities facing similar problems.

As noted above, in February 2012, when mining activity was higher in West Virginia (132 million tons of coal mined, compared to 82 million tons mined in 2021), the WVDEP conducted a special study of air quality in Clear Fork in Raleigh County, and determined from sampling data that the local air quality was well within applicable health-based standards and there was not any conclusive evidence of impact of blast emissions on air quality in the study area. The report, West Virginia Air Quality Assessment Near a Surface Coal Mine Blasting Operation, can be found at <https://dep.wv.gov/SiteCollectionDocuments/Battelle%20Study%20cover%20letter.pdf>.

The DAQ operated a permanent PM_{2.5} monitor in Beckley for many years, but operation was discontinued in 2013 because the recorded levels were extremely low compared with the NAAQS. The 2014 DAQ annual report contains charts of the data, and shows the low PM_{2.5} values at this site on page 16:

<https://dep.wv.gov/daq/small%20business/Documents/2014%20Annual%20Report.pdf>, and shown in Figure 2 below.

Figure 2: Chart of PM_{2.5} design value concentrations, compared with EPA’s NAAQS, including for the Beckley monitor which was discontinued after 2013.



The federal NAAQS are set for pollutants considered harmful to public health and the environment. The Clean Air Act identifies two types of NAAQS. Primary standards provide public health protection, including protecting the health of “sensitive” populations such as asthmatics, children, and the elderly. Secondary standards provide public welfare protection, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings. Therefore, meeting NAAQS for ambient air quality means that these health and welfare thresholds are being met.

Locating a monitor in more rural areas is a challenge due to logistics in lack of power supply, lack of property to place a monitor, lack of adequate resources to operate and maintain the equipment. Federal funding has been limited over the years to the states which has made it more important to manage its resources.

The 2018-2020 DAQ annual report shows that the pollutant values in the ambient air across the state have continued to decline, that is, air quality is improving. As of October 2020, the entire state of West Virginia has been designated as in attainment with all federal NAAQS. The DAQ’s annual reports back to 2011 are available here:

<https://dep.wv.gov/daq/Pubs/Pages/default.aspx>.

Information on air monitoring emissions across the state can be found at: <https://dep.wv.gov/daq/>. Scroll down the webpage to find the “Introduction to West Virginia Air Quality” which provides background information on air quality program implementation.

Based on historical ambient air monitoring data on PM_{2.5} in southern West Virginia, EPA guidelines, and resources, DAQ does not plan to add additional monitoring locations to the network at this time.

Comment: Commenter requests DAQ confer with DMR on this matter, and take actions to compel Black Eagle Deep Mine, and other mines and associated infrastructure across the state more generally, to implement effective dust abatement strategies.

The DMR’s complaint process is provided in an earlier response.

The DAQ’s statewide air program requires that facilities obtain permits with emission limits on air pollutants that meet state and federal emissions standards. Permitted emission limits are established so that no single facility is allowed to cause or contribute to a violation of NAAQS. This approach also establishes a framework in which aggregate emissions from multiple facilities do not exceed NAAQS. Even in the unfortunate circumstance of a violation of an emission limit at a facility, a NAAQS violation typically does not occur. The DAQ’s permits incorporate on-going parametric monitoring of process conditions to determine if the permitted emissions limits are being met. Compliance determinations with particulate matter limits are made by reviewing records of facilities to determine if production limits are within the permitted range; review of records of control equipment operation (generally, water truck/water sprays); opacity observations during inspection of the facility, both quantitative (for example a point source such as belt transfer points and crushers/screeners) and qualitative at fugitive sources (stockpiles and roadways). Control equipment is also reviewed during inspections to determine if it is operational and in good operating condition.