



west virginia department of environmental protection

Division of Air Quality
601 57th Street, SE
Charleston, WV 25304

Joe Manchin III, Governor
Randy C. Huffman, Cabinet Secretary
www.wvdep.org

2010 Ambient Air Monitoring Network Design

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. An excerpt of the EPA summation of the rule follows:

“The purpose of the amendments is to enhance ambient air quality monitoring to better serve current and future air quality management and research needs... In addition, the final amendments modify the general monitoring network design requirements for minimum numbers of ambient air monitors to focus on populated areas with air quality problems and to reduce significantly the requirements for criteria pollutant monitors that have measured ambient air concentrations well below the applicable National Ambient Air Quality Standards. These amendments also revise certain provisions regarding monitoring network descriptions and periodic assessments, quality assurance, and data certifications...”

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. “

The purpose of this document is to provide for the public inspection of the WV Department of Environmental Protection Division of Air Quality’s (DAQ) ambient air monitoring network design for 2010. This public inspection period is open for 30 days from the date of posting on our website at www.wvdep.org/daq. Any written comments received during the 30 day public inspection period, regarding this network design and successive annual network designs, will be forwarded to USEPA Region III along with the network design document. The annual network design format will also be used to document changes to the state’s PM_{2.5} monitoring that would affect the location of a violating PM_{2.5} monitor. Except for circumstances not anticipated during this review period, such as federal or state funding

Promoting a healthy environment.

reductions, implementation of USEPA minimum monitoring requirements, leasing or personnel resource issues, no other *intentional* changes are expected to be made, at this time, 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 of the monitoring sites are leased and those leases are subject to periodic renewals and a standard 30 day termination clause by either party which can affect the DAQ's ability to retain a monitoring site location.

In the pages that follow, each individual monitoring site 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 listed for each site. At the end of this document is a discussion about the revised lead standards and monitoring requirements and also information regarding the NCore monitoring site.

Please send written comments to:

Tim J. Carroll, Assistant Director
Air Monitoring/Laboratory
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street, SE
Charleston, WV 25304

Comments may also be submitted electronically to: tim.j.carroll@wv.gov . All comments will be forwarded to EPA Region 3 along with this document.

For additional information and to view data publicly available from the AQS data system please visit <http://www.epa.gov/air/data/>. For a copy of the latest WVDEP-DAQ annual air monitoring report please visit www.wvdep.org/daq.

To review the EPA Air Monitoring rule and other regulatory action by EPA, please visit <http://www.epa.gov/pm/actions.html>.

Berkeley County

Site: Martinsburg Ball Field

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

AQS ID: 54-003-0003

MSA: Hagerstown-Martinsburg

Latitude: 39.448006

Longitude: -77.964125

Comment: Site complies with Appendix A, C, D, E of Part 58. See comments regarding PM_{2.5} provided earlier in the document. This site is suitable for NAAQS comparisons. The air monitoring shelter was replaced in 2008 and will be fully operational sometime in 2010.

Parameters monitored, sampling method, scale and purpose:

Particulates:

PM_{2.5} single event 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

Gaseous:

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

Representative siting scale: Urban

Monitoring objective/site type: Population oriented

Brooke County

Site: Mahan Lane

Location: Mahan Lane, Follansbee, Brooke County, WV

AQS ID: 54-009-0005

MSA: Steubenville-Weirton OH-WV

Latitude 40.338056

Longitude -80.597222

Comment: Site complies with Appendix A, C, D, E of Part 58. There continues to be infringement of tree growth that is outside of site leased area which is affecting the ideal monitor distance from the drip line. The DAQ is also experiencing leasing issues with this site. The DAQ continues to explore siting options and we have been working with Region 3 regarding options for a new site location.

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 three days. Samples analyzed by gravimetric analysis.

Proposed change: request approval from EPA to reduce manual PM10 filter sampling frequency to once every six days.

Representative siting scale: Neighborhood
Monitoring objective/site type: Population oriented
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

Gaseous:

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

Site: McKims Ridge

Location: McKims Ridge Road, Brooke County, WV
AQS ID: 54-009-0007
MSA: Steubenville-Weirton OH-WV
Latitude 40.390110
Longitude -80.585727

Comment: Site complies with Appendix A, C, D, E of Part 58. This site is suitable for NAAQS comparisons.

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

Site: Marland Heights

Location: Marland Heights, Weirton, Brooke County, WV
AQS ID: 54-009-0011
MSA: Steubenville-Weirton, OH-WV
Latitude 40.394500
Longitude -80.612034

Comment: Site complies with Appendix A, C, D, E of Part 58. This site is suitable for NAAQS comparisons.

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

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: Urban

Monitoring objective/site type: Population oriented

Gaseous:

Sulfur Dioxide – UV fluorescent continuous gas monitor

Representative siting scale: Neighborhood

Monitoring objective/site type: Population oriented

Carbon Monoxide – IR Gas Filter Correlation continuous CO analyzer

Representative siting scale: Neighborhood

Monitoring objective/site type: Population oriented

Cabell County

Site: Huntington

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

AQS ID: 54-011-0006

MSA: Huntington-Ashland

Latitude 38.424510

Longitude -82.425323

Comment: Site complies with Appendix A, C, D, E of Part 58. This site is suitable for NAAQS comparisons.

Parameters monitored, sampling method, scale and purpose:

Particulates:

PM_{2.5} single event 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: Urban

Monitoring objective/site type: Population oriented

Gaseous:

Sulfur Dioxide – UV fluorescent continuous gas monitor

Representative siting scale: Neighborhood

Monitoring objective/site type: Population oriented

Proposed change: request approval from EPA to eliminate SO₂ sampling at this site.

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

Representative siting scale: Urban

Monitoring objective/site type: Population oriented

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 37.908439

Longitude -80.632812

Comment: Site complies with Appendix A, C, D, E of Part 58. This site is suitable for NAAQS comparisons.

Parameters monitored, sampling method, scale and purpose:

Gaseous:

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

Representative siting scale: Urban

Monitoring objective/site type: Population oriented

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 40.529060

Longitude -80.576230

Comment: Site complies with Appendix A, C, D, E of Part 58. This site is suitable for NAAQS comparisons.

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

Site: New Cumberland

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

AQS ID: 54-029-0007

MSA: Steubenville-Weirton, OH-WV

Latitude 40.460160

Longitude -80.576769

Comment: Site complies with Appendix A, C, D, E of Part 58. This site is suitable for NAAQS comparisons.

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

Site: Chester

Location: Allison Elementary School, Chester, Hancock County, WV

AQS ID: 54-029-0008
MSA: Steubenville-Weirton, OH-WV
Latitude 40.615730
Longitude -80.560132

Comment: Site complies with Appendix A, C, D, E of Part 58. This site is suitable for NAAQS comparisons.

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

Periodic special project collection of samples for TSP metals also takes place at this site.

Site: Summit Circle

Location: Summit Circle, Weirton, Hancock County, WV
AQS ID: 54-029-0009
MSA: Steubenville-Weirton, OH-WV
Latitude 40.427420
Longitude -80.592500

Comment: Site complies with Appendix A, C, D, E of Part 58. This site is suitable for NAAQS comparisons.

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: Source impact

Gaseous:

Sulfur Dioxide – UV fluorescent continuous gas monitor
Representative siting scale: Neighborhood
Monitoring objective/site type: Population oriented
Carbon Monoxide – IR Gas Filter Correlation continuous CO analyzer
Representative siting scale: Neighborhood
Monitoring objective/site type: Source impact

Site: Lawrenceville

Location: Community Park and Tyrone Road, Lawrenceville, Hancock County, WV
AQS ID: 54-029-0015
MSA: Steubenville-Weirton, OH-WV
Latitude 40.618340
Longitude -80.540799

Comment: Site complies with Appendix A, C, D, E of Part 58. This site is suitable for NAAQS comparisons. Site also has a 10 meter meteorological tower.

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

Periodic special project collection of samples for Volatile Organic Compounds and TSP metals also take place at this site.

Site: Oak Street

Location: Oak St. and Owings St. - Between Dead Ends, Weirton, Hancock County, WV

AQS ID: 54-029-1004

MSA: Steubenville-Weirton, OH-WV

Latitude 40.421540

Longitude -80.580898

Comment: The site is comprised of two separate sampling structures. One is a deteriorating traditional air monitoring shelter that supports all the gaseous monitoring and manual PM10 Hi-Vol FRM samplers. The other structure is an adjacent wooden platform that supports a continuous PM10 FEM sampler. The shelter complies with Appendix A, C, D, E of Part 58. However, the platform sampler is adversely influenced by two decades of unchecked tree growth on property outside of the DAQ lease area. The DAQ has been working for several years to obtain an approved lease revision in order to install a new shelter several feet away from the existing shelter and platform. Until then it may become necessary to remove the continuous FEM monitor and operate only the PM10 FRM Hi-Vol sampler to determine NAAQS compliance. Data from monitors located in and upon the shelter is suitable for NAAQS comparisons.

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: Highest concentration

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

Representative siting scale: Neighborhood

Monitoring objective/site type: Highest concentration

Proposed change: request approval from EPA to eliminate the manual PM10 filter sampling and utilize only PM10 continuous monitoring once a new shelter is installed.

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

Gaseous:

Sulfur Dioxide – UV fluorescent continuous gas monitor

Representative siting scale: Neighborhood

Monitoring objective/site type: Highest concentration

Carbon Monoxide – IR Gas Filter Correlation continuous CO analyzer

Representative siting scale: Neighborhood

Monitoring objective/site type: Population oriented

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

Representative siting scale: Urban

Monitoring objective/site type: Population oriented

Site: Browns Island

Location: Browns Island, Weirton, Hancock County, WV

MSA: Steubenville-Weirton, OH-WV

Comment: Site was comprised of an 80 meter meteorological tower only and data is not reported to the Air Quality Subsystem. Because of safety concerns, this tower was dismantled in 2009.

Harrison County

Site: Clarksburg

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

AQS ID: 54-033-0003

MSA: NA

Latitude 39.278056

Longitude -80.342500

Comment: Site complies with Appendix A, C, D, E of Part 58. See comments regarding PM_{2.5} provided earlier in the document. This site is suitable for NAAQS comparisons.

Parameters monitored, sampling method, scale and purpose:

Particulates:

PM_{2.5} single event 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

Kanawha County

Site: Charleston

Location: 209 Morris Street, Charleston, Kanawha County, WV

AQS ID: 54-039-0010

MSA: Charleston, WV

Latitude 38.345620

Longitude -81.628422

Comment: Site complies with Appendix A, C, D, E of Part 58. This site is suitable for NAAQS comparisons.

Parameters monitored, sampling method, scale and purpose:

Particulates:

Tapered Element Oscillating Micro-Balance (TEOM) Series 1400/1400a continuous PM10 monitor. Data used primarily for Air Quality Index purposes.

Representative siting scale: Urban

Monitoring objective/site type: Population oriented

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

Gaseous:

Sulfur Dioxide – UV fluorescent continuous gas monitor

Representative siting scale: Urban

Monitoring objective/site type: Population oriented

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

Representative siting scale: Urban

Monitoring objective/site type: Population oriented

Toxics

TSP metals, certain Volatile Organic Compounds and Carbonyls

Representative siting scale: Neighborhood

Monitoring objective/site type: Population oriented

Other

USEPA RadNet Monitor

Site: Guthrie

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

AQS ID: 54-039-0011

MSA: Charleston, WV

Latitude 38.448611

Longitude -81.683889

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 monitor and not any criteria pollutant monitors.

Parameters monitored, sampling method, scale and purpose:

PM_{2.5} Speciation

Speciation Trends Network site equipped with Met One Super SASS and URG 3000N Carbon sampler. Both sample on an every three day schedule.

Representative siting scale: Urban
Monitoring objective/site type: Population oriented

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 38.368056

Longitude -81.693611

Comment: Site complies with Appendix A, C, D, E of Part 58. This site is suitable for NAAQS comparisons.

Parameters monitored, sampling method, scale and purpose:

Particulates

PM_{2.5} sequential Low-Volume sampler, Federal Reference Method. Returned to sampling every third day on January 1, 2010. Samples analyzed by gravimetric analysis.

Representative siting scale: Urban

Monitoring objective/site type: Population oriented

PM_{2.5} Speciation

Speciation Met One Super SASS monitor and URG 3000N Carbon sampler. Both sample on an every sixth day schedule.

Representative siting scale: Urban

Monitoring objective/site type: Population oriented

Site: Institute

Location: West Virginia State University, Institute, Kanawha County, WV

MSA: Charleston, WV

Comment: Site was comprised of a 30 meter meteorological tower only and data is not reported to the Air Quality Subsystem. Because of safety concerns, this tower was dismantled in 2009.

Marion County

Site: Fairmont

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

AQS ID: 54-049-0006

MSA: NA

Latitude 39.480833

Longitude -80.135278

Comment: Site complies with Appendix A, C, D, E of Part 58. See comments regarding PM_{2.5} provided earlier in the document. This site is suitable for NAAQS comparisons.

Parameters monitored, sampling method, scale and purpose:

Particulates:

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

Marshall County

Site: Moundsville

Location: Moundsville National Guard Armory, Moundsville, Marshall County, WV
AQS ID: 54-051-1002
MSA: Wheeling, WV-OH
Latitude 39.915970
Longitude -80.734057

Comment: Site complies with Appendix A, C, D, E of Part 58. See below for a discussion regarding the PM_{2.5} speciation monitor and minor site relocation and renovation. This site is suitable for NAAQS comparisons.

Parameters monitored, sampling method, scale and purpose:

Particulates:

PM_{2.5} sequential sampler, Federal Reference Method. Returned to sampling every third day on January 1, 2010.. Samples analyzed by gravimetric analysis.
Representative siting scale: Urban
Monitoring objective/site type: Population oriented

Tapered Element Oscillating Micro-Balance (TEOM) Series 1400ab continuous PM_{2.5} monitor with Filter Dynamic Measurement System (FDMS).
Representative siting scale: Urban
Monitoring objective/site type: Population oriented

PM_{2.5} Speciation

The speciation monitor was temporarily relocated to the Ohio County site in the fall of 2009 due to limited space availability. Speciation sampling at Ohio County began September 2009. The third phase URG carbon monitor was installed at the Ohio County site also and began sampling in October of 2009. The Moundsville site is scheduled to be moved slightly to maintain proper siting distance from the tree drip line. An extended site platform will also be added to accommodate the speciation SASS and URG samplers when they are returned to this site upon completion of the renovations.
Representative siting scale: Urban
Monitoring objective/site type: Population oriented

Gaseous:

Sulfur Dioxide – UV fluorescent continuous gas monitor
Representative siting scale: Urban
Monitoring objective/site type: Population oriented

Monongalia County

Site: Morgantown

Location: Morgantown Airport, Morgantown, Monongalia County, WV

AQS ID: 54-061-0003

MSA: NA

Latitude 39.649444

Longitude -79.921111

Comment: Site complies with Appendix A, C, D, E of Part 58. This site is suitable for NAAQS comparisons. The air monitoring shelter was replaced in 2008 and became fully operational in 2010.

Parameters monitored, sampling method, scale and purpose:

Particulates:

PM_{2.5} sequential sampler, Federal Reference Method. Returned to sampling every third day on January 1, 2010. Samples analyzed by gravimetric analysis.

Representative siting scale: Urban

Monitoring objective/site type: Population oriented

Gaseous:

Sulfur Dioxide – UV fluorescent continuous gas monitor

Representative siting scale: Urban

Monitoring objective/site type: Population oriented

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

Representative siting scale: Urban

Monitoring objective/site type: Population oriented

Toxics

TSP metals and certain Volatile Organic Compounds. Carbonyl sampling began in August, 2008.

Representative siting scale: Neighborhood

Monitoring objective/site type: Population oriented

Ohio County

Site: Wheeling

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

AQS ID: 54-069-0010

MSA: Wheeling, WV-OH

Latitude 40.114700

Longitude -80.700890

Comment: Site complies with Appendix A, C, D, E of Part 58. This site is suitable for NAAQS comparisons.

Parameters monitored, sampling method, scale and purpose:

Particulates:

Tapered Element Oscillating Micro-Balance TEOM Series 1400/1400a continuous PM10 monitor. Data used only to generate an Air Quality Index for the area and is not reported to AQS. This unit was removed from service in September 2009 in order to accommodate the temporary relocation of the speciation and carbon monitors.

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

Gaseous:

Ozone – UV absorption continuous gas monitor operated during ozone season April – October
Representative siting scale: Urban
Monitoring objective/site type: Population oriented

Toxics

TSP metals, certain Volatile Organic Compounds and Carbonyls.
Representative siting scale: Neighborhood
Monitoring objective/site type: Population oriented

PM_{2.5} Speciation

See comments under Marshall County, Moundsville. The speciation monitor and URG carbon monitor has been temporarily relocated to the Ohio County site while renovations are undertaken at the Moundsville site.

Raleigh County

Site: Beckley

Location: Maxwell Hill Elementary School, Beckley, Raleigh County, WV
AQS ID: 54-081-0002
MSA: NA
Latitude 37.807940
Longitude -81.197461

Comment: Site complies with Appendix A, C, D, E of Part 58. This site is suitable for NAAQS comparisons.

Parameters monitored, sampling method, scale and purpose:

Particulates:

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

Proposed change: The DAQ may opt to present data and analysis to EPA in order to request a reduction in sampling frequency at this site to once every sixth day.

Wood County

Site: Vienna

Location: Neale Elementary School, Vienna, Wood County, WV

AQS ID: 54-107-102

MSA: Parkersburg-Marietta, WV-OH

Latitude 39.323660

Longitude -81.552196

Comment: Site complies with Appendix A, C, D, E of Part 58. This site is suitable for NAAQS comparisons.

Parameters monitored, sampling method, scale and purpose:

Particulates:

PM_{2.5} sequential sampler, Federal Reference Method. Returned to sampling every third day on January 1, 2010. Samples analyzed by gravimetric analysis.

Representative siting scale: Urban

Monitoring objective/site type: Population oriented

Gaseous:

Sulfur Dioxide – UV fluorescent continuous gas monitor

Representative siting scale: Urban

Monitoring objective/site type: Population oriented

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

Measurement Scale: Urban

Purpose: Population Exposure

Revised Lead Standards: Air Monitoring Requirements

On October 15, 2008 EPA strengthened the National Ambient Air Quality Standards for lead (Pb) from 1.5 micrograms per cubic meter (ug/m³) to 0.15 ug/m³ for both the primary health based and secondary welfare based standards. The new standards are 10 times tighter than the previous standard. Since lead particles of all sizes pose potential health risks, lead is measured using Total Suspended Particulate (TSP) monitors. The collected particulates are subsequently analyzed by a laboratory to quantify the lead concentrations. EPA is requiring that TSP lead monitors be installed by January 1, 2010 next to facilities that emit one ton or more per year of lead. A TSP lead monitor will also be required to be installed by January 1, 2011 in each of those urban areas identified by EPA to have population greater than 500,000. AT the time of the rule, there were no reported lead sources whose emission were 1.0 ton per year or greater. On December 23, 2009, EPA proposed to again revise the lead standards by changing the emission thresholds to 0.50 tons per year in determining if a monitor is required. Any new monitors required as a result of the proposal would begin operating one year after the rule is finalized. In addition, EPA is proposing to require lead monitors at all of the NCore sites. Since the rule revision is a proposal, there is no required monitoring action to be undertaken by WV at this time. WV will also review the 2008 National Emission Inventory submittal to determine if new lead monitors would be required. Any changes to WV lead monitoring would be addressed in the 2011 Network Design. For more information please visit:

<http://www.epa.gov/air/lead/actions.html> .

NCore Multi-Pollutant Monitoring

In October 2006, the United States Environmental Protection Agency (EPA) issued final amendments to the ambient air monitoring regulations for criteria pollutants. These amendments are codified in 40 CFR parts 53 and 58. The purpose of the amendments was to enhance ambient air quality monitoring to better serve current and future air quality needs. One of the most significant changes in the regulations was the requirement to establish National Core (NCore) multi-pollutant monitoring stations. These stations will provide data on several pollutants at lower detection limits and replace the National Air Monitoring Station (NAMS) networks that have existed for several years. The final network plan must be submitted to EPA by July 1, 2009 and the stations must be operational by January 1, 2011.

The NCore Network addresses the following monitoring objectives:

- timely reporting of data to the public through AIRNow, air quality forecasting, and other public reporting mechanisms
- support development of emission strategies through air quality model evaluation and other observational methods
- accountability of emission strategy progress through tracking long-term trends of criteria and non-criteria pollutants and their precursors
- support long-term health assessments that contribute to ongoing reviews of the National Ambient Air Quality Standards (NAAQS)
- compliance through establishing nonattainment/attainment areas by comparison with the NAAQS
- support multiple disciplines of scientific research, including; public health, atmospheric and ecological

The following parameters are to be monitored at the NCore sites:

- PM2.5 speciation (24 hour average; every 3rd day sampling);
- PM2.5 FRM mass (typically 24 hr. average every 3rd day sampling);
- Continuous PM2.5 mass (1 hour reporting interval);
- Continuous PM10-2.5 mass;
- Ozone continuous monitor;
- Carbon monoxide (CO) capable of trace levels (low ppm and below) where needed;
- Sulfur dioxide (SO2) capable of trace levels (low ppb and below) where needed;
- Nitrogen oxide (NO) capable of trace levels (low ppb and below) where needed;
- Total reactive nitrogen (NOy) capable of trace levels (low ppb and below) where needed;
- Surface meteorology (wind speed and direction, temperature, RH)

In 2008, the DAQ identified the Charleston Metropolitan Area as the general area for placement of the NCore site. This would include the City of Charleston proper and the area immediately surrounding the city. The existing monitoring sites in the Charleston area may not be suitable to support the sophisticated infrastructure requirements needed for NCore. Two of the current sites are rooftop only monitoring sites; one a public library and the other a storage building. There are no indoor options at these two sites. The third site has continuous monitors that are located in a very small ancillary room in a church building. This site also has several monitors on the building roof (that is accessed via an outdoor ladder) and sample line intakes. Although it may be feasible to place an NCore level particulate matter monitor that does not require an inside

component on this roof, there is limited space on the roof that can be safely used for additional equipment. Due to these significant limitations and the inability of these sites to support the more demanding NCore site requirements, a new site location will more than likely have to be developed in the area. Selecting and acquiring a new site is complicated by the fact that it has to have a large footprint to support the shelter, meteorological tower, NOy tower and any future expansion, provide safe and easy access for the site operator and federal auditors, have access to adequate power, telecommunications and have more than adequate security. Ideally, the site should be leased from a public entity to try to assure long term lease stability greater than 5 years. It takes considerable resources, time and effort to find and develop a list of suitable sites, identify land owners and discuss preliminary terms and responsibilities. All final leasing arrangements and terms are through an independent state leasing division. Once a site lease is in place, the bid specifications for shelters, fencing, foundations and electrical work, air monitors, towers and support equipment would be developed, bids awarded and internal resources identified to manage the site development. Efforts to identify NCore potential site locations and perform initial site assessments will begin in 2009-2010. However, no other activities can be performed on site acquisition or development until a funding source is identified for site development and capital expenditures. Sustainable funding and other resources will need to be identified to support long term NCore operational costs and resource demands. For more information please visit: <http://www.epa.gov/ttn/amtic/ncore/index.html>.