



west virginia department of environmental protection

Division of Air Quality
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WVDEP 2017 Ambient Air Monitoring Annual Network Plan

On October 17, 2006, the US Environmental Protection Agency (EPA) published final amendments to 40CFR Part 53 and 58 “Revisions to Ambient Air Monitoring Regulations; Final Rule”. This rule became effective on December 18, 2006.

Under Part 58, Subpart B-Monitoring Network, § 58.10 Annual Monitoring Network Plan and Periodic Assessments (a)(1): “Beginning July 1, 2007, the State, or where applicable local, agency shall adopt and submit to the Regional Administrator an annual monitoring network plan which shall provide for the establishment and maintenance of an air quality surveillance system that consists of a network of SLAMS monitoring stations including FRM, FEM, and ARM monitors that are part of SLAMS, NCore stations, STN stations, State speciation stations, SPM stations, and/or, in serious, severe and extreme ozone nonattainment areas, PAMS stations, and SPM monitoring stations. The plan shall include a statement of purposes for each monitor and evidence that siting and operation of each monitor meets the requirements of appendices A, C, D, and E of this part, where applicable. The annual monitoring network plan must be made available for public inspection for at least 30 days prior to submission to EPA. “

On March 28, 2016 (effective April 27, 2016) EPA finalized revisions to 40CFR Part 58 “Revision to Ambient Monitoring Quality Assurance and Other Requirements; Final Rule”.

Under Part 58 §58.10 (a)(1) “Annual monitoring network plan and periodic network assessment” EPA amended the 2006 language to clarify the handling of any public comment received on the plan: “The annual monitoring network plan must be made available for public inspection and comment for at least 30 days prior to submission to the EPA *and the submitted plan shall include and address, as appropriate, any received comments* (emphasis added).

The purpose of this document is to provide for the public inspection of and obtain comments on, the WV Department of Environmental Protection Division of Air Quality’s (DAQ) ambient air monitoring Annual Network Plan (ANP) for 2017. This public inspection period is open for 30 days from the date of posting on our website at www.dep.wv.gov/daq/. Any written comments received during the 30-day public inspection period, regarding the ANP and the DAQ response will be forwarded to USEPA Region 3 along with the ANP. The ANP also documents any changes to the state’s PM_{2.5} monitoring that would affect the location of a violating PM_{2.5} monitor. It should be noted that there are no PM_{2.5} monitors in WV that currently violate either

the 24-hour or annual National Ambient Air Quality Standard. Except for circumstances not anticipated during this review period, such as inadequate federal or state funding, leasing issues, site maintenance issues, personnel resource issues or equipment failures no other *intentional* changes are expected to be made to the PM_{2.5} monitoring network or the criteria pollutant monitoring network/stations during the next 12 months except those that are discussed within this document. All the monitoring sites are leased and those leases are subject to periodic renewals which can affect the DAQ's ability to retain a monitoring site location. The proposed changes are listed under the specific air monitoring site so that the public may have an opportunity to comment on any possible network modifications.

In the pages that follow, each individual monitoring site and corresponding photograph, is listed by county along with a statement as to whether it meets the requirements of Part 58, the Air Quality Subsystem (AQS) site ID number, site location information, sampling and analytical method for each parameter, the Metropolitan Statistical Area (MSA) that is represented by the site, proposed site changes and any other general comments regarding the site. Other pertinent information such as latitude/longitude, site purpose, the monitor's objective/site type and representative scale is also listed for each site.

Please send written comments to:

Tim J. Carroll, Assistant Director
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Comments may also be submitted via email to: tim.j.carroll@wv.gov .

For additional information and to view data publicly available from the AQS data system please visit www.epa.gov/airdata/ . For a copy of the latest WVDEP-DAQ annual air monitoring report please visit www.dep.wv.gov/daq/.

To review the September 2006 and April 2016 Monitoring Regulations please visit <https://www3.epa.gov/ttn/amtic/monregs.html>.

SO₂ Data Requirement Rule (DRR)

On August 10, 2015, the USEPA finalized requirements for air agencies to monitor or model ambient sulfur dioxide (SO₂) levels in areas with large sources of SO₂ emissions to help implement the 1-hour SO₂ National Air Ambient Quality Standard (NAAQS). The rule establishes that, at a minimum, air agencies must characterize air quality around sources that emit 2,000 tons per year (tpy) or more of SO₂. An air agency may avoid the requirement for air quality characterization near a source by adopting enforceable emission limits that ensure that the source will not emit more than 2,000 tpy of SO₂. The rule requires agencies to use either

modeling of actual source emissions or appropriately sited ambient air quality monitors to assess local SO₂ concentrations.

As stated in the DAQ's 2016 ANP and supplement, there are no WV sources subject to the DRR rule that have elected to conduct ambient air monitoring for SO₂. However, the Verso Paper Corporation Luke Mill, an SO₂ source in Maryland, will conduct SO₂ monitoring beginning in 2017. One of the SO₂ monitoring sites is located in Mineral County, WV. The Maryland Department of the Environment (MDE) will be the Primary Quality Assurance Organization (PQAO). There are also two SO₂ sources in Ohio; American Electric Power's James M. Gavin and the Ohio Valley Electric Corporation Kyger Creek power plants. Both facilities are electric generating utilities that are located within two miles of each other along the Ohio River in Gallia County. These facilities will also conduct SO₂ air monitoring under the SO₂ DRR beginning in 2017 and one of the sites is in Lakin, WV. The Ohio Environmental Protection Agency (OEPA) will be the PQAO. Additional details may be found herein under the specific WV counties. The DAQ will not be responsible for the operation, maintenance, data collection/reporting or quality assurance activities at these sites.

Berkeley County

Site: Martinsburg Ball Field

Location: Martinsburg Ball Field, Martinsburg, Berkeley County, WV

AQS ID: 54-003-0003

MSA: Hagerstown-Martinsburg, MD-WV

Latitude: 39.448001

Longitude: -77.96413



Comment: Site complies with Appendix A, C, D, E of Part 58. This site is suitable for NAAQS comparisons. Current site established in 1999 to provide air quality monitoring in Berkeley County and the Eastern Panhandle of WV.

Parameters monitored, sampling method, scale, and purpose:

Particulates:

PM_{2.5} sequential Lo-Volume sampler, Federal Reference Method, samples once every three days. Samples analyzed by gravimetric analysis.

Representative siting scale: Urban

Monitoring objective/site type: Population oriented

State audit conducted 4/4/2016 and 10/4/2016

USEPA performance evaluation audit conducted 5/3/2016

Gaseous:

Ozone – UV absorption continuous gas monitor operated during ozone season March – October

Representative siting scale: Urban

Monitoring objective/site type: Population oriented

State accuracy audit conducted 6/4/2016

Brooke County

Site: Mahan Lane

Location: Mahan Lane, Follansbee, Brooke County, WV

AQS ID: 54-009-0005

MSA: Steubenville-Weirton OH-WV

Latitude 40.34102

Longitude -80.59664



Comment: Site complies with Appendix A, C, D but does not comply with Appendix E of Part 58. There continues to be infringement of tree growth that is outside of site area which is affecting the ideal monitor distance from the tree drip line. The DAQ is also experiencing leasing issues with this site. While the DAQ continues to explore alternate siting options, the availability of sites that are both leasable and meet all the siting criteria is very limited. The site was established in 1983 to provide air quality monitoring in an industrialized area of Brooke County.

Proposed change: The DAQ is proposing to discontinue the PM₁₀ Hi-Volume sampling at this site at the end of 2017. The 2nd maximum 24 hour PM₁₀ values have been running below 50% of the NAAQS of 150 µg/m³ since 2002. The second maximum PM₁₀ concentrations for the period 2012, 2013, 2014, 2015 and 2016 have been 47, 32, 34, 40 and 33 µg/m³ respectively. The table below compares the 24 hour 2nd maximum PM₁₀ between the Follansbee PM₁₀ Hi-Vol sampler and the Marland Heights continuous PM₁₀ TEOM for the period 2012 through 2016.

Site	2012	2013	2014	2015	2016
Follansbee PM ₁₀ Hi-Vol	47	32	34	40	33
Marland Heights PM ₁₀ TEOM	41	35	45	40	33

The continuous PM₁₀ TEOM FEM monitor would continue to sample at Marland Heights in Brooke County as long as the current equipment is operable.

Parameters monitored, sampling method, scale, and purpose:

Particulates:

PM₁₀ Hi-Volume sampler, Size Selective Inlet, Federal Reference Method, utilizes 8"x10" quartz filters, samples once every six days. Collocated PM₁₀ Hi-Volume sampler runs once every 12 days. Samples analyzed by gravimetric analysis.

Representative siting scale: Neighborhood

Monitoring objective/site type: Population oriented

State audit conducted 4/1/2016, 10/6/2016 and 10/18/2016

PM_{2.5} sequential Lo-Volume sampler, Federal Reference Method, samples once every three days. Samples analyzed by gravimetric analysis.

Representative siting scale: Neighborhood

Monitoring objective/site type: Population oriented

State audit conducted 4/19/2016 and 9/22/2016

USEPA performance evaluation audit conducted 10/12/2016

Gaseous:

Sulfur Dioxide – UV fluorescent continuous gas monitor

Representative siting scale: Neighborhood

Monitoring objective/site type: Population oriented

State accuracy audit conducted 5/26/2016

Site: McKims Ridge

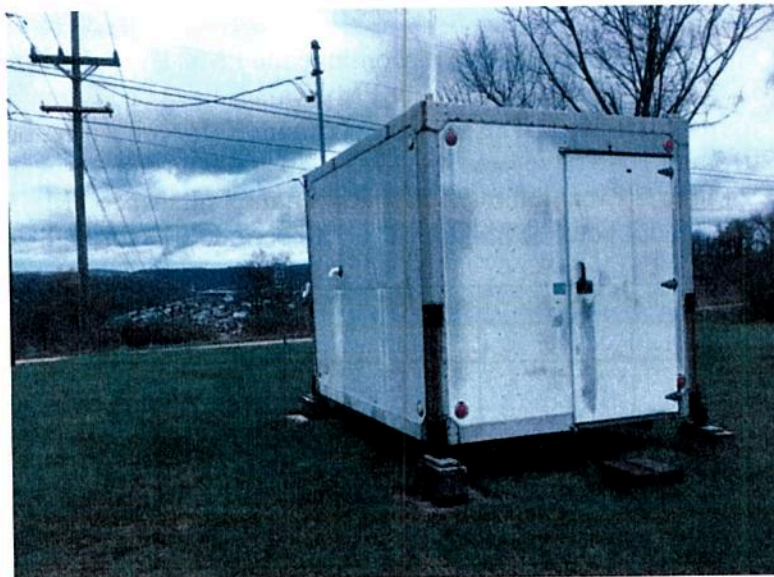
Location: McKims Ridge Road, Brooke County, WV

AQS ID: 54-009-0007

MSA: Steubenville-Weirton OH-WV

Latitude 40.38966

Longitude -80.58624



Comment: Site complies with Appendix A, C, D, E of Part 58. This site is suitable for NAAQS comparisons. Site established in 1997 as part of a dispersion model evaluation study and to provide additional air quality monitoring in Brooke and Hancock Counties in WV.

Parameters monitored, sampling method, scale, and purpose:

Gaseous:

Sulfur Dioxide – UV fluorescent continuous gas monitor

Representative siting scale: Neighborhood

Monitoring objective/site type: Population oriented

State accuracy audit conducted 6/25/2016 and 12/8/2016

Site: Marland Heights

Location: Marland Heights, Weirton, Brooke County, WV

AQS ID: 54-009-0011

MSA: Steubenville-Weirton, OH-WV

Latitude 40.394583

Longitude -80.612017



Comment: Site complies with Appendix A, C, D, E of Part 58. This site is suitable for NAAQS comparisons. Site established in 1992 to provide air quality monitoring in an industrial area of Brooke and Hancock Counties in WV.

Implemented change: This sites' CO analyzer is not required to be operated under the CO NAAQS revision of August 15, 2011. The CO monitor was originally installed in 1992 to measure CO point source emissions from a blast furnace across the river in Ohio. The facility redirected the Blast Furnace gas to use as fuel and installed an excess CO gas flare. These actions significantly reduced measured CO at this site. In 2005 the blast furnace was shut down and subsequently demolished around 2013. The analyzer was old and in poor condition. The DAQ discontinued the operation of this analyzer at the end of 2016

Parameters monitored, sampling method, scale, and purpose:

Particulates:

Tapered Element Oscillating Micro-Balance (TEOM) Series 1400/1400a continuous PM₁₀ monitor.

Representative siting scale: Neighborhood

Monitoring objective/site type: Population oriented

State flow rate audit conducted 5/23/2016 and 12/7/2016

PM_{2.5} sequential Lo-Volume sampler, Federal Reference Method, samples once every three days. A collocated PM_{2.5} monitor samples every 12th day. Samples analyzed by gravimetric analysis.

Representative siting scale: Neighborhood

Monitoring objective/site type: Population oriented

State audit conducted 4/25/2016 and 9/28/2016

USEPA performance evaluation audit conducted 10/12/2016

Gaseous:

Sulfur Dioxide – UV fluorescent continuous gas monitor

Representative siting scale: Neighborhood

Monitoring objective/site type: Population oriented

State accuracy audit conducted 3/3/2016

Carbon Monoxide – IR Gas Filter Correlation continuous CO analyzer

Representative siting scale: Neighborhood

Monitoring objective/site type: Population oriented

State accuracy audit conducted 2/24/2016 and 7/27/2016

Monitor discontinued end of 2016

Cabell County

Site: Huntington

Location: Marshall University, Henderson Center, Huntington, Cabell County, WV

AQS ID: 54-011-0006

MSA: Huntington-Ashland

Latitude 38.424133

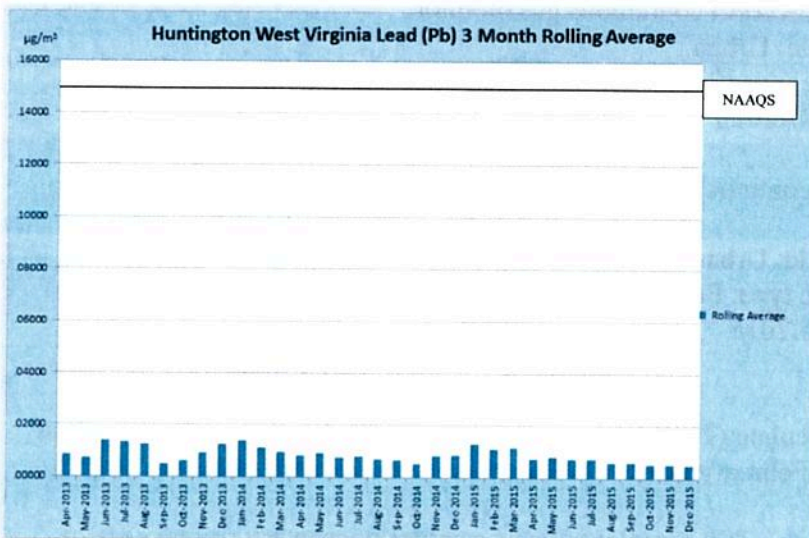
Longitude -82.425900



Comment: Site complies with Appendix A, C, D, E of Part 58. This site is suitable for NAAQS comparisons. Current site established in 1982 to provide air quality monitoring in an industrial area of Cabell County and the state’s second most populous city in WV.

Proposed changes: As stated in the 2014 Annual Network Plan, due to operator safety and site access difficulties, the DAQ is working to relocate this site to a nearby USEPA approved location in 2017. All but the Pb samplers (see next paragraph) would be moved. The PM_{2.5} monitor is in compliance with the both the 24 hour and annual NAAQS.

The highest three month rolling average for Pb for the period April 2012 through December 2015 was a 0.0140 $\mu\text{g}/\text{m}^3$ in 2014. The Pb NAAQS standard is 0.15 $\mu\text{g}/\text{m}^3$. Because the concentrations are approximately 93% below the NAAQS for Pb, the DAQ proposes to discontinue Pb sampling at the end of 2017. The chart below provides the rolling 3-month average since sampling began in 2012.



The DAQ is also proposing to discontinue SO₂ monitoring at this site upon approval of the ANP. There are limited resources and equipment to support the numerous SO₂ sites across the state

especially at those sites where SO₂ has not been an issue. Minor resource savings from discontinuing SO₂ monitoring would allow resources to be shifted to more important monitoring activities. Since 2006-2008, the 1 hour SO₂ Design Values for Cabell County are well below the NAAQS standard of 75 ppb. The DV's are also similar to nearby SO₂ monitoring sites. The table below compares the Huntington SO₂ Design Values to SO₂ monitoring in Huntington-Ashland CBSA.

Site	City	State	Lat	Lon	AQS	3 Year Design Value									
						2008	2009	2010	2011	2012	2013	2014	2015	2016	
Marshall	Huntington	WV	38.424133	-82.425900	54-011-0006	44	39	35	33	30	26	19	18	14	
Route 52	Kenova *	WV	38.380360	-82.583770	54-099-0004	55	59	58	50						
Big Sandy Road	Kenova *	WV	38.372304	-82.588770	54-099-0005	47	38	36	31						
FIVCO	Ashland	KY	38.459340	-82.640410	21-019-0017	58	46	36	32	27	21	16	16	12	
Scott St. & Ctr. Ave.	Worthington	KY	38.548136	-82.731163	21-089-0007	40	35	35	39	35	25	14	14	12	
ODOT	Ironton	OH	38.508075	-82.659241	39-087-0012					27	23	17	18	13	

* Marathon Oil operated site closed in 2011

Parameters monitored, sampling method, scale, and purpose:

Particulates:

PM_{2.5} sequential Lo-Volume sampler, Federal Reference Method, samples once every three days. A collocated sequential PM_{2.5} monitor samples every 12th day. Samples analyzed by gravimetric analysis.

Representative siting scale: Urban

Monitoring objective/site type: Population oriented

State audit conducted 4/20/2016 and 10/20/2016

Gaseous:

Sulfur Dioxide – UV fluorescent continuous gas monitor

Representative siting scale: Urban

Monitoring objective/site type: Population oriented

State audit conducted 12/7/2016

Ozone – UV absorption continuous gas monitor operated during ozone season March – October

Representative siting scale: Urban

Monitoring objective/site type: Population oriented

State audit conducted 9/6/2016

Lead (Pb):

A Total Suspended Particulate (TSP) lead monitor was installed at this site and the first sample was collected in February 2012.

A TSP Pb Tisch Hi-Volume TSP sampler collects samples once every six days on an 8"x10" glass fiber filter. A collocated Pb Hi-Volume TSP sampler runs once every twelve days. Samples analyzed for Pb using USEPA Region 9 Federal Equivalent Method for ICP-MS.

Representative siting scale: Middle scale
Monitoring objective/site type: Source oriented
State audit conducted 4/26/2016 and 10/20/2016
USEPA performance evaluation audit conducted 5/18/2016

Greenbrier County

Site: Sam Black Church

Location: Department of Highway Garage, Sam Black Church, Greenbrier County, WV
AQS ID: 54-025-0003
MSA: NA
Latitude 37.908533
Longitude -80.632633



Comment: Site complies with Appendix A, C, D, E of Part 58. This site is suitable for NAAQS comparisons. Current site established in 1999 to continue historical background ozone air quality monitoring that started in 1984 in Greenbrier County, a rural area of WV.

Parameters monitored, sampling method, scale, and purpose:

Gaseous:

Ozone – UV absorption continuous gas monitor operated during ozone season March – October

Representative siting scale: Urban

Monitoring objective/site type: Population oriented

State accuracy audit conducted 5/5/2016

Hancock County

Site: New Manchester

Location: New Manchester Elementary School, New Manchester, Hancock County, WV
AQS ID: 54-029-0005
MSA: Steubenville-Weirton, OH-WV
Latitude 40.529021
Longitude -80.576067



Comment: Site complies with Appendix A, C, D, of Part 58. Due to infringement of tree growth outside of leased area, the site does not comply with Appendix E of Part 58. This site is suitable for NAAQS comparisons. Site established in 1972 to provide air quality monitoring in Hancock County, WV.

Proposed change: This 45-year-old site, running a single 30-year-old SO₂ analyzer, is well beyond its useful life. The siting conditions and infrastructure will continue to deteriorate as trees and shrubbery outside the leased area continue to infringe upon the site. The site is poorly situated below a roadway and is very difficult to access in inclement weather. The SO₂ sources that once impacted the site have either closed or significantly reduced their emission such that the monitored values are well below the NAAQS. The DAQ is proposing to decommission the entire New Manchester site during 2017. Currently there are six sites that monitor SO₂ in Hancock County. Four miles south of the New Manchester, at approximately the same elevation, is the New Cumberland site. Six miles NNE of New Manchester at near the same elevation is the Lawrenceville SO₂ monitoring site. All three similarly situated sites are located in the approximate middle and northern areas of Hancock County. The table below indicates that the SO₂ Design Values are similar at all 3 site locations.

3-year Period	New Manchester Design Value ppb	New Cumberland Design Values ppb	Lawrenceville Design Values ppb
2008-2010	126	103	99
2009-2011	86	66	68
2010-2012	47	40	43
2011-2013	29	31	34
2012-2014	29	29	34
2013-2015	34	26	35
2014-2016	37	35	30

Parameters monitored, sampling method, scale, and purpose:

Gaseous:

Sulfur Dioxide – UV fluorescent continuous gas monitor

Representative siting scale: Urban

Monitoring objective/site type: Population oriented

State accuracy audit conducted 3/3/2016

Site: New Cumberland

Location: RD#1, Carothers Road, New Cumberland, Hancock County, WV

AQS ID: 54-029-0007

MSA: Steubenville-Weirton, OH-WV

Latitude 40.460138

Longitude -80.576567



Comment: Site complies with Appendix A, C, D, E of Part 58. This site is suitable for NAAQS comparisons. Site established in 1990 as part of a multi-state SO₂ study (PA-WV-OH) and to provide air quality monitoring in Hancock County, WV.

Parameters monitored, sampling method, scale, and purpose:

Gaseous:

Sulfur Dioxide – UV fluorescent continuous gas monitor

Representative siting scale: Urban

Monitoring objective/site type: Population oriented

State accuracy audit conducted 3/3/2016

USEPA Through the Probe audit conducted 8/2/2016

Site: Chester

Location: Allison Elementary School, 647 Railroad Street, Chester, Hancock County, WV

AQS ID: 54-029-0008

MSA: Steubenville-Weirton, OH-WV
Latitude 40.615720
Longitude -80.560000



Comment: Site complies with Appendix A, C, D, E of Part 58. This site is suitable for NAAQS comparisons. Site established in 1991 to provide air quality monitoring in northern Hancock County, WV.

Proposed change: The DAQ operates a special purpose TSP sampler at the Chester site that is used to capture particulate matter for subsequent analysis for metals. The sampler was installed in the early 1990's in response to the installation of the Waste Technology Industries incinerator in East Liverpool, OH. For several years DAQ would collect a monthly sample at the site. Beginning in the fall of 2015, TSP sampling was increased to once every 12 days as part of a special project. In April, 2016 a sequential PM₁₀ sampler was installed at the site to collect respirable particulates ≤ 10 microns in diameter for metal analysis. The PM₁₀ samples are collected on a once every 6-day schedule. The DAQ has been working closely with EPA Region 3 in conducting the TSP and PM₁₀ metals sampling. If it is determined that TSP sampling is no longer required, or that resources need to be re-allocated to other projects, the DAQ would then discontinue the TSP metals sampling and retain the current PM₁₀ metals sampling at Chester.

The DAQ is also proposing to discontinue operation of the SO₂ monitor at Chester in 2017. The SO₂ monitoring site at Lawrenceville is located 1 mile ENE of the Chester site and has similar Design Value concentrations as the Chester site. Recent design values at both sites are < 50% of the NAAQS for SO₂.

3-year Period	Chester SO ₂ Design Value ppb	Lawrenceville SO ₂ Design Values ppb
2008-2010	99	99
2009-2011	69	68
2010-2012	35	43
2011-2013	28	34
2012-2014	26	34
2013-2015	22	35
2014-2016	22	30

Parameters monitored, sampling method, scale, and purpose:

Gaseous:

Sulfur Dioxide – UV fluorescent continuous gas monitor

Representative siting scale: Neighborhood

Monitoring objective/site type: Population oriented

State accuracy audit conducted 12/1/2016

USEPA performance evaluation audit conducted 8/13/2015

Other

Special purpose monitoring for the collection of TSP and PM₁₀ samples for metals analysis is conducted at this site. The TSP samples are collected for a 24-hour period on a once every 12-day schedule. PM₁₀ samples are collected over a 24-hour period on a once every 6-day schedule.

Site: Summit Circle

Location: Summit Circle, Weirton, Hancock County, WV

AQS ID: 54-029-0009

MSA: Steubenville-Weirton, OH-WV

Latitude 40.427372

Longitude -80.592318



Comment: Site complies with Appendix A, C, D, E of Part 58. This site is suitable for NAAQS comparisons. Site established in 1992 provide air quality monitoring in an industrial area of Hancock County, WV.

Implemented change: The CO monitor was old and is not required to be operated under the CO NAAQS revision of August 15, 2011. The CO monitor was originally installed in 1992 to measure CO point source emissions from a nearby blast furnace in Weirton, WV. In 2005 the blast furnace was permanently idled and subsequently most of the steel mill has been demolished. The DAQ discontinued CO monitoring at the end of 2016.

Parameters monitored, sampling method, scale, and purpose:

Particulates:

Tapered Element Oscillating Micro-Balance (TEOM) Series 1400/1400a continuous PM₁₀ monitor.

Representative siting scale: Urban

Monitoring objective/site type: Population oriented

State accuracy audit conducted 5/23/2016 and 12/7/2016

PM_{2.5} sequential sampler, Federal Reference Method, samples once every three days.

Samples analyzed by gravimetric analysis.

Representative siting scale: Urban

Monitoring objective/site type: Population oriented

State accuracy audit conducted 4/19/2016 and 9/28/2016

USEPA performance evaluation audit conducted 8/10/2016

Gaseous:

Sulfur Dioxide – UV fluorescent continuous gas monitor

Representative siting scale: Neighborhood

Monitoring objective/site type: Population oriented

State accuracy audit conducted 7/27/2016

USEPA Through the Probe audit conducted 8/11/2016

Ozone – UV absorption continuous gas monitor operated during ozone season March – October

Representative siting scale: Urban

Monitoring objective/site type: Population oriented

State accuracy audit conducted 5/23/2016

USEPA Through the Probe audit conducted 8/11/2016

Carbon Monoxide – IR Gas Filter Correlation continuous CO analyzer

Representative siting scale: Urban

Monitoring objective/site type: Population oriented

State accuracy audit conducted 5/23/2016 and 12/1/2016

USEPA Through the Probe audit conducted 8/11/2016

Site: Lawrenceville

Location: Community Park and Tyrone Road, Lawrenceville, Hancock County, WV

AQS ID: 54-029-0015

MSA: Steubenville-Weirton, OH-WV

Latitude 40.618353

Longitude -80.540618



Comment: Site complies with Appendix A, C, D, E of Part 58. This site is suitable for NAAQS comparisons. Site also operates a 10-meter meteorological tower. Site established in in 1995 in response to the 1992 installation of Waste Technology Industries (WTI), now known as Heritage Thermal Services, and to provide air monitoring in upper Hancock County, WV.

Proposed change: The DAQ operates a special purpose TSP sampler at the Lawrenceville site that is used to capture particulate matter for subsequent analysis for metals. The sampler was installed in the early 1990's in response to the installation of the Waste Technology Industries incinerator in East Liverpool, OH. The DAQ collects a monthly sample at the site. The DAQ also operates a TSP sampler at the nearby Chester site that samples once every 12 days. In an earlier discussion, DAQ is proposing that, with EPA concurrence, that the TSP at Chester be discontinued. In April, 2016 a sequential PM₁₀ sampler was installed at Chester to collect respirable particulates ≤ 10 microns in diameter for metal analysis. The PM₁₀ samples at Chester are collected on a once every 6-day schedule. The DAQ has been working closely with EPA Region 3 in conducting the TSP and PM₁₀ metals sampling. If it is determined that TSP sampling is no longer required, or that resources need to re-allocated to other projects, the DAQ would then discontinue the TSP metals sampling at Lawrenceville.

Parameters monitored, sampling method, scale, and purpose:

Gaseous:

Sulfur Dioxide – UV fluorescent continuous gas monitor

Representative siting scale: Urban

Monitoring objective/site type: Population oriented

State accuracy audit conducted 7/28/2016

Other

Special purpose monitoring for the collection of TSP for metals analysis take place at this site. The TSP samples are collected once per month for a 24-hour period.

Harrison County

Site: Clarksburg

Location: Washington Irving Junior High School, Clarksburg, Harrison County, WV

AQS ID: 54-033-0003

MSA: NA

Latitude 39.278117

Longitude -80.342250



Comment: Site complies with Appendix A, C, D, E of Part 58. This site is suitable for NAAQS comparisons. Site established in 1997 to monitor PM_{2.5} in Harrison County, WV.

Parameters monitored, sampling method, scale, and purpose:

Particulates:

PM_{2.5} sequential Lo-Volume sampler, Federal Reference Method, samples once every three days. Samples analyzed by gravimetric analysis.

Representative siting scale: Urban

Monitoring objective/site type: Population oriented

State audit conducted 2/23/2016, 4/5/2016 and 10/5/2016

USEPA performance evaluation audit conducted 5/18/2016

Kanawha County

Site: Charleston, Baptist Temple

Location: 209 Morris Street, Charleston, Kanawha County, WV
AQS ID: 54-039-0010
MSA: Charleston, WV
Latitude 38.345600
Longitude -81.628317

Implemented change: The Baptist Temple site was combined with the NCore beginning January 1, 2016. The Baptist Temple site was fully decommissioned when the lease expired on April 30, 2016.

Site: NCore

Location: 1436 Dixie St., Charleston, Kanawha County, WV
AQS ID: 54-039-0020
MSA: Charleston, WV
Latitude 38.346258
Longitude -81.621161



Comment: Site complies with Appendix A, C, D, E of Part 58. Site required to be established by USEPA as part of the national NCore multi-pollutant monitoring network. This site replaces Baptist Temple site.

Parameters monitored, sampling method, scale, and purpose:

Particulates:

Met One BAM 1020 continuous PM_{2.5} monitor
Representative siting scale: Urban
Monitoring objective/site type: Population oriented

PM_{2.5} sequential sampler, Federal Reference Method, will sample once every three days.
Samples analyzed by gravimetric analysis.
Representative siting scale: Urban
Monitoring objective/site type: Population oriented
State audit conducted 5/4/2016 and 10/11/2016

PM₁₀ sequential sampler, Federal Reference Method, will sample once every three days. Samples analyzed by gravimetric analysis. Data is used only to calculate and report PM Coarse which equals PM₁₀ minus PM_{2.5}.

Representative siting scale: Urban

Monitoring objective/site type: Population oriented

Gaseous:

Sulfur Dioxide – UV fluorescent continuous trace gas monitor

Representative siting scale: Urban

Monitoring objective/site type: Population oriented

State audit conducted 7/18/2016

Ozone – UV absorption continuous trace gas monitor

Representative siting scale: Urban

Monitoring objective/site type: Population oriented

State audit conducted 7/20/2016

NO/NO_y – Chemiluminescence continuous trace gas monitor

Representative siting scale: Urban

Monitoring objective/site type: Population oriented

Carbon Monoxide – Gas filter correlation continuous trace gas monitor

Representative siting scale: Urban

Monitoring objective/site type: Population oriented

State audit conducted 12/8/2016

PM_{2.5} Speciation

Speciation Trends Network (STN) site equipped with Met One Super SASS and URG 3000N Carbon sampler. Both sample on a once every three-day schedule.

Representative siting scale: Urban

Monitoring objective/site type: Population oriented

State audit conducted 4/29/2016 and 10/25/2016

Toxics

TSP metals, certain Volatile Organic Compounds, and Carbonyls

Representative siting scale: Neighborhood

Samples once every 12 days

Monitoring objective/site type: Population oriented

Other

Ultra-Sonic meteorological sensor

Site: Guthrie

Location: Guthrie Agricultural Center, Charleston, Kanawha County, WV

AQS ID: 54-039-0011

MSA: Charleston, WV

Latitude 38.448833
Longitude -81.684717



Comment: Site complies with Appendix A, C, D, E of Part 58. This site is not suitable for NAAQS comparisons since it only consists of a speciation trends network (STN) monitor; criteria pollutant monitoring is not conducted at this site. Site established in 2003 as part of the national Speciation Trends Network.

Implemented change: STN was relocated to the Charleston NCore site and began sampling March 16, 2016. The Guthrie site was decommissioned in April 2016.

Parameters monitored, sampling method, scale, and purpose:

PM_{2.5} Speciation

Speciation Trends Network (STN) site equipped with Met One Super SASS and URG 3000N Carbon sampler. Both sample on a once every three-day schedule.

Representative siting scale: Urban

Monitoring objective/site type: Population oriented

State accuracy audit conducted 3/23/2016

Site: South Charleston

Location: South Charleston Public Library 312 4th Ave., South Charleston, Kanawha County, WV

AQS ID: 54-039-1005

MSA: Charleston, WV

Latitude 38.366183

Longitude -81.69372717



Comment: Site complies with Appendix A, C, D, E of Part 58. This site is suitable for NAAQS comparisons. Site established in 1974 to provide air quality monitoring in Kanawha County, WV.

Parameters monitored, sampling method, scale, and purpose:

Particulates

PM_{2.5} sequential Low-Volume sampler, Federal Reference Method. Samples once every three days. Samples analyzed by gravimetric analysis.

Representative siting scale: Urban

Monitoring objective/site type: Population oriented

State audit conducted 4/10/2016 and 10/25/2016

Marion County

Site: Fairmont

Location: 401 Guffey Street, Fairmont, Marion County, WV

AQS ID: 54-049-0006

MSA: NA

Latitude 39.481483

Longitude -80.134667



Comment: Site complies with Appendix A, C, D, E of Part 58. This site is suitable for NAAQS comparisons. Site established in 2000 to monitor PM_{2.5} in Marion County, WV.

Comment: Site operation was discontinued from October 2016 through January 19, 2017 so that a new roof could be installed on the facility. The facility did allow DAQ to re-establish site operations after construction. The PM_{2.5} monitor complies with the both the 24 hour and annual NAAQS.

Parameters monitored, sampling method, scale, and purpose:

Particulates:

PM_{2.5} sequential sampler, Federal Reference Method, samples once every three days.

Samples analyzed by gravimetric analysis.

Representative siting scale: Urban

Monitoring objective/site type: Population oriented

State audit conducted 4/5/2016 and 10/5/2016

Marshall County

Site: Moundsville

Location: Moundsville National Guard Armory, Moundsville, Marshall County, WV

AQS ID: 54-051-1002

MSA: Wheeling, WV-OH

Latitude 39.915961

Longitude -80.733858



Comment: Site complies with Appendix A, C, D, E of Part. This site is suitable for NAAQS comparisons except for the PM_{2.5} continuous Special Purpose Monitor FDMS TEOM, which is not an FRM or FEM sampler nor is the data used for attainment/non-attainment determinations. The FDMS data is used solely for AQI and Air Now reporting. Site established in 1983 to provide air quality monitoring in Marshall County, WV.

Parameters monitored, sampling method, scale, and purpose:

Particulates:

PM_{2.5} sequential sampler, Federal Reference Method. Samples once every three days.
Samples analyzed by gravimetric analysis.
Representative siting scale: Urban
Monitoring objective/site type: Population oriented
State audit conducted 4/19/2016 and 9/22/2016

Tapered Element Oscillating Micro-Balance (TEOM) Series 1400ab continuous PM_{2.5} Non-FRM/FEM monitor with Filter Dynamic Measurement System (FDMS).
Representative siting scale: Urban
Monitoring objective/site type: Population oriented (used solely for AQI and Air Now reporting)
State flow rate audit conducted 5/24/2016 and 12/7/2016

PM_{2.5} Speciation

Chemical Speciation Network site. Met One Super SASS and URG 3000N Carbon sampler. Both sample on a once every six-day schedule
Representative siting scale: Urban
Monitoring objective/site type: Population oriented
State flow rate audit conducted 2/19/2016, 5/9/2016, 7/20/2016 and 10/25/2016

Gaseous:

Sulfur Dioxide – UV fluorescent continuous gas monitor
Representative siting scale: Urban
Monitoring objective/site type: Population oriented
State accuracy audit conducted 5/26/2016

Mason County

Site: Lakin

Location: HWY 62, Lakin, WV
AQS ID: 54-053-0001
CBSA: Point Pleasant WV-OH
Latitude 38.956476
Longitude -82.088693

Comment: American Electric Powers' (AEP) James M. Gavin and Ohio Valley Electrical Corporation (OVEC) Kyger Creek electric generating facilities located in Gallia County, Ohio have elected to conduct air monitoring under the SO₂ Data Requirements Rule. One of the SO₂ air monitoring sites is in Lakin, Mason County, WV and is included herein for reference. The site is operated by Shell Engineering on behalf of AEP and OVEC. The Ohio Environmental Protection Agency is the responsible Primary Quality Assurance Organization. The DAQ does not have any role in the sites operation, data reporting or quality assurance.

Gaseous:

Sulfur Dioxide – UV fluorescent continuous gas monitor
Representative siting scale: Neighborhood
Monitoring objective/site type: Source-oriented

Mineral County

Site: Bean Site

Location: Old WV 46, Keyser
AQS ID: 54-057-8883
CBSA: Cumberland, MD
Latitude 39.4452
Longitude -79.0691

The Verso Luke Mill, located in Alleghany County, MD has elected to perform air monitoring under the SO₂ DRR. One of the SO₂ air monitoring sites will be in Mineral County, WV. The Maryland Department of the Environment is the responsible Primary Quality Assurance Organization. The DAQ does not have any role in the site operation, data reporting or quality assurance.

Gaseous:

Sulfur Dioxide – UV fluorescent continuous gas monitor
Representative siting scale: Neighborhood
Monitoring objective/site type: Source-oriented

Monongalia County

Site: Morgantown

Location: Morgantown Airport, Morgantown, Monongalia County, WV

AQS ID: 54-061-0003

MSA: NA

Latitude 39.649367

Longitude -79.920897



Comment: Site complies with Appendix A, C, D, E of Part 58. This site is suitable for NAAQS comparisons. Site established in 1983 to provide air quality monitoring in Monongalia County, WV.

Parameters monitored, sampling method, scale, and purpose:

Particulates:

PM_{2.5} sequential sampler, Federal Reference Method. Samples once every three days.

Samples analyzed by gravimetric analysis.

Representative siting scale: Urban

Monitoring objective/site type: Population oriented

State audit conducted 4/4/2016 and 10/4/2016

Gaseous:

Sulfur Dioxide – UV fluorescent continuous gas monitor

Representative siting scale: Urban

Monitoring objective/site type: Population oriented

State accuracy audit conducted 7/26/2016

Ozone – UV absorption continuous gas monitor operated during ozone season March – October

Representative siting scale: Urban

Monitoring objective/site type: Population oriented

State accuracy audit conducted 7/26/2016

Ohio County

Site: Wheeling

Location: Warwood Water Treatment Plant, Wheeling, Ohio County, WV

AQS ID: 54-069-0010

MSA: Wheeling, WV-OH

Latitude 40.11476

Longitude -80.700972



Comment: Site complies with Appendix A, C, D, E of Part 58. This site is suitable for NAAQS comparisons. Current site established in 2005 to continue to provide air quality monitoring in Ohio County, WV.

Parameters monitored, sampling method, scale, and purpose:

Particulates:

PM_{2.5} sequential sampler, Federal Reference Method, samples once every three days.

Samples analyzed by gravimetric analysis.

Representative siting scale: Urban

Monitoring objective/site type: Population oriented

State audit conducted 4/19/2016 and 9/22/2016

USEPA performance evaluation audit conducted 4/9/2015

Gaseous:

Ozone – UV absorption continuous gas monitor operated during ozone season March – October

Representative siting scale: Urban

Monitoring objective/site type: Population oriented

State accuracy audit conducted 7/13/2016

Toxics

TSP metals, certain Volatile Organic Compounds, and Carbonyls.

Representative siting scale: Neighborhood
Samples once every 12 days
Monitoring objective/site type: Population oriented

Raleigh County

Site: Beckley

Location: Maxwell Hill Elementary School, Beckley, Raleigh County, WV
AQS ID: 54-081-0002
MSA: NA
Latitude 37.807767
Longitude -81.197433



Comment: Site complies with Appendix A, C, D, E of Part 58. This site may not be suitable for NAAQS comparisons. Site established in 1998 to provide PM_{2.5} monitoring in Raleigh County, WV.

Implemented change: Due to significant personnel resource shortages, operation of this site had been suspended in April 2015 and for 2016. Based on prior years of data, the PM_{2.5} sampler at this site has always been well below both the 24-hour and annual NAAQS Design Values. The site is on top of a roof and difficult to access. It is likely that this site will not operate during 2017.

Parameters monitored, sampling method, scale, and purpose:

Particulates:

PM_{2.5} sequential sampler, Federal Reference Method, samples once every three days.
Samples analyzed by gravimetric analysis.
Representative siting scale: Urban
Monitoring objective/site type: Population oriented

Wood County

Site: Vienna

Location: Neale Elementary School, Wood County, WV

AQS ID: 54-069-0010

MSA: Parkersburg-Marietta, WV-OH

Latitude 39.323553

Longitude -81.552367



Comment: Site complies with Appendix A, C, D, E of Part 58. This site is suitable for NAAQS comparisons. Site established in 1975 to provide air quality monitoring in Wood County, WV.

Parameters monitored, sampling method, scale, and purpose:

Particulates:

PM_{2.5} sequential sampler, Federal Reference Method. Samples once every three days.

Samples analyzed by gravimetric analysis.

Representative siting scale: Urban

Monitoring objective/site type: Population oriented

State audit conducted 6/21/2016 and 11/3/2016

USEPA performance evaluation audit conducted 5/18/2016

Gaseous:

Sulfur Dioxide – UV fluorescent continuous gas monitor

Representative siting scale: Urban

Monitoring objective/site type: Population oriented

State accuracy audit conducted 12/20/2016

Ozone – UV absorption continuous gas monitor operated during ozone season March – October

Representative siting scale: Urban

Monitoring objective/site type: Population oriented

State accuracy audit conducted 5/13/2016

