



west virginia department of environmental protection

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June 24, 2014

Mr. Shawn M. Garvin, Regional Administrator
U.S. Environmental Protection Agency (3RA00)
Region 3
1650 Arch Street
Philadelphia, PA 19103-2029

Dear Mr. Garvin:

Re: 2014 WV Air Monitoring Network Design

Enclosed is the 2014 Ambient Air Monitoring Network Design for the West Virginia Department of Environmental Protection Division of Air Quality (DAQ). As required by 40 CFR Part 58, Subpart B, the network design was made available for public inspection and comment on our website for a 30-day period beginning May 14, 2014. We did not receive any comments in response to the network design.

Should you have any question or comments regarding this matter, please feel free to contact William F. Durham, DAQ Acting Director, at 304-926-0499, ext. 1242.

Sincerely,

Randy C. Huffman
Cabinet Secretary

RCH/tcb

Enclosure

cc: William F. Durham, Acting Director



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WVDEP 2014 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 2014. 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 this network design will be forwarded to USEPA Region 3 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 inadequate federal or state funding, leasing issues, site maintenance issues, personnel resource issues or equipment failure 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 which can affect the DAQ's ability to retain a monitoring site location. Any proposed changes mentioned in this document will only be made after this agency has provided notification to USEPA Region 3. The proposed changes are listed herein so that the public may have an opportunity to comment on any possible network modifications.

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 regarding the NCore monitoring site and general SO₂ monitoring.

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 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 EPA Air Monitoring rule please visit 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, MD-WV

Latitude: 39.448006

Longitude: -77.964125

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. Samples analyzed by gravimetric analysis.

Representative siting scale: Urban

Monitoring objective/site type: Population oriented

Proposed Change: The single-event PM_{2.5} FRM samplers at this site will be replaced by a sequential PM_{2.5} FRM sampler.

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 marginally 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.

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: notify USEPA Region 3 that we may 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. Due to operator safety and site access difficulties the DAQ is working to move this site in 2014-2015 to a nearby location. All but the Pb monitors would be relocated. The PM_{2.5} monitor is in compliance with both the 24-hour and annual NAAQS.

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

Proposed Change: The single-event PM_{2.5} FRM samplers at this site will be replaced by a sequential PM_{2.5} FRM sampler. Replacing the monitor will require an additional collocation site to achieve 15% collocation of the state-wide sequential PM_{2.5} FRM samplers. The collocation site will be moved to the existing Vienna site (54-107-1002). Collocation at the Cabell County site will be discontinued since there will be no more single event PM_{2.5} FRM samplers in the WV state-wide network.

Gaseous:

Sulfur Dioxide – UV fluorescent continuous gas monitor
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

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: Urban
Monitoring objective/site type: Source 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: Some infringement of tree growth outside of leased area. 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, 647 Railroad Street, 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 discretionary 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

Proposed Change: See comments regarding Hancock County Oak St. site below.

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 discretionary 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 decades of unchecked tree growth on property outside of the DAQ lease area. Due to property issues, it is highly unlikely that DAQ will be able to obtain an approved lease revision in order to replace the shelter and remedy the tree infringement problem. The DAQ will continue its efforts seek to decommission the Oak Street site in 2014-2015. The Summit Circle site is less than 1 mile from Oak Street and the DAQ leases a much larger area that would better allow us to manage tree proximity. The site is already equipped with a PM₁₀ TEOM, SO₂ and CO FRM/FEM monitors. The DAQ would use this site to replace Oak St and we would move the ozone monitor and PM_{2.5} sampler to Summit Circle. Until then, only the data generated from those monitors located in and upon the Oak Street shelter is suitable for NAAQS comparisons. The Oak Street PM_{2.5} monitor is in compliance with both the 24-hour and annual standard.

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: The manual PM₁₀ filter based sampler would be eliminated if this site is relocated to Summit Circle that currently has a PM₁₀ continuous monitor.

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

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. This site is suitable for NAAQS comparisons.

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

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

Proposed change: In order to reallocate the resources necessary to operate the NCore site, the Baptist Temple site would have to be combined with the NCore. Eventually the Baptist Temple site would be decommissioned. In addition to the monitoring that will be performed at the NCore site, the Air Toxics and RadNet monitoring would be moved from Baptist Temple to the NCore site.

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 trends network (STN) monitor; criteria pollutant monitoring is not conducted at this site.

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 an every three day schedule.

Representative siting scale: Urban

Monitoring objective/site type: Population oriented

Proposed change: Once the NCore site is established and operational, the STN sampler will be relocated from Guthrie to the NCore site and the Guthrie site will be decommissioned.

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. Samples once every three days. 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

Proposed change: Once the Guthrie speciation samplers are relocated to the NCore and operational, the South Charleston speciation samplers will be decommissioned. The South Charleston speciation site is also on a national list of speciation sites that may not be supported by EPA as a result of a cost savings analysis.

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. This site is suitable for NAAQS comparisons.

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

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. This site is suitable for NAAQS comparisons.

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

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

PM_{2.5} Speciation

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.

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

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

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:

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

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} 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

Comment: Due to a position vacancy, operation of this site has been temporarily suspended until the vacancy is filled and the employee trained.

Wood County

Site: Vienna

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

AQS ID: 54-107-1002

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. Samples once every three days.

Samples analyzed by gravimetric analysis.

Representative siting scale: Urban

Monitoring objective/site type: Population oriented

Proposed change: Once the single event PM_{2.5} FRM samplers are replaced at Huntington and Martinsburg with the sequential PM_{2.5} FRM's an additional collocated site will be required to achieve the 15% collocation ratio required by EPA for sequential FRM

samplers. The Vienna site will be the location of the new sequential PM_{2.5} FRM collocated sampler.

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

NCore Multi-Pollutant Monitoring

While the DAQ has identified an NCore site location, the Department of Administration has yet to finalize a lease for the site and has proposed alternative site locations. Should a final site location and lease be secured then the next project phase is site development in preparation for shelter installation. In order to allocate the resources necessary to operate an NCore site, the NCore site would have to be such that we can relocate the existing Charleston (Baptist Temple) and Guthrie sites to the NCore location also and terminate the operation of the South Charleston speciation monitors. Sustainable funding for initial site development, continued operation and maintenance and other resources will need to be identified to support initial and long term NCore monitoring.

The purpose of the NCore site is to provide:

- Timely reporting of data to public by supporting AIR Now, air quality forecasting, and other public reporting mechanisms;
- Support for 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 for long-term health assessments that contribute to ongoing reviews of the NAAQS;
- Compliance through establishing nonattainment/attainment areas through comparison with the NAAQS;
- Support to scientific studies ranging across technological, health, and atmospheric process disciplines; and
- Support to ecosystem assessments recognizing that national air quality networks benefit ecosystem assessments and, in turn, benefit from data specifically designed to address ecosystem analyses.

The NCore site will monitor for the following parameters:

PM_{2.5} speciation (Organic and elemental carbon, major ions and trace metals 24 hour average; every 3rd day);

PM_{2.5} FRM mass (24 hr. average at least every 3rd day)

Continuous PM_{2.5} mass (1 hour reporting interval)

PM_{10-2.5} mass (Filter-based every 3rd day)

Ozone (O₃)

Carbon monoxide (CO) capable of trace levels (low ppm and below)

Sulfur dioxide (SO₂) capable of trace levels (low ppb and below)

Nitrogen oxide (NO) capable of trace levels (low ppb and below)

Total reactive nitrogen (NO_y) capable of trace levels (low ppb and below)

Surface meteorology (wind speed and direction, temperature, RH)

In addition the Charleston NCore site will monitor for:

Airborne Radiation (EPA RadNet monitor) <http://www.epa.gov/radnet/>

Air Toxics (metals, Volatile Organic Compounds and Carbonyls)

Sulfur Dioxide (SO₂)

On June 2, 2010, EPA strengthened the NAAQS for SO₂ by establishing a new 1-hour standard at a level of 75 parts per billion (ppb). Because of the age of the SO₂ monitors in our network, instrument failure rates are increasing and replacement parts have become difficult to find. The DAQ has used equipment replacement funds to purchase 4 new instruments in 2013 and will acquire 3 new units this year. These units will be deployed to the more critical SO₂ monitoring sites. For those sites using the older SO₂ instruments, as they fail beyond repair it may become necessary to work with USEPA Region 3 to evaluate the importance of the lower value SO₂ monitoring sites and terminate SO₂ monitoring at lower value sites, as needed. This would provide instrumentation and parts that can be used to continue to support monitoring that uses older instrumentation at other higher value SO₂ sites.