



# HUNTSVILLE

Natural Resources

Scott Cardno  
Director

June 27, 2018

Beverly Banister, Director  
Air Pesticides & Toxics Management Division  
US EPA - Region 4  
61 Forsyth Street, SW  
Atlanta, GA 30303

Dear Ms. Banister:

In accordance with 40 CFR 58.10, the City of Huntsville Division of Natural Resources and Environmental Management (COHDNREM) has prepared an Annual Network Plan. The plan was placed on the City of Huntsville website on May 21, 2018, to start a 30 day public review period. The review period concluded at the close of business on June 21, 2018. During the 30 day public review period, the City of Huntsville did not receive any comments.

The following items will be submitted electronically to Todd Rinck, Darren Palmer and Mike Malaier:

2018 Annual Network Plan  
Air Monitoring Equipment Evaluations

Please let me know if you have any questions or need additional information.

Sincerely,

Scott Cardno

cc: Ron Gore, ADEM  
Email: Todd Rinck, Chief, Air Data & Analysis Section ([rinck.todd@epa.gov](mailto:rinck.todd@epa.gov))  
Email: Daren Palmer, Air Data & Analysis Section ([Palmer.Darren@epa.gov](mailto:Palmer.Darren@epa.gov))  
Email: Mike Malaier, Chief, Air Assessment Unit, ADEM  
(<mailto:MML@adem.alabama.gov>)

The Star of Alabama

**2018 ANNUAL NETWORK PLAN**

**DIVISION OF NATURAL RESOURCES  
AND ENVIRONMENTAL MANAGEMENT**

**AMBIENT AIR QUALITY MONITORING PROGRAM**

**CITY OF HUNTSVILLE, ALABAMA**



**HUNTSVILLE**

The Star of Alabama

**NATURAL RESOURCES AND ENVIRONMENTAL  
MANAGEMENT**

**Post Office 308**

**Huntsville, Alabama 35804-0308**

**May 2018**

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## Definitions and Acronyms

AAQM	Ambient Air Quality Monitoring
AAQMP	Ambient Air Quality Monitoring Plan
ARM	Approved Regional Method
AQS	Air Quality System
avg	average
CBSA	Core Based Statistical Area
CFR	<i>Code of Federal Regulations</i>
CO	Carbon Monoxide
CSA	Combined Statistical Area
EPA	Environmental Protection Agency
FEM	Federal Equivalent Method
FRM	Federal Reference Method
DNREM	Division of Natural Resources and Environmental Management
hr	hour
hi-vol	high-volume PM10 sampler
low-vol	low-volume particulate sampler
m <sup>3</sup>	cubic meter
min	minute
ml	milliliter
MSA	Metropolitan Statistical Area
NAAQS	National Ambient Air Quality Standards
NCore	National Core multipollutant monitoring stations
O <sub>3</sub>	ozone
PAMS	Photochemical Assessment Monitoring Stations
Pb	lead
PM	particulate matter
PM <sub>2.5</sub>	particulate matter $\leq 2.5$ micrometers diameter
PM <sub>10</sub>	particulate matter $\leq 10$ micrometer diameter
PM <sub>10-2.5</sub>	particulate matter $\leq 10$ microns but $> 2.5$ microns
PSD	Prevention of Significant Deterioration
QA	Quality Assurance
QAPP	Quality Assurance Project Plan
QC	Quality Control
SLAMS	State or Local Air Monitoring Station
SO <sub>2</sub>	Sulfur Dioxide
SPM	Special Purpose Monitor
TEOM	Tapered Element Oscillating Microbalance (Rupprecht and Patashnick Co.)
tpy	tons per year
TSP	Total Suspended Particulate
USEPA	United States Environmental Protection Agency
° C	degree Celsius
µg/m <sup>3</sup>	micrograms (of pollutant) per cubic meter (of air sampled)
≥	greater than or equal to
>	greater than
≤	less than or equal to
<	less than



## **Introduction**

In October 2006, the United States Environmental Protection Agency (EPA) issued final Federal Regulations (40 CFR Part 58) concerning state and local agency ambient air monitoring networks.

These regulations require states to submit an annual monitoring network review to EPA. This document provides the framework for establishment and maintenance of Alabama's air quality surveillance system, lists changes that occurred during 2017, and changes proposed to take place to the current ambient air monitoring network during 2018/2019.

## **Public Review and Comment**

The annual monitoring network review must be made available for public inspection for thirty (30) days prior to submission to EPA. For 2018, this document was placed on the City of Huntsville's website on 05/22/2018 to begin a 30-day public review period. This document can be accessed at the following link:

<https://www.huntsvilleal.gov/government/media-center/legal-notices/>

Or by contacting:

Scott Cardno, Director

Division of Natural Resources and Environmental Management

P.O. Box 308

Huntsville, AL 35804

(Street address: 320 Fountain Circle, Huntsville, AL 35801)

Or by e-mail at [scott.cardno@huntsvilleal.gov](mailto:scott.cardno@huntsvilleal.gov)

## **Huntsville Alabama Network Overview**

The Huntsville Division of Natural Resources and Environment Management operates a network of state and local air monitoring stations (SLAMS). The current network configuration consists of five monitoring stations that measure concentrations of criteria air pollutants, one station within this network is a Special Purpose Monitoring (SPM) site. The type and number of monitoring stations required in Huntsville are determined by the network design criteria set forth in 40 CFR 58.

Regulations codified at 40 CFR Part 58, Appendices A (Quality Assurance Requirements for Monitors used in Evaluations of National Ambient Air Quality Standards, C (Ambient Air Quality Monitoring Methodology), D (Network Design Criteria for Ambient Air Quality Monitoring) and E (Probe and Monitoring Path Siting Criteria for Ambient Air Quality Monitoring) were reviewed to determine if modifications to the existing air monitoring network are required.

## **Population and CBSA**

Minimum monitoring requirements vary for each pollutant and can be based on a combination of factors such as population, the level of monitored pollutants, and Core Based Statistical Area (CBSA) boundaries as defined in the latest US Census information.

The 2017 population estimate for the Metropolitan Statistical Area of Huntsville is 455,448. The CBSA title is Huntsville, Alabama, which includes Madison and Limestone County.

## **NCore Ambient Air Monitoring Stations**

Each State is required to operate one NCore site (multipollutant). Huntsville was not selected for the NCore site.

## **PAMS (Photochemical Assessment Monitoring Stations)**

PAMS monitoring is required in areas classified as serious, severe, or extreme for the 8-hour ozone standard. Huntsville is presently classified as an ozone attainment area. Consequently, PAMS monitoring is not required.

## **SLAMS (State and Local Air Monitoring Stations)**

The minimum ozone monitoring requirements are based on MSA (Metropolitan Statistical Area) populations and 3-year design value concentrations. The Huntsville MSA population is 455,448 based on U.S. Census Bureau 2017 estimates. Huntsville's 3-year design value concentration for 2015-2017 is .064 ppm. MSA's with populations of 50,000 to less than 350,000 having a design value  $\geq 85\%$  of the O<sub>3</sub> NAAQS are

required to operate one ozone site. MSA's with populations of 350,000 to less than 4,000,000 are required to operate two ozone sites. Huntsville operates two ozone monitoring sites, as required.

There is a two-tier minimum nitrogen dioxide (NO<sub>2</sub>) monitoring requirement. Near-road microscale monitoring is required in each CBSA (Core-based statistical area) with a population of 1,000,000 or more. Area-wide high concentration monitoring is required in each CBSA with a population of 1,000,000 or more. The Huntsville CBSA population is 417,593. Huntsville is not required to operate a SLAMS NO<sub>2</sub> monitor.

The minimum monitoring requirements for carbon monoxide (CO) require one monitor be collocated with a near-road NO<sub>2</sub> monitor in each CBSA with a population of 1,000,000 or more. Huntsville is not required to operate a SLAMS CO monitor.

The minimum sulfur dioxide (SO<sub>2</sub>) monitoring requirements are based on a Population Weighted Emissions Index (PWEI), which is calculated by multiplying the population of the CBSA and the total SO<sub>2</sub> emissions (using the most recent published version of the National Emissions Inventory (NEI)) within the CBSA area. The resulting product is then divided by one million, representing million persons-tons per year. Areas having a PWEI greater than 1,000,000 are required to operate 3 monitors; areas having a PWEI equal to or greater than 100,000 but less than 1,000,000 are required to operate 2 monitors; areas having a PWEI greater than 5,000 but less than 100,000 are required to operate 1 monitor. The Huntsville PWEI is 153 (based on 2010 decennial census population and 2014 NEI, total SO<sub>2</sub> emissions data for the Huntsville CBSA). Huntsville is not required to operate a SLAMS SO<sub>2</sub> monitor.

Lead monitoring (Pb) is required in areas where Pb levels have been shown or are expected to be of concern due to the proximity of Pb point source emissions. Generally, industrial sources emitting 0.5 ton or more of lead per year and airports emitting 1.0 ton or more per year would be candidates for lead ambient air monitoring. There are no significant point sources of lead emissions in Huntsville. Based on past monitoring and emissions inventory data, a SLAMS lead site is not required.

Huntsville's PM<sub>10</sub> concentrations are less than 80 percent of the PM<sub>10</sub> NAAQS (National Ambient Air Quality Standards). Based on Huntsville's MSA population being between 250,000-500,000 and low concentrations, Huntsville is required to operate 1 site. Huntsville operates 3 PM<sub>10</sub> sites located in south, central, and north Huntsville. These monitors can be operated at very low cost and provide good spatial coverage within the city. Experience has shown that members of the public want ambient air monitoring to be performed in their part of the city, and the PM<sub>10</sub> monitoring sites provide a monitoring presence at relatively low cost. Furthermore, the PM<sub>10</sub> data provide an indirect indication of PM<sub>2.5</sub> spatial variability at a tiny fraction of the cost of operating multiple PM<sub>2.5</sub> sites.

The minimum PM<sub>2.5</sub> monitoring requirements are based on MSA populations and 3-year design value concentrations. Huntsville's 3-year design value concentration for 2015-2017 is 13.0 µg/m<sup>3</sup> for the 24-hour standard and 7.7 µg/m<sup>3</sup> for the annual standard.

MSA's with populations of 50,000 to less than 500,000 having a design value  $\geq 85\%$  of the PM<sub>2.5</sub> NAAQS are required to operate one PM<sub>2.5</sub> site on a 1 in 3 day sampling frequency. Huntsville operates one PM<sub>2.5</sub> site on a 1 in 3 day schedule although the current design values are  $<85\%$  of the NAAQS. Note: Operating frequency increases to daily sampling when the 24-hour design value is within  $\pm 5$  percent of the 24-hour PM<sub>2.5</sub> NAAQS (34, 35, and 36  $\mu\text{g}/\text{m}^3$ ).

SLAMS sites were also evaluated to determine consistency of spatial scales with stated monitoring objectives. Reference the attached monitoring network description. In addition to the information listed below, the description also indicates site locations, monitoring methodologies, and operational schedules.

Site #	Site Name	Pollutant	Monitoring Objective	Current Spatial Scale based on ADT* for nearest streets	Scale Meets Objective
0002	Pulaski	PM <sub>10</sub>	Population	Neighborhood	Yes
0004	South Parkway	PM <sub>10</sub>	High Conc.	Middle	Yes
0014	Airport Road	PM <sub>10</sub>	Population	Urban	Yes
0014	Airport Road	PM <sub>2.5</sub>	Population	Urban	Yes
0014	Airport Road	O <sub>3</sub>	Population	Neighborhood	Yes
0022	Capshaw	O <sub>3</sub>	High Conc.	Urban	Yes

**Notes:**

Site 0002	Monitor 30.5 m from Pulaski Pike	ADT 14,000	Probe Ht. 4.3 m
Site 0004	Monitor 30.5 m from Mem. Pkwy.	ADT 33,000	Probe Ht. 4.3 m
Site 0014	Monitors 91 m from Airport Road	ADT 15,300	Probe Ht of PM monitors – 4.3 m
	Monitors 548 m from Mem. Pkwy.	ADT 66,550**	Probe Ht of continuous monitor(s) 4.5 m
Site 0022	Monitor 30 m from Capshaw Road	ADT 9,200	Probe Ht. 4.0 m

ADT = Average Daily Traffic

\*Traffic count data as provided by the Traffic Engineering Department represents 2014, 2016 and 2017 data.

\*\*ADT counts on Memorial Parkway immediately north and south of Airport Road averaged.

### SPM (Special Purpose Monitors)

The special purpose PM<sub>10</sub> monitor is operated Monday – Friday from 3:00 p.m.-3:00 p.m. This data is used in reporting the daily Air Quality Index to the local print and television media.

Continuous PM<sub>2.5</sub> monitoring is required in relation to the minimum SLAMS monitoring requirement stated above; i.e., equal to at least one-half (round up) the minimum monitoring requirement. Huntsville is therefore required to operate one continuous PM<sub>2.5</sub> monitor. This monitor is a non-FRM/FEM/ARM. This data is used to support public reporting and forecasting of the Air Quality Index.

Site #	Site Name	Pollutant	Monitoring Objective	Current Spatial Scale based on ADT* for nearest streets	Scale Meets Objective
0003	Downtown Garage (AQI Reporting Site)	PM <sub>10</sub>	Population	Neighborhood	Yes
0014	Airport Road	PM <sub>2.5</sub>	Population	Urban	Yes

ADT = Average Daily Traffic

\*Traffic count data as provided by the Traffic Engineering Department represents 2014, 2016 and 2017 data.

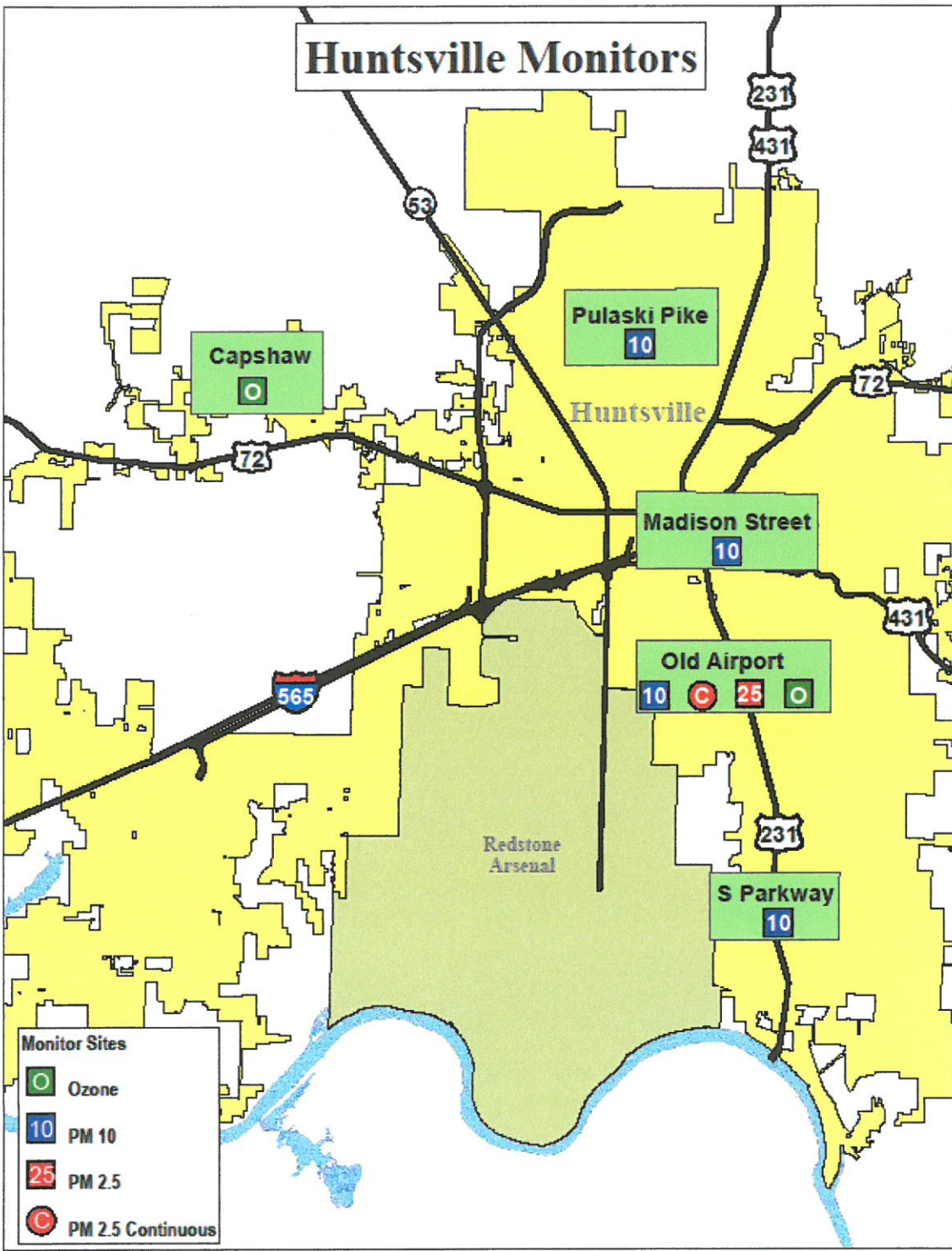
**AIR MONITORING NETWORK DESCRIPTION**  
(As of May 2018)

Site ID	Pollutant(s) Monitored	Methodology	Operating Schedule	Monitoring Objective	Spatial Scale	MSA Represented	Site/Monitor Type	Begin Sampling	End Sampling
01-089-0002 Pulaski Pike	PM10*	SSI Hi – Vol	6 – Day	Population	Neighborhood	Huntsville	SLAMS	01/01/91	Active
01-089-0003 Downtown Garage	PM10	SSI Hi – Vol	Weekday	Population	Neighborhood	Huntsville	SPM Non-Regulatory	04/01/93	Active
01-089-0004 South Parkway	PM10*	SSI Hi – Vol	6 – Day	High Conc.	Middle	Huntsville	SLAMS	06/28/90	Active
01-089-0014 Huntsville Old Airport Road	PM10*	SSI Hi – Vol	6 – Day	Population	Urban	Huntsville	SLAMS	07/01/88	Active
	PM2.5*	SSI Lo – Vol	3 -- Day	Population	Urban	Huntsville	SLAMS	01/01/99	Active
	PM2.5	SSI Lo – Vol	Continuous	Population	Urban	Huntsville	SPM Non-Regulatory	10/09/03	Active
	Ozone*	UV Photometric	Continuous	Population	Neighborhood	Huntsville	SLAMS	01/01/75	Active
01-089-0022 Capshaw	Ozone*	UV Photometric	Continuous	High Conc.	Urban	Huntsville	SLAMS	07/01/11	Active

\*Sites used for NAAQS comparison.

Site ID	Location	Geographical Coordinate	Three Closest Roads	Proposed Changes
01-089-0002 Pulaski Pike	5006 Pulaski Pike Huntsville, AL 35810	Latitude +34.788333 Longitude -86.616111	Pulaski Pike Stag Run Winchester Road	None Proposed
01-089-0003 Downtown Garage	Madison St. – Garage Huntsville, AL 35801	Latitude +34.728740 Longitude -86.585010	Madison Street Gates Street Fountain Circle	None Proposed
01-089-0004 South Parkway	11525 S. Memorial Pkwy Huntsville, AL 35803	Latitude +34.620278 Longitude -86.566389	South Memorial Parkway Redstone Road Hobbs Road	None Proposed
01-089-0014 Airport Road	Old Airport – Airport Rd. Huntsville, AL 35802	Latitude +34.687670 Longitude -86.586370	Airport Road Memorial Parkway Leeman Ferry Road	Planned site relocation approximately 1,100 feet SW of current location. Anticipated relocation late 2018 to early 2019.
01-089-0022 Capshaw	1130 Capshaw Road Huntsville, AL 35757	Latitude +34.772727 Longitude -86.756174	Capshaw Road Wall Triana Highway Balch Road	None Proposed





**AIR MONITORING EQUIPMENT**

<b>EQUIPMENT DESCRIPTION</b>	<b>MODEL</b>	<b>PURCHASED</b>	<b>S/N</b>	<b>COST</b>	<b>CONDITION</b>	<b>ESTIMATED USEFUL LIFE (YRS)</b>	<b>COMMENTS</b>
AAA MODULAR TRAILER	TA-822	1996	41053	6,864.00	GOOD	(22 years old)	TO BE DETERMINED
HVAC WINDOW HEATPUMP UNIT		1996					
ANDERSEN PM10 SAMPLER	1200	1990	3366		FAIR	(28 years old)	NO REPLACEMENT SCHEDULED
ANDERSEN PM10 SAMPLER	1200	1990	3365		FAIR	(28 years old)	NO REPLACEMENT SCHEDULED
ANDERSEN PM10 SAMPLER	1200	1990	3362		FAIR	(28 years old)	NO REPLACEMENT SCHEDULED
ANDERSEN PM10 SAMPLER	1200	1990	3363		FAIR	(28 years old)	NO REPLACEMENT SCHEDULED
ANDERSEN PM10 SAMPLER	1200	1990	1071		FAIR	(28 years old)	NO REPLACEMENT SCHEDULED
ANDERSEN PM10 SAMPLER	1200	1988	2802	2,750.00	FAIR	(30 years old)	NO REPLACEMENT SCHEDULED
ANDERSEN PM10 SAMPLER	1200	1988	2803	2,750.00	FAIR	(30 years old)	NO REPLACEMENT SCHEDULED
TELEDYNE API U.V. PHOTOMETER	T703	2011	90	9,458.50	GOOD	10 (7 years old)	TO BE DETERMINED
TELEDYNE API U.V. PHOTOMETER	T703	2010	53	8,280.80	GOOD	10 (8 years old)	TO BE DETERMINED
TELEDYNE API OZONE MONITOR	T400	2012	304	7363.80	GOOD	10 (5 years old)	TO BE DETERMINED
TELEDYNE API OZONE MONITOR	T400	2010	62	6375.20	GOOD	10 (8 years old)	TO BE DETERMINED
ENVIRONICS CALIBRATOR	6103	2005	3570	9,044.09	FAIR	10 (13 years old)	TO BE DETERMINED
ENVIRONICS CALIBRATOR	6100	2014	6200	8,775.00	GOOD	10 (4 years old)	
AGILAIRE DATA LOGGER	8872	2017	739	8,760.00	GOOD	10 (New Equipment)	TO BE DETERMINED
ESC DATA LOGGER	8832	2010		7,700.00	GOOD	10 (8 years old)	TO BE DETERMINED
ESC DATA LOGGER	8816	2003	4915	5,505.97	FAIR	10 (15 years old)	TO BE DETERMINED
ESC DATA SOFTWARE / AMBIENT, DIGITREND	AirVision	2010	Software	2,940.00	GOOD	5 (8 years old)	TO BE DETERMINED
ESC DATA SOFTWARE / AMBIENT REMOTE	AirVision (2 sites)	2010	Software Agreement	6,125.00	GOOD	5 (8 years old)	TO BE DETERMINED
THERMO R&P PM2.5 CONTINUOUS MONITOR	TEOM	2003	140AB245730304	22,305.00	GOOD	10 (15 years old)	TO BE DETERMINED
THERMO R&P PM2.5 SEQUENTIAL AIR MONITOR	2025i	2016	2025IW2 1074 1606	17,969.00	EXCELLENT	10 (2 year old)	TO BE DETERMINED
THERMO R&P PM2.5 SEQUENTIAL AIR MONITOR	2025	1998	2025A201869803	10,261.30	GOOD	10 (20 years old)	TO BE DETERMINED
THERMO R&P PM2.5 SEQUENTIAL AIR MONITOR	2025	2007	2025B221000712	13,467.14	GOOD	10 (11 years old)	TO BE DETERMINED
R.M.YOUNG MET SYSTEM	6201	2007	WT15773	775.00	GOOD	10 (11 years old)	TO BE DETERMINED
SOLTEC STRIP CHART RECORDER	1241	2007	1676	1795.36	GOOD	10 (11 years old)	TO BE DETERMINED
<b>BACK-UP EQUIPMENT DESCRIPTION</b>	<b>MODEL</b>	<b>PURCHASED</b>	<b>S/N</b>	<b>COST</b>	<b>CONDITION</b>	<b>ESTIMATED USEFUL LIFE (YRS)</b>	<b>COMMENTS</b>
TELEDYNE API OZONE MONITOR	M400E	2002	641	6,226.70	FAIR	10 (16 years old)	REPLACED IN 2012
TELEDYNE API ZERO AIR SYSTEM	701	2006	2107	2,660.00	FAIR	10 (12 years old)	
TELEDYNE API U.V. PHOTOMETER	401X	2006	384	6,840.00	FAIR	10 (12 years old)	
API OZONE MONITOR	400	1995	393	5,886.00	FAIR	10 (23 years old)	REPLACED IN 2002
ENVIRONICS CALIBRATOR	S-100-P	1992	1818	9,350.00	POOR	10 (26 years old)	REPLACED IN 2005
ESC DATA LOGGER W/CARTRIDGE	8800/S109-0000	1994	1382	5,135.00	FAIR	10 (24 years old)	NO REPLACEMENT SCHEDULED
ESC DATA LOGGER	8800/S109-0000	2000	1848	5,180.00	FAIR	10 (18 years old)	REPLACED IN 2003
ESC DATA SOFTWARE / AMBIENT, DIGITREND	VER 5.40	2003		3,400.00	FAIR	5 (15 years old)	Upgraded in 2010
ESC DATA SOFTWARE / AMBIENT REMOTE	VER 5.40 (UPGRADE 3.0)	2003		1,500.00	FAIR	5 (15 years old)	Upgraded in 2010
R&P PM2.5 SEQUENTIAL AIR MONITOR	2025	1998	2025A201849803	10,261.30	POOR	10 (20 years old)	REPLACED IN 2007
API MULTI-GAS CALIBRATOR	700	1997	255	11,368.75	FAIR	10 (21 years old)	REPLACED IN 2011

5/17/2018



## HUNTSVILLE AIR MONITORING NETWORK SITES

The annual monitoring network plan, as stated in 40 CFR Part 58.10(b)(1-13), *Annual Monitoring Network Plan and Periodic Network Assessment*; must contain the following information for each existing and proposed site:

- (1) The AQS site identification number.
- (2) The location, including street address and geographical coordinates.
- (3) The sampling and analysis method(s) for each measured parameter.
- (4) The operating schedules for each monitor.
- (5) Any proposals to remove or move a monitoring station within a period of 18 months following plan submittal.
- (6) The monitoring objective and spatial scale of representativeness for each monitor as defined in appendix D to this part.
- (7) The identification of any sites that are suitable and sites that are not suitable for comparison against the annual PM<sub>2.5</sub> NAAQS as described in §58.30.
- (8) The MSA, CBSA, CSA or other area represented by the monitor.
- (9) The designation of any Pb monitors as either source-oriented or non-source-oriented according to Appendix D to 40 CFR part 58.
- (10) Any source-oriented monitors for which a waiver has been requested or granted by the EPA Regional Administrator as allowed for under paragraph 4.5(a)(ii) of Appendix D to 40 CFR Part 58.
- (11) Any source-oriented or non-source-oriented site for which a waiver has been requested or granted by the EPA Regional Administrator for the use of Pb-PM<sub>10</sub> monitoring in lieu of Pb-TSP monitoring as allowed for under paragraph 2.10 of Appendix C to 40 CFR part 58.
- (12) The identification of required NO<sub>2</sub> monitors as near-road, area-wide, or vulnerable and susceptible population monitors in accordance with Appendix D, section 4.3 of this part.
- (13) The identification of any PM<sub>2.5</sub> FEMs and/or ARMs used in the monitoring agency's network where the data are not of sufficient quality such that data are not to be compared to the NAAQS. For required SLAMS where the agency identifies that the PM<sub>2.5</sub> Class III FEM or ARM does not produce data of sufficient quality for comparison to the NAAQS, the monitoring agency must ensure that an operating FRM or filter-based FEM meeting the sample frequency requirements described in §58.12 or other Class III PM<sub>2.5</sub> FEM or ARM with data of sufficient quality is operating and reporting data to meet the network design criteria described in Appendix D to this part.

Fire Station #10 Site  
 5006 Pulaski Pike  
 Huntsville, Alabama 35810  
 Madison County

AQS Site ID: 01-089-0002  
 Latitude: 34.788333  
 Longitude: -86.616111



AERIAL PHOTOGRAPH ¼ mile radius

Pollutant	Scale	Type	Monitoring Objective/CBSA	Method	Schedule	NAAQS	Date Began	Date Ended	Comment
PM-10	N	S	Population	H	6	Y	1/1/1991	Active	



NORTH



SOUTH



EAST



WEST

Pollutant	Distance between collocated inlets	Height Of inlet	Distance of probe or inlet from trees	Distance of probe or inlet from dripline of trees	Distance of probe or monitor from roadway (nearest pavement)	Type of ground cover around site	Probe material
PM-10	N/A	4.3m	24.4m	18.3m	30.5m	Asphalt Grass	N/A



Fire Station #7 Site  
 11545 S. Memorial Parkway  
 Huntsville, Alabama 35803  
 Madison County

AQS Site ID: 01-089-0004  
 Latitude: 34.620278  
 Longitude: -86.566389



AERIAL PHOTOGRAPH ¼ mile radius

Pollutant	Scale	Type	Monitoring Objective/CBSA	Method	Schedule	NAAQS	Date Began	Date Ended	Comment
PM-10	M	S	High Concentration	H	6	Y	6/28/1990	Active	



NORTH



SOUTH



EAST



WEST

Monitor	Distance between collocated inlets	Height of inlet	Distance of probe or inlet from trees	Distance of probe or inlet from dripline of trees	Distance of probe or monitor From roadway (nearest pavement)	Type of ground Cover Around site	Probe material
PM-10	N/A	4.3m	83.8m	77.7m	30.5m	Asphalt Grass	N/A



Old Airport Site  
 2201 John Hunt Park  
 Huntsville, Alabama 35805  
 Madison County

AQS Site ID: 01-089-0014  
 Latitude: 34.68767  
 Longitude: -86.58637



AERIAL PHOTOGRAPH ¼ mile radius

Pollutant	Scale	Type	Monitoring Objective/CBSA	Method	Schedule	NAAQS	Date Began	Date Ended	Comment
PM-10	U	S	Population	H	3	Y	7/01/1988	Active	
PM-10	U	S	Population	H	6	Y	7/01/1988	Active	Collocated
PM 2.5	U	S	Population	L	3	Y	1/01/1999	Active	
PM 2.5	U	S	Population	L	6	Y	1/01/1999	Active	Collocated
PM 2.5	U	S	Population	L		N	10/9/2003	Active	Continuous
Ozone	U	S	Population	UV		Y	1/01/1975	Active	Continuous



NORTH



SOUTH



EAST



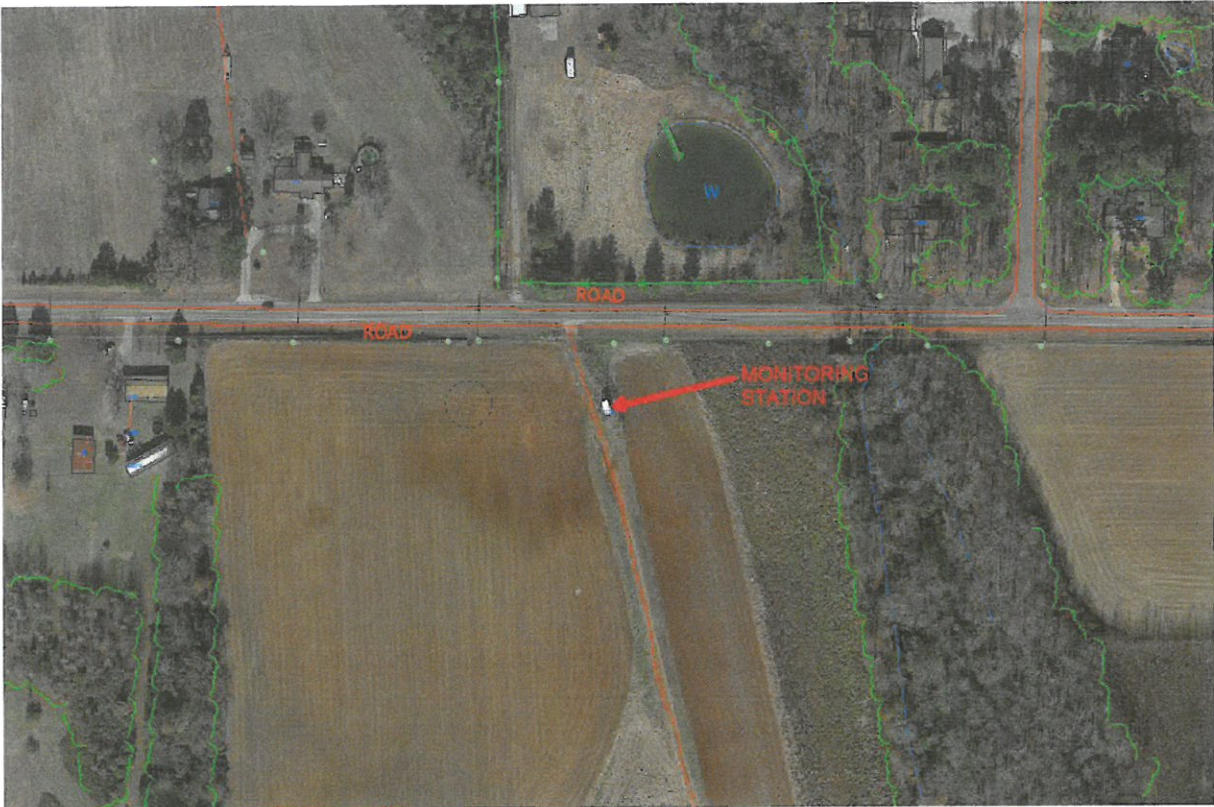
WEST

Monitor	Distance between collocated inlets	Height of inlet	Distance of probe or inlet from trees	Distance of probe or inlet from dripline of trees	Distance of probe or monitor From roadway (nearest pavement)	Type of ground Cover Around site	Probe material
PM-10		4.3m	30.5m	24.4m	91m	Grass, Asphalt	N/A
PM-10	2m	4.3m	30.5m	24.4m	91m	Grass, Asphalt	N/A
R&P 2.5		4.3m	30.5m	24.4m	91m	Grass, Asphalt	N/A
R&P 2.5	2m	4.3m	30.5m	24.4m	91m	Grass, Asphalt	N/A
TEOM		4.5m	30.5m	24.4m	91m	Grass, Asphalt	Teflon
T400		4.5m	30.5m	24.4m	91m	Grass, Asphalt	Teflon



Capshaw Road Site  
 1130 Capshaw Road  
 Huntsville, Alabama 35757  
 Madison County

AQS Site ID: 01-089-0022  
 Latitude: 34.772727  
 Longitude: -86.756174



AERIAL PHOTOGRAPH ¼ mile radius

Pollutant	Scale	Type	Monitoring Objective/CBSA	Method	Schedule	NAAQS	Date Began	Date Ended	Comment
Ozone	U	S	Population Exposure	UV		Y	7/1/2011	Active	Continuous





NORTH



SOUTH



EAST



WEST

Monitor	Distance Between Collocated inlets	Height of inlet	Distance of probe or inlet from trees	Distance of probe or inlet from dripline of trees	Distance of probe or monitor From roadway (nearest pavement)	Type of ground Cover Around site	Probe Material
T400	N/A	4.0m	48.8m	45.7m	30m	Grass, Ag Field	Teflon

## Abbreviations Used in Site Description Tables

### Scale

- N Neighborhood (0.5 – 4 Kilometers)
- U Urban (overall citywide conditions, 4 -50 kilometers)
- R Regional (usually rural, with homogenous geography, tens to hundreds of kilometers)
- M Middle Scale

### Type

- S SLAMS
- QA QA Collocated Monitor
- SPM Special Purpose Monitor

### Operating Schedule

- C Continuous monitor
- D Daily 24-hour samples
- 3 1 24-hour sample every 3 days (on national schedule)
- 6 1 24-hour sample every 6 days (on national schedule)

### Methods

- H Hi-volume SSI sampler
- L Low Volume SSI
- T TEOM continuous monitor
- U UV photometric ozone analyzer
- S Hi-Volume Total Suspended Particulate monitor

### NAAQS<sub>1</sub>

- Y,N Data suitable for comparison to NAAQS
- <sub>1</sub> Collocated monitors must be operated in the same manner as the federal reference method but one monitor at the site is designated as the main monitor for comparison to the NAAQS

## Network Review Findings

The existing network as summarized in the attached Air Monitoring Network Description complies with 40 CFR Part 58 and Appendices A, C, D and E requirements.

Redesign of John Hunt Park's Master Plan has necessitated relocation of Site 0014. DNREM in coordination with the Planning, Parks and Recreation and Projects Management Departments have identified and approved a suitable permanent location for Site 0014 within John Hunt Park. The new location is 1100 feet southwest of the present location. The site would continue to meet all 40 CFR Part 58 requirements. The monitoring objective and spatial scale would not change. DNREM apprised EPA and received concurrence regarding planned relocation of the site.

CITY OF HUNTSVILLE, ALABAMA  
NATURAL RESOURCES & ENVIRONMENTAL  
MANAGEMENT DIVISION

PROPOSED RELOCATION OF OLD AIRPORT AIR MONITORING STATION

The current Old Airport Air Monitoring Site located in John Hunt Park will be impacted by upcoming park modifications. Plans call for removal of the existing air monitoring building requiring construction of a new building and relocation of air monitoring activities. The new site will retain the current AQS site identification number and current criteria pollutant measurements will continue. Estimated relocation date is early 2019.

The proposed new location was examined during a fall 2017 site visit by Mr. Darren Palmer of USEPA Region 4 and preliminary approval of site relocation was provided.

Public Review and Comment

The proposed relocation of Old Airport Air Monitoring Site must be made available for public inspection for thirty (30) days prior to submission to EPA. This document was placed on the City of Huntsville's website on 07/31/2018 to begin a 30-day public review period. This document can be accessed at the following link: <https://www.huntsvilleal.gov/government/media-center/legal-notice/>  
Or by contacting:

Scott Cardno, Director  
Division of Natural Resources and Environmental Management  
P.O. Box 308  
Huntsville, AL 35804  
(Street address: 320 Fountain Circle, Huntsville, AL 35801)  
Or by e-mail at [scott.cardno@huntsvilleal.gov](mailto:scott.cardno@huntsvilleal.gov)

Proposed new building location information:

Old Airport Air Monitoring Site  
AQS Site ID: 01-089-0014  
2165 Airport Road SW  
Huntsville, Alabama 35802  
Madison County  
Approximate coordinates-  
Latitude: 34.685501  
Longitude: -86.588125

The new building would be located approximately 1,100 feet southwest of the existing site. The floor elevation of the new building is approximately 616 – 617 feet, the height of the building is roughly 12 feet with a finished roof elevation of approximately 629 feet. The height of the samplers (minimum 6 feet above the roof) provides a final height of approximately 635 feet. Trees within 10 meters of the building perimeter will be removed and a buffer of at least 10 meters clear of trees is planned.

Site plans and supporting documentation attached:



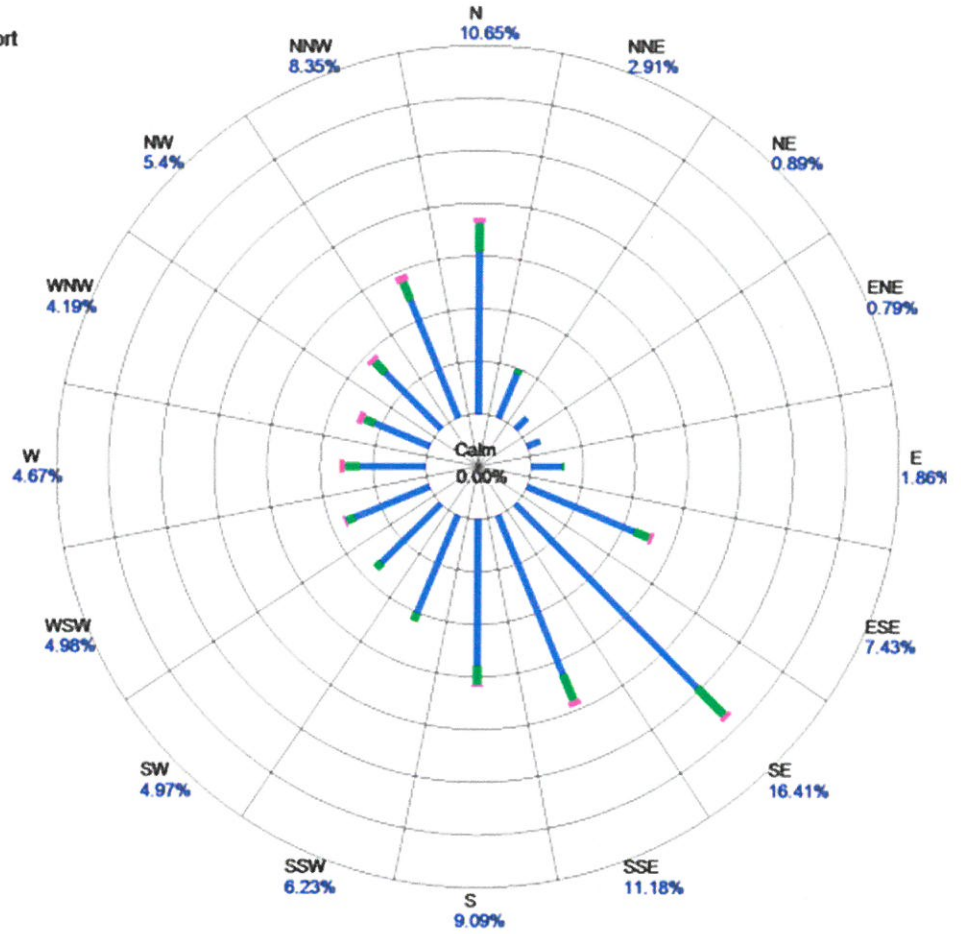
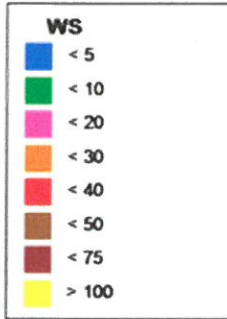


*COH Geographic Information Systems (GIS)*





Site: Huntsville Old Airport  
Parameter: WS  
Units: MPH



Period: 3/1/2013-6/15/2015

Wind rose indicating primary wind direction at Huntsville Old Airport Site 0014.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 4  
ATLANTA FEDERAL CENTER  
61 FORSYTH STREET  
ATLANTA, GEORGIA 30303-8960

OCT 11 2018

Mr. Scott Cardno  
Director  
City of Huntsville Division of Natural Resources  
and Environmental Management  
P.O. Box 308  
Huntsville, Alabama 35804-0308

Dear Mr. Cardno:

Thank you for submitting the City of Huntsville's 2018 Annual Network Plan (Network Plan) dated June 27, 2018. The Network Plan is required by 40 Code of Federal Regulations (CFR) §58.10.

The U.S. Environmental Protection Agency understands that the City of Huntsville Division of Natural Resources and Environmental Management (HDNREM) provided the public a 30-day review and comment period for the Network Plan from May 21, 2018 through June 21, 2018, and that no comments were received. The EPA approves the HDNREM's Network Plan. Attached is our detailed response to the Network Plan and comments to consider when developing next year's Network Plan.

Thank you for your work with us to monitor air pollution and promote healthy air quality in Huntsville, Alabama. If you have any questions or concerns, please contact Gregg Worley at (404) 562-9141 or Darren Palmer at (404) 562-9052 or via email at palmer.darren@epa.gov.

Sincerely,

A handwritten signature in blue ink that reads "Beverly H. Banister".

Beverly H. Banister

Director

Air, Pesticides and Toxics Management Division

Enclosure

cc: Ron Gore, Chief  
ADEM





## 2018 City of Huntsville Annual Network Plan U.S. EPA Region 4 Comments and Recommendations

This document contains the U.S. EPA comments and recommendations on the City of Huntsville’s 2018 annual network plan (Network Plan). Ambient air monitoring rules, which include regulatory requirements that address network plans, data certification, and minimum monitoring requirements, among other requirements, are found in 40 CFR Part 58. Minimum monitoring requirements for criteria pollutants are listed in 40 CFR Part 58, Appendix D. Minimum monitoring requirements are listed for ozone (O<sub>3</sub>), particulate matter less than 2.5 microns (PM<sub>2.5</sub>), particulate matter less than 10 microns (PM<sub>10</sub>), nitrogen dioxide (NO<sub>2</sub>), sulfur dioxide (SO<sub>2</sub>), carbon monoxide (CO), and lead (Pb).

The minimum monitoring requirements are based on core based statistical area (CBSA) boundaries, as defined by the U.S. Office of Management and Budget’s (OMB) July 1, 2017, population estimates from the U.S. Census Bureau, and historical ambient air monitoring data. Minimum monitoring requirements for O<sub>3</sub>, PM<sub>2.5</sub>, and PM<sub>10</sub>, only apply to metropolitan statistical areas (MSAs), which are a subset of CBSAs containing an urban core of a population greater than 50,000. OMB currently defines Huntsville as an MSA in the state of Alabama. The July 1, 2017, U.S. Census Bureau’s population estimate for the Huntsville MSA is 455,448. The Huntsville Department of Natural Resources and Environmental Management (HDNREM) is its own primary quality assurance organizations (PQAO) with the responsibility of maintaining an adequate ambient air monitoring network.

### Proposed Monitoring Network Changes

The HDNREM listed its proposed monitoring network change on Page 18 of the Network Plan (see Table 1). The EPA approves moving the Old Airport state and local air monitoring station (SLAMS) to a nearby location. The city plans to reconfigure the park where the SLAMS is currently located.

**Table 1: Proposed Changes in the 2018 Network Plan**

Agency	AQS Site ID	Pollutant	Monitor Type	Action Taken	EPA Comments
HDNREM	01-089-0014	O <sub>3</sub> , PM <sub>10</sub> , PM <sub>2.5</sub>	SLAMS	Relocate approx. 1100ft nearby	Approved. No change in AQS ID required.

### Air Quality Index (AQI) Reporting 40 CFR §58.50

AQI reporting is required for MSAs with populations over 350,000. The Huntsville MSA is required to report an AQI. The HDNREM sends O<sub>3</sub> data from both O<sub>3</sub> sites and the PM<sub>2.5</sub> non-regulatory tapered-element oscillation microbalance (TEOM) data from the Old Airport site to AirNow to inform the public of near real-time air quality in the Huntsville MSA. Also, the HDNREM publishes a daily forecast at <https://www.huntsvilleal.gov/environment/air-quality/air-pollution-control-program/air-quality-daily-index-reports/>. As a result, the HDNREM satisfies the AQI reporting requirement for the Huntsville MSA.

### National Core (NCore) Monitoring Network 40 CFR Part 58, Appendix D, Section 3.0

The state is required to have one NCore site and it is located in Birmingham. As a result, there are no NCore requirements for Huntsville.

### **O<sub>3</sub> Monitoring Requirements**

#### **40 CFR Part 58, Appendix D, Section 4.1 and Table D-2**

The EPA determined that the O<sub>3</sub> monitoring network outlined in the Network Plan meets the minimum requirements found in 40 CFR Part 58, Appendix D, Section 4.1 and Table D-2 for the Huntsville MSA. Two O<sub>3</sub> sites are required. The HDNREM operates two sites, the Old Airport site (AQS ID 01-089-0014) and Capshaw site (AQS ID 01-089-0022).

### **CO Monitoring Requirements**

#### **40 CFR, Part 58, Appendix D, Sections 3.0(b) and 4.2**

Ambient air monitoring network design criteria for CO are found in 40 CFR Part 58, Appendix D, Sections 3.0(b) and 4.2. This section requires CBSAs with populations over one million to operate one CO monitor collocated with a near-road monitor. CO monitoring is also required for the NCore network as listed in Section 3.0(b). Because the Huntsville CBSA's population is below one million, these requirements do not apply.

### **NO<sub>2</sub> Monitoring Requirements**

#### **40 CFR Part 58, Appendix D, Section 4.3**

Three types of NO<sub>2</sub> monitoring are required: near-road, area-wide, and Regional Administrator. These are described in 40 CFR Part 58, Appendix D, Sections 4.3.2, 4.3.3, and 4.4.4, respectively. However, due to the Huntsville CBSA's population and other factors, these requirements do not apply.

### **SO<sub>2</sub> Monitoring Requirements**

#### **40 CFR Part 58, Appendix D, Section 4.4**

Ambient air monitoring network design criteria for SO<sub>2</sub> are found in 40 CFR Part 58, Appendix D, Section 4.4. This section requires that "[t]he population weighted emissions index (PWEI) shall be calculated by states for each core based statistical area (CBSA)." As a result, the SO<sub>2</sub> monitoring site(s) required in each CBSA will satisfy minimum monitoring requirements if the monitor(s) is sited within the boundaries of the parent CBSA and is of the following site types: population exposure, maximum concentration, source-oriented, general background, or regional transport. An SO<sub>2</sub> monitor at an NCore station may satisfy minimum monitoring requirements if that monitor is located within a CBSA with minimally required monitors consistent with Appendix D, Section 4.4. For any CBSA with a calculated PWEI value equal to or greater than 5,000, but less than 100,000, a minimum of one SO<sub>2</sub> monitor is required within that CBSA. The PWEI value calculated in July 2012 for the Huntsville CBSA was 179. Since this value is far below the value that would require at least one monitor, this area was never identified by EPA as requiring a PWEI monitor. These PWEI calculations will be updated by EPA before the next 5-year network assessment due on July 1, 2020. These requirements do not currently apply to the Huntsville CBSA.

### **Pb Monitoring Requirements**

#### **40 CFR Part 58, Appendix D, Section 4.5**

Forty (40) CFR Part 58, Appendix D, Section 4.5 requires that "[a]t a minimum, there must be one source-oriented SLAMS [State and Local Air Monitoring Station] site located to measure the maximum Pb concentration in ambient air resulting from each non-airport Pb source which emits 0.50 or more tons



per year and from each airport which emits 1.0 or more tons per year...” Because there are no Pb sources as described above in the Huntsville CBSA, these requirements do not apply.

### **PM<sub>10</sub> Monitoring Requirements**

**40 CFR Part 58, Appendix A, 3.3**

**40 CFR Part 58, Appendix D, Section 4.6 and Table D-4**

Region 4 has determined that the PM<sub>10</sub> monitoring network described on Page 3 of the Network Plan meets or exceeds the minimum requirements found in 40 CFR Part 58, Appendix D, Table D-4. The network also meets the collocation requirements for manual PM<sub>10</sub> monitors. Collocation requirements apply to each PQAQ and are based on the manual sampling methods employed. The HDNREM operates three PM<sub>10</sub> sites and the Old Airport site (AQS ID 01-089-0014) has collocated monitors.

### **PM<sub>2.5</sub> Monitoring Requirements**

**40 CFR Part 58, Appendix A, 3.2.3**

**40 CFR Part 58, Appendix D, Section 4.7 and Table D-5**

Region 4 has determined that the PM<sub>2.5</sub> monitoring network described on Pages 3-4 of the Network Plan meets or exceeds the minimum requirements found in 40 CFR Part 58, Appendix D, Table D-5 for the Huntsville MSA. The network also meets the PM<sub>2.5</sub> collocation requirement found in 40 CFR Part 58, Appendix A, 3.2.3.2 for manual reference and equivalent methods. The HDNREM operates two collocated monitors at the PM<sub>2.5</sub> site at the Old Airport site (AQS ID 01-089-0014).

### **PM<sub>2.5</sub> Near-road Monitoring Requirement**

**40 CFR Part 58, Appendix D, Section 4.7.1(b)(2)**

Regulatory requirements in 40 CFR Part 58, Appendix D, Section 4.7.1(b)(2) require that in “CBSAs with a population of 1,000,000 or more persons, at least one PM<sub>2.5</sub> monitor, is to be collocated at a near-road NO<sub>2</sub> station.” Because the Huntsville CBSA’s population is below one million, these requirements do not apply.

### **PM<sub>2.5</sub> Continuous Monitoring Requirements**

**40 CFR Part 58, Appendix D, Section 4.7.2**

Regulatory provisions for continuous PM<sub>2.5</sub> monitoring require that “[t]he state, or where appropriate, local agencies must operate continuous PM<sub>2.5</sub> analyzers equal to at least one-half (round up) the minimum required sites listed in Table D-5 of this appendix. At least one required continuous analyzer in each MSA must be collocated with one of the required FRM, Federal Equivalent Method (FEM), Approved Regional Method (ARM) monitors, unless at least one of the required FRM/FEM/ARM monitors is itself a continuous FEM or ARM monitor in which case no collocation requirement applies.” Based on the information provided in the Network Plan, Region 4 has determined that the PM<sub>2.5</sub> continuous monitoring network meets or exceeds the minimum monitoring requirements in the Huntsville MSA. As of January 1, 2018, the data from the continuous PM<sub>2.5</sub> sampler operated by the HDNREM at the Old Airport site (AQS ID 01-089-0014) are being reported to AQS parameter code 88502 as required.

**PM<sub>2.5</sub> Background and Transport Sites**  
**40 CFR Part 58, Appendix D, Section 4.7.3**

Forty (40) CFR Part 58, Appendix D, Section 4.7.3 requires that “[e]ach state shall install and operate at least one PM<sub>2.5</sub> site to monitor for regional background levels and at least one PM<sub>2.5</sub> site to monitor for regional transport.” This requirement is being met with other sites in the state of Alabama. No additional requirements apply in the Huntsville MSA.

**PM<sub>2.5</sub> Chemical Speciation Network (CSN)**  
**40 CFR Part 58, Appendix D, Section 4.7.4**

This section requires that “[e]ach State shall continue to conduct chemical speciation monitoring and analyses at sites designated to be part of the PM<sub>2.5</sub> Speciation Trends Network (STN). The selection and modification of these STN sites must be approved by the Administrator. The PM<sub>2.5</sub> chemical speciation urban trends sites shall include analysis for elements, selected anions and cations, and carbon.”

In 2015, the EPA conducted an assessment of the chemical speciation network in an effort to optimize the network and create a network that is sustainable moving forward. As a result of this assessment, the EPA defunded a number of STN monitoring sites including the site in Huntsville. These requirements no longer apply to the Huntsville MSA.

**Photochemical Assessment Monitoring Station (PAMS)**  
**40 CFR Part 58, Appendix D, Section 5.0**

With the promulgation of a new O<sub>3</sub> NAAQS on October 1, 2015, the EPA finalized changes to the PAMS program. PAMS are now to be located at all NCore sites. However, because the Huntsville MSA does not have an NCore site, the PAMS requirement does not apply.

**Other Comments**

We appreciate the site assessment information found on Pages 9-17 of the Network Plan complete with photos and metadata. Finally, we recommend the HDNREM include the link to its air quality forecasting web page in next year’s plan: <https://www.huntsvilleal.gov/environment/air-quality/air-pollution-control-program/air-quality-daily-index-reports/>.