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

OCT 30 2018

Mr. Ron Gore
Chief
Alabama Department of Environmental
Management Air Division
1400 Coliseum Boulevard
Montgomery, Alabama 36130

Dear Mr. Gore:

Thank you for submitting the state of Alabama's 2018 Ambient Air Monitoring Network Plan (Network Plan) dated July 2, 2018. The Network Plan is required by 40 Code of Federal Regulations (CFR) §58.10.

The U.S. Environmental Protection Agency understands that the Alabama Department of Environmental Management (ADEM) provided the public a 30-day review and comment period for the Network Plan. Thank you for including all public comments received and your responses to comments. The EPA has reviewed the Network Plan and the public comments provided by the ADEM.

The EPA approves the ADEM's Network Plan on the condition that the ADEM begin reporting sulfur dioxide (SO_2) data from the L'hoist Data Requirements Rule site in Shelby County, Alabama (AQS ID 01-117-9001) to the EPA's AirNow database by January 1, 2019. This reporting is required under 40 CFR §58.50 and 40 CFR Part 58, Appendix G. We have provided additional feedback on your Network Plan in the enclosure.

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

Sincerely,

Beverly H. Banister

Beverly H. Banister
Director
Air, Pesticides and Toxics Management Division

Enclosure

2018 State of Alabama Ambient Air Monitoring Network Plan
U.S. EPA Region 4 Comments and Recommendations

This document contains the U.S. Environmental Protection Agency comments and recommendations on the state of Alabama's 2018 ambient air monitoring 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_3), particulate matter less than 2.5 microns ($PM_{2.5}$), particulate matter less than 10 microns (PM_{10}), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), 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_3, $PM_{2.5}$, and PM_{10}, only apply to metropolitan statistical areas (MSAs), which are a subset of CBSAs containing an urban core population of greater than 50,000. OMB currently defines 13 MSAs in the state of Alabama. These MSAs and the respective July 1, 2017, population estimates from the U.S. Census Bureau are shown in Table 1.

Table 1: Metropolitan Statistical Areas and July 1, 2017 Population Estimates

MSA Name	Population
Anniston-Oxford-Jacksonville, AL	114,728
Auburn-Opelika, AL	161,604
Birmingham-Hoover, AL	1,149,807
Columbus, GA-AL	303,811
Daphne-Fairhope-Foley, AL	212,628
Decatur, AL	151,867
Dothan, AL	147,914
Florence-Muscle Shoals, AL	147,038
Gadsden, AL	102,755
Huntsville, AL	455,448
Mobile, AL	413,955
Montgomery, AL	373,903
Tuscaloosa, AL	242,799

Proposed Monitoring Network Changes

Three primary quality assurance organizations (PQAOs) in the state of Alabama are responsible for maintaining an adequate ambient air monitoring network: the Alabama Department of Environmental Management (ADEM), the Jefferson County Department of Health (JCDH), and the Huntsville Department of Natural Resources and Environmental Management (HDNREM). This review focuses on the ADEM's ambient air monitoring network.

Last year, EPA approved several changes to the state of Alabama's monitoring network that have since been implemented. These changes are summarized in Table 2 below.

Table 2: EPA Approved Changes from 2017 Network Plan

AQS Site ID	Pollutant	Monitor Type[1]	Action Taken
01-113-0002	O_3	SLAMS	Shutdown as of 10/31/2017. Relocated to 01-113-0003.
01-113-0003	$PM_{2.5}$, PM_{10}, O_3	SLAMS	New site approved for PM_{10} and $PM_{2.5}$ on 06/05/2017. O_3 approved to start up on March 1, 2018. This site consolidation replaces both 01-113-0001 and 01-113-0002.
01-119-0003	SO_2	SPM	Short-term SO_2 monitoring to assess background concentrations.
01-121-0002	$PM_{2.5}$	SLAMS	Shutdown December 31, 2017.

[1] SLAMS = State and Local Air Monitoring Station; SPM = Special Purpose Monitor

Proposed air monitoring network changes for 2018-2019 are found on Page 6 of the Network Plan (see Table 3).

Table 3: Proposed Changes in the 2018 Network Plan

AQS Site ID	Pollutant	Monitor Type	Action Taken	EPA Comments
01-051-0003	O_3	SLAMS	Relocated	Lost access to site due to change in property owner. Shutdown approved. New site is 01-051-0004.
01-051-0004	O_3	SLAMS	Startup	New site. Monitoring started March 21, 2018. Approved. EPA approves site-data combination of sites 01-051-0003 and 01-051-0004.
01-055-0010	$PM_{2.5}$ NR[1]	SPM	Shutdown	Shutting down non-regulatory continuous sampler. Not required. $PM_{2.5}$ regulatory sampling will continue. Shutdown approved.
01-125-0004	$PM_{2.5}$ NR[1]	SPM	Shutdown	Shutting down non-regulatory continuous sampler. Not required. $PM_{2.5}$ regulatory sampling will continue. Shutdown approved.

[1] NR = Non-regulatory

Air Quality Index (AQI) Reporting
40 CFR §58.50 & 40 CFR Part 58, Appendix G

AQI reporting is required for MSAs with populations over 350,000. Four MSAs in Alabama are required to report an AQI: Birmingham, Huntsville, Mobile, and Montgomery. The state's Network Plan on Page 6 contains links to the ADEM, the JCDH and the HDNREM web sites where this information can be obtained. Presently, the ADEM is not reporting SO_2 data from the L'hoist Data Requirements Rule (DRR) site (AQS ID 01-117-9001) to AirNow. Per 40 CFR Part 58, Appendix G, Section 10, these data should be submitted to the EPA's AirNow database; they do not meet the conditions for exemption found in 40 CFR Part 58, Appendix G, Section 8. ADEM should begin submitting this data to AirNow by January 1, 2019. Alternatively, the ADEM may calculate the AQI using the data from its SLAMS network and then report it to the public. This alternative would not involve submitting data to AirNow. Except for this one aspect, the AQI reporting requirement is satisfied for the network operated by the ADEM.

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

The state is required to have one NCore monitoring site. The NCore site must measure, at a minimum, $PM_{2.5}$ particle mass using continuous and integrated/filter-based samplers, speciated $PM_{2.5}$, $PM_{10-2.5}$ particle mass, O_3, SO_2, CO, NO/NOy, wind speed, wind direction, relative humidity, and ambient temperature. The North Birmingham site (AQS ID 01-073-0023) was approved as the state's NCore site by the EPA's Office of Air Quality Planning and Standards (OAQPS) on October 30, 2009, and meets all requirements for the state.

O_3 Monitoring Requirements
40 CFR Part 58, Appendix D, Section 4.1 and Table D-2

The EPA determined that the O_3 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 all MSAs. The Dewberry Trail O_3 site (AQS ID 01-051-1001) was relocated in 2017 in the Wetumpka area at 206 Queen Ann Road (AQS ID 01-051-1002). Unfortunately, the property was sold and site access was lost. A new site was established approximately 1.3 miles away at 3148 Elmore Rd. in Wetumpka (AQS ID 01-051-0004) and monitoring began on March 21, 2018. The EPA approves this site relocation and approves the data from these sites to be combined to maintain design value trends. The Phenix City-Ladonia O_3 site (AQS ID 01-113-0002) has been relocated to the new site at South Gerard School (AQS ID 01-113-0003) and the monitor began operating at the beginning of the 2018 O_3 season, March 1, 2018. This change was previously approved on June 5, 2017.

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. The CO monitor at the Arkadelphia near-road site (AQS ID 01-073-2059) fulfills the requirement for the Birmingham CBSA. CO monitoring is also required at NCore sites as listed in Section 3.0(b). The CO monitor located at the Birmingham NCore site (AQS ID 01-073-0023) meets this requirement. In summary, the CO monitoring network outlined in the Network Plan meets the minimum requirements for all CBSAs.

NO_2 Monitoring Requirements
40 CFR Part 58, Appendix D, Section 4.3

Three types of NO_2 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.

The Birmingham area is the only CBSA required to have a near-road NO_2 monitoring site in Alabama. The JCDH operates a NO_2 monitor at the Arkadelphia near-road site (AQS ID 01-073-2059) to meet this requirement. The Arkadelphia near-road monitoring site was approved in the EPA's response to Alabama's 2013 Network Plan.

The Birmingham area is also the only CBSA in Alabama required to have an area-wide NO_2 monitoring site. The JCDH operates a NO_2 monitor at the North Birmingham NCore site (AQS ID 01-073-0023) to meet this requirement.

The EPA has not identified any monitor in Alabama that is needed to meet the Regional Administrator NO_2 monitoring requirement. Thus, the ADEM is not deficient with this requirement. The full list of NO_2 monitors identified by the Regional Administrators can be found on the EPA's website at: http://www.epa.gov/ttnamti1/svpop.html.

In summary, all the NO_2 monitoring requirements for Alabama are being met.

SO_2 Monitoring Requirements
40 CFR Part 58, Appendix D, Section 4.4

Ambient air monitoring network design criteria for SO_2 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_2 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. A SO_2 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. Currently, the Birmingham and Mobile CBSAs are required to have two and one SO_2 monitors, respectively. The SO_2 monitoring network design outlined in the Network Plan meets the minimum requirements with the following monitors in Table 4.

Table 4: SO_2 PWEI Monitors

CBSA	COUNTY	SITE NAME	SITE ID
Birmingham	Jefferson	North Birmingham	01-073-0023
	Jefferson	Fairfield	01-073-1003
Mobile	Mobile	Chickasaw	01-097-0003

In addition to the PWEI monitors, the SO_2 Data Requirements Rule requires the state to monitor SO_2 concentrations near the L'hoist North America – Montevallo Plant in the Birmingham MSA. The EPA approved the location of the SO_2 DRR site (AQS ID 01-117-9001) in EPA's response to the 2016 Network Plan. The state began operating the site by January 1, 2017. As previously indicated in the Air Quality Index Reporting Section, the ADEM should begin reporting these data to AirNow by January 1, 2019. Alternatively, the ADEM may calculate the AQI using data from its SLAMS network and then report it to the public. The SO_2 monitoring network described in the state's Network Plan meets the design criteria of 40 CFR Part 58.

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…" One Alabama source emits Pb above the 0.50 tpy threshold, the Sanders Lead Company in Troy, Alabama. The ADEM operates a monitor near this facility (AQS ID 01-109-0003) and, as a result, meets the Pb monitoring design criteria of 40 CFR Part 58.

PM_{10} Monitoring Requirements
40 CFR Part 58, Appendix A, 3.3
40 CFR Part 58, Appendix D, Section 4.6 and Table D-4

The EPA has determined that the PM_{10} monitoring network described on Page 17 of the Network Plan meets or exceeds the minimum requirements found in 40 CFR Part 58, Appendix D, Table D-4 for all MSAs. The collocation requirements for manual PM_{10} monitors are also being met. Collocation requirements apply to each PQAO and are based on the manual sampling methods employed.

Public commenters have requested PM_{10} monitoring in Mobile due to concerns about fugitive dust emissions from coal loading and unloading activities at the Port of Mobile. The ADEM previously conducted monitoring in the Mobile area and at the fence line of the coal terminals; however, no monitoring has been conducted in the communities closest to the terminals. While, the monitoring being requested by the commenters is not regulatory required, EPA is available to continue discussions on potential options if the State decides to establish a PM_{10} monitor in one of the communities near the Port of Mobile.

$PM_{2.5}$ Monitoring Requirements
40 CFR Part 58, Appendix A, 3.2.3
40 CFR Part 58, Appendix D, Section 4.7 and Table D-5

The EPA determined that the $PM_{2.5}$ monitoring network described on Pages 21-24 of the Network Plan meets or exceeds the minimum requirements found in 40 CFR Part 58, Appendix D, Table D-5 for all MSAs. The $PM_{2.5}$ collocation requirement found in 40 CFR Part 58, Appendix A, 3.2.3.2 for manual reference and equivalent methods collocated $PM_{2.5}$ monitoring is also being met. The state operates twelve sites all using the same federal reference method (FRM). Collocation is required at two sites and this requirement is met by collocated monitors at the main Montgomery site (AQS ID 01-101-1002) and Phenix City site (AQS ID 01-113-0003). Collocation requirements apply to each PQAO and are based on the sampling methods employed.

$PM_{2.5}$ 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 "CBSAs with a population of 1,000,000 or more persons, at least one $PM_{2.5}$ monitor, is to be collocated at a near-road NO_2 station." The $PM_{2.5}$ monitor at the Arkadelphia near-road site (AQS ID 01-073-2059) in Birmingham fulfills this requirement.

$PM_{2.5}$ Continuous Monitoring Requirements
40 CFR Part 58, Appendix D, Section 4.7.2

Regulatory provisions for continuous $PM_{2.5}$ monitoring require that "[t]he state, or where appropriate, local agencies must operate continuous $PM_{2.5}$ 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."

As previously indicated, the non-regulatory continuous $PM_{2.5}$ samplers in Tuscaloosa (AQS ID 01-125-0004) and Gadsden (AQS ID 01-055-0010) are approved to be shutdown. We understand those samplers are beyond their useful life and both are not functioning. Since they are not required, the ADEM should include an "End Date" in AQS as of the last valid sample date this calendar year. Regulatory $PM_{2.5}$ monitoring will continue at these sites.

The EPA has determined that the $PM_{2.5}$ continuous monitoring network meets or exceeds the minimum monitoring requirements in all the MSAs in the state.

$PM_{2.5}$ 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 $PM_{2.5}$ site to monitor for regional background levels and at least one $PM_{2.5}$ site to monitor for regional transport." The 2018 Network Plan identifies on Page 24 the Crossville site (AQS ID 01-049-1003) in Dekalb County as a rural background site and the Ashland site (AQS ID 01-027-0001) in Clay County as a regional transport site. The ADEM operates regulatory FRM monitors at these two sites. The ADEM has satisfied the requirements for regional background and transport sites.

$PM_{2.5}$ Chemical Speciation Network (CSN)
40 CFR Part 58, Appendix D, Section 4.7.4

This requirement states that "[e]ach State shall continue to conduct chemical speciation monitoring and analyses at sites designated to be part of the $PM_{2.5}$ Speciation Trends Network (STN)." As noted in the Network Plan on Page 12, the required CSN now consists of two sites in Birmingham (AQS ID 01-073-0023 and 01-073-2003) and Phenix City (AQS ID 01-113-0003). The Birmingham NCore site (AQS ID 01-073-0023) serves as the primary site in state's STN. The other two sites serve as supplemental speciation sites. These sites meet this requirement.

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

With the promulgation of a new O_3 NAAQS on October 1, 2015, the EPA also finalized changes to the PAMS program. By June 1, 2019, PAMS monitoring will be required at the NCore site in Birmingham. While the EPA recognizes there are several implementation challenges to work through, we will work closely with the ADEM and the JCDH to minimize the burden of this new monitoring program. At this time, however, no PAMS monitoring is required anywhere else in the state of Alabama.