ARKANSAS
ENERGY & ENVIRONMENT

June 17, 2021

Mr. David F. Garcia, P.E.
Director, Air and Radiation Division
U.S. Environmental Protection Agency, Region 6
1201 Elm Street, Suite 500
Dallas, Texas 75270-2102

RE: Arkansas 2021-2022 Annual Network Plan

Dear Mr. Garcia:

The final 2021-2022 Annual Network Plan (Plan) for the Ambient Air Monitoring Network for the Arkansas Department of Energy and Environment, Division of Environmental Quality (DEQ) is enclosed to fulfill requirements set forth in 40 CFR § 58.10. The DEQ Plan was made available for public inspection from May 16, 2021 through June 14, 2021. During this period, DEQ received no public comments. DEQ's 2021-2022 Plan is also publically available here: https://www.adeq.state.ar.us/air/apn.aspx

Please contact David Clark, Technical Section Supervisor, (clarkd@adeq.state.ar.us or 501-682-0070) or myself (montgomery@adeq.state.ar.us or 501 682-0885) with any comments or questions.

Sincerely,

William K. Montgomery
Associate Director - Office of Air Quality
Division of Environmental Quality
Arkansas Department of Energy and Environment
501-682-0885
montgomery@adeq.state.ar.us

Arkansas Democrat Gazette
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Arkansas Democrat Gazette

STATEMENT OF LEGAL ADVERTISING
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Notice of Public Review Period for Arkansas Air Monitoring Network

Pursuant to 40 CFR Part 58, Subpart B, states are required to submit an annual air monitoring network plan to the US Environmental Protection Agency (EPA). The Arkansas Department of Energy and Environment, Division of Environmental Quality (DEQ), has prepared the Arkansas Ambient Air Monitoring Network Annual Network Plan for 2021–2022 (Network Plan) for submission to EPA Region 6. DEQ has also prepared for public review an update to the 2010 Sulfur Dioxide Data Requirements Rule (SO2 DRR) ongoing data requirements, which has been included as Appendix A to the Network Plan. The public review period is May 16, 2021, through June 14, 2021, at 4:30 p.m. Written comments received from the public received during the public review period will be made part of the record.

This Network Plan provides the framework for establishment and maintenance of an air quality surveillance system for the state. The Network Plan represents the DEQ's commitment to protect the health of the citizens of Arkansas through ambient air monitoring using the latest and best technology that is commercially available and to communicate the data collected to the public as quickly and accurately as possible. This Network Plan does not include any proposed modifications to Arkansas's existing ambient air monitoring network.

The Network Plan and the SO2 Data Requirements Rule, Annual Updated Emissions Report (Appendix A) are available for public inspection on DEQ's web site at the following address:

https://www.adeq.state.ar.us/air/planning/pdfs/2021-annual-network-review-draft-final-for-public-notice.pdf

In addition, a paper copy of the Network Plan can be obtained by contacting Michael Day at the DEQ, Office of Air Quality via telephone (501-682-0832) or e-mail (michael.day@adeq.state.ar.us).

Any comments regarding the Network Plan or the SO2 Data Requirements Rule, Annual Updated Emissions Report should be sent no later than 4:30 p.m. on June 14, 2021, to:

Shaun Kitchens, Air Lab
Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, AR 72118
501-682-0924
kitchens@adeq.state.ar.us

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ARKANSAS AMBIENT AIR MONITORING NETWORK

Annual Network Plan for 2021–2022

Division of Environmental Quality
Office of Air Quality
and
Energy and Environment Shared Services
Laboratory and Monitoring Services
Public Review Draft May 10, 2021

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I. Introduction

The Arkansas Department of Energy and Environment (E&E) operates a network of air quality monitors to support state implementation plans, national air quality assessments, and policy decisions with respect to pollutants for which the United States Environmental Protection Agency (EPA) has set national ambient air quality standards (NAAQS) under the Federal Clean Air Act. These pollutants include ozone, sulfur dioxide (SO_2), particulate matter ($PM_{2.5}$ and PM_{10}), nitrogen dioxide (NO_2), carbon monoxide (CO), and lead (Pb). E&E is required to submit an annual air monitoring network plan to EPA's Region 6 office in Dallas, Texas (EPA Region 6). Specifically, 40 CFR Part 58, Subpart B §58.10(a)(1) requires that:

> … 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 Office of Air Quality (OAQ) within E&E's Division of Environmental Quality (DEQ), in consultation with E&E's Laboratory and Monitoring Services, has prepared this Arkansas Ambient Air Monitoring Network Annual Network Plan for 2021–2022 (Network Plan) for submission to EPA Region 6 by July 1, 2021. Consistent with federal regulations, OAQ is making this Network Plan available for public inspection for thirty days prior to submission to EPA Region 6.

The Network Plan provides the framework for the establishment and maintenance of the statewide air quality surveillance (AQS) system. The Network Plan represents the E&E's commitment to protect the health of the citizens of Arkansas through ambient air monitoring using the latest and best technology that is commercially available and to communicate the data collected to the public as quickly and accurately as possible. This Network Plan does not include any proposed modifications to Arkansas's existing ambient air monitoring network.

II. The Arkansas Ambient Air Monitoring Network

E&E operates numerous air monitors at various monitoring sites throughout the State of Arkansas as shown in Figure 1 and listed in Table 1. Each site has a unique AQS identification number. All monitors listed in Table 1 belong to the State and Local Air Monitoring System (SLAMS). E&E sites monitors according to federal requirements based on a number of factors including pollutant concentrations, population density in metropolitan statistical areas (MSAs) and core-based statistical areas (CBSAs), location of sources with significant emissions, and other factors.

Figure 1. Map of Arkansas Ambient Air Monitoring Network

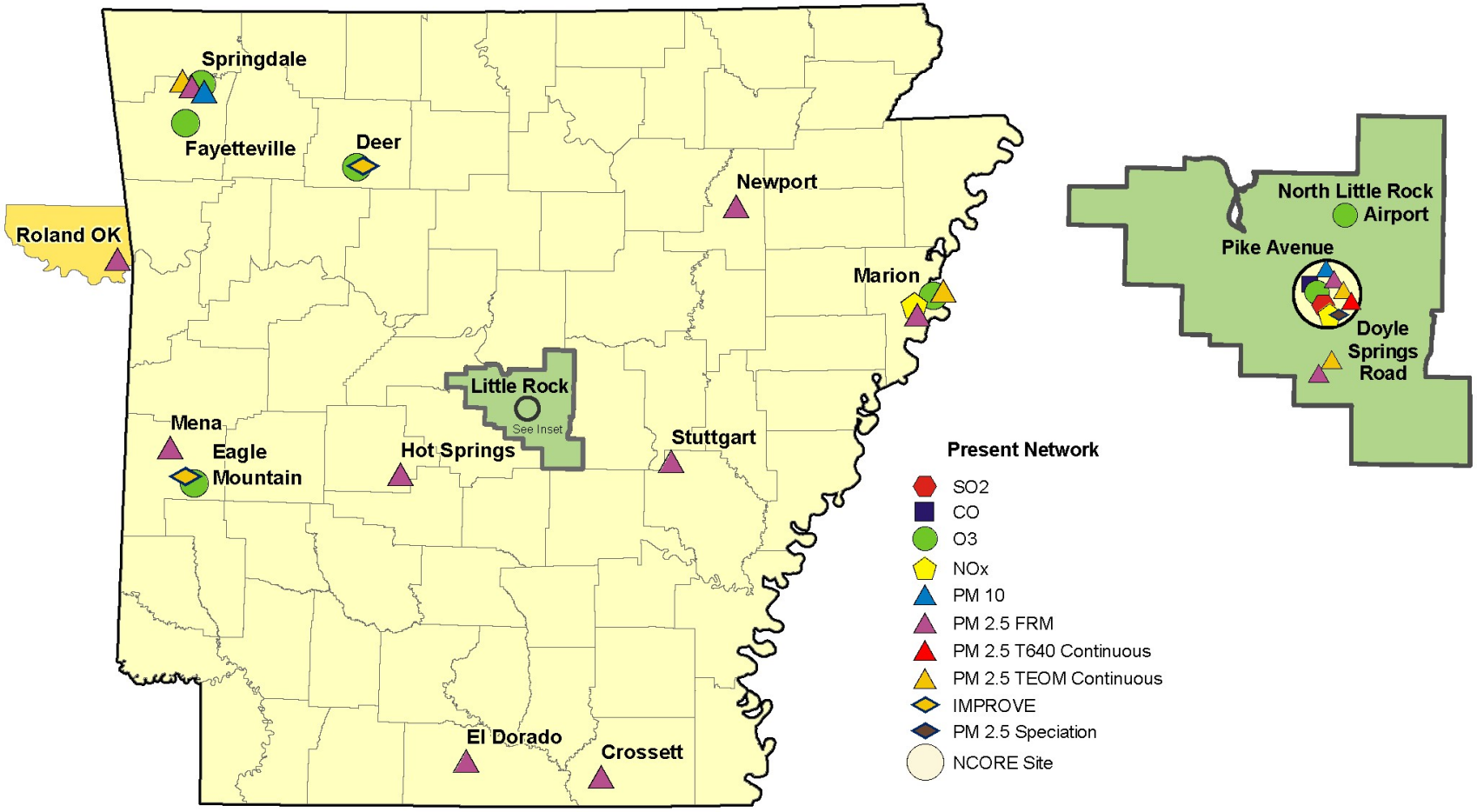


Table 1. E&E Operated SLAMS Monitor Locations

AQS ID #	Site Name	Address/Location	Latitude, Longitude	Pollutants Measured	MSA
05-001-0011	Stuttgart	1703 N. Beurkle	34.518392, -91.558822	$PM_{2.5}$	Not in an MSA
05-003-0005	Crossett	201 Unity Rd.	33.136708, -91.950233	$PM_{2.5}$	Not in an MSA
05-035-0005	Marion	Polk & Colonial Dr.	35.197178, -90.193047	$PM_{2.5}$ Ozone NO_2	Memphis
05-051-0003	Hot Springs	300 Werner	34.469309, -93.000000	$PM_{2.5}$[1]	Hot Springs
05-067-0001	Newport	7648 Victory Blvd.	35.638069, -91.189381	$PM_{2.5}$	Not in an MSA
05-101-0002	Deer	Hwy 16	35.832633, -93.208072	Ozone	Not in an MSA
05-113-0002	Mena	Hornbeck Rd	34.583581, -94.226019	$PM_{2.5}$	Not in an MSA
05-113-0003	Eagle Mtn	463 Polk 631	34.454428, -94.143317	Ozone	Not in an MSA
05-119-0007	PARR (NCore)	Pike Ave at River Road	34.756072, -92.281139	$PM_{2.5}$ PM_{10} Ozone NO_x NO_y Speciation Trace SO_2 Trace CO	Little Rock
05-119-1002	NLRAP	Remount Rd	34.835606, -92.260425	Ozone	Little Rock
05-119-1008	DSR	Doyle Springs Rd	34.681225, -92.328539	$PM_{2.5}$	Little Rock
05-139-0006	El Dorado	Union Memorial Hospital	33.220122, -92.669453	$PM_{2.5}$	Not in an MSA
05-143-0005	Springdale	600 S. Old Missouri Rd	36.179617, -94.116611	$PM_{2.5}$ PM_{10} Ozone	Fayetteville
05-143-0006	Fayetteville	429 Ernest Lancaster Dr.	36.011703, -94.167436	Ozone	Fayetteville
40-135-9021	Roland, OK	207 Cherokee Blvd	35.40814, -94.524413	$PM_{2.5}$	Fort Smith

Table 2. U.S. Census Bureau Population Statistics for MSAs in Arkansas

MSA	2010 Census	2019 Estimates
Fayetteville-Springdale-Rogers, AR-MO	440,121	536,120
Fort Smith, AR-OK	247,758	249,152
Hot Springs, AR	96,024	99,386
Jonesboro, AR	121,026	133,860
Little Rock-North Little Rock-Conway, AR	699,757	744,483
Memphis, TN-MS-AR	1,316,100	1,344,910
Pine Bluff, AR	100,258	89,437
Texarkana, TX-AR	149,198	149,308

E&E maintains its ambient air monitoring network in accordance with the quality assurance requirements of 40 CFR Part 58, App. A, designs its network in accordance with App. D, and locates its sites to meet all requirements of App. A, D, and E. The operation of each monitor meets the requirements of 40 CFR Part 58 Appendices B and C, where applicable. Laboratory and Monitoring Services operates and maintains the monitors. Laboratory and Monitoring Services enters data from these monitoring sites into the national Air Quality Systems (AQS) database. This data is made available to the public within ninety days following the end of each calendar quarter. Table 3 details the methods, operating schedule, and objectives of each SLAMS monitor.

Table 3. E&E Operated SLAMS Methods and Operation

AQS ID #	Pollutants Measured	Method Code	Sampling Method	Operating Schedule	Monitoring Objective	Spatial Scale	NAAQS Comparable
05-001-0011	$PM_{2.5}$	143	R&P 2000 FRM	Daily 1 in 3	Population Exposure	Neighborhood	Yes
05-003-0005	$PM_{2.5}$	143	R&P 2000 FRM	Daily 1 in 3	Population Exposure	Neighborhood	Yes
05-035-0005	$PM_{2.5}$	143	R&P 2000 FRM	Daily 1 in 3	Population Exposure	Neighborhood	Yes
	$PM_{2.5}$	701	R&P TEOM	Continuous	Population Exposure	Neighborhood	No
	Ozone	19	UV Photometric	Continuous	Population Exposure	Neighborhood	Yes
	NO_2	35	Chemiluminescence	Continuous	Population Exposure	Neighborhood	Yes

AQS ID #	Pollutants Measured	Method Code	Sampling Method	Operating Schedule	Monitoring Objective	Spatial Scale	NAAQS Comparable
05-051-0003	$PM_{2.5}$[1]	143	R&P 2000 FRM	Daily 1 in 3	Population Exposure	Neighborhood	Yes
05-067-0001	$PM_{2.5}$	143	R&P 2000 FRM	Daily 1 in 3	Population Exposure	Neighborhood	Yes
05-101-0002	Ozone	19	UV Photometric	Continuous	Background	Neighborhood	Yes
05-113-0002	$PM_{2.5}$	143	R&P 2000 FRM	Daily 1 in 3	Regional Background	Neighborhood	Yes
05-113-0003	Ozone	19	UV Photometric	Continuous	Regional Transport	Neighborhood	Yes
05-119-0007	$PM_{2.5}$[1]	145	R & P 2025 FRM	Daily 1 in 1	Population Exposure	Neighborhood	Yes
	$PM_{2.5}$[3]	701	R&P TEOM	Continuous	Population Exposure	Neighborhood	No
	$PM_{2.5}$[1,2]	238	Teledyne T640X	Continuous	Population Exposure	Neighborhood	Yes
	PM_{10}[1]	127	Gravimetric	Daily 1 in 3	Population Exposure	Neighborhood	Yes
	PM_{10}[1,2]	239	Teledyne T640X	Continuous	Population Exposure	Neighborhood	Yes
	$PM_{10-2.5}$[1]	176	Gravimetric/FRM	Daily 1 in 3	Population Exposure	Neighborhood	Yes
	$PM_{10-2.5}$[1,2]	240	Teledyne T640X	Continuous	Population Exposure	Neighborhood	Yes
	Ozone	19	UV Photometric	Continuous	Population Exposure	Neighborhood	Yes
	NO_x	74	Chemiluminescence	Continuous	Susceptible and Vulnerable Population Exposure	Neighborhood	Yes

AQS ID #	Pollutants Measured	Method Code	Sampling Method	Operating Schedule	Monitoring Objective	Spatial Scale	NAAQS Comparable
	NO_y	574	Chemiluminescence	Continuous	Population Exposure	Neighborhood	No
	Speciation	810	Low Volume	Daily 1 in 3	Population Exposure	Neighborhood	No
	Trace SO_2	560	Infrared	Continuous	Population Exposure	Neighborhood	Yes
	Trace CO	554	Infrared	Continuous	Population Exposure	Neighborhood	Yes
05-119-1002	Ozone	19	UV Photometric	Continuous	Population Exposure	Neighborhood	Yes
05-119-1008	$PM_{2.5}$	143	R&P 2025 FRM	Daily 1 in 3	Population Exposure	Neighborhood	Yes
	$PM_{2.5}$	701	R&P TEOM	Continuous	Population Exposure	Neighborhood	No
05-139-0006	$PM_{2.5}$	143	R&P 2000 FRM	Daily 1 in 3	Population Exposure	Neighborhood	Yes
05-143-0005	$PM_{2.5}$	145	R&P 2025 FRM	Continuous	Population Exposure	Neighborhood	No
	$PM_{2.5}$	701	R&P TEOM	Daily 1 in 3	Population Exposure	Neighborhood	Yes
	PM_{10}	127	Gravimetric	Daily 1 in 6	Population Exposure	Neighborhood	Yes
	Ozone	19	UV Photometric	Continuous	Population Exposure	Neighborhood	Yes
05-143-0006	Ozone	19	UV Photometric	Continuous	Population Exposure	Neighborhood	Yes
40-135-9021	$PM_{2.5}$	145	R&P 2025 FRM	Daily 1 in 3	Population Exposure	Neighborhood	Yes

1. Collocated Monitors

2.Teledyne T640X Began Operation at AQS 05-119-0007 on 1/1/2021

3. Discontinued operation of R&P TEOM at PARR on 3/31/21

A. Ozone Monitoring Network

Table D-2 of 40 CFR Part 58 Appendix D specifies the number of SLAMS ozone monitors required based on MSA population and the previous year's design value (DV) for the area. Table 4 lists the most recent DV and sampling schedule for E&E operated monitors. DV values as a percent of an ozone NAAQS that are greater than or equal to 85% are bolded in Table 4. Table 5 lists populations the MSAs in Arkansas and the minimum number of monitors required in each MSA based on population and the most recent DV. OAQ is not proposing any changes to the ozone network in this Network Plan.

Table 4. Arkansas Ozone SLAMS Monitors Schedule and 2018–2020 Ozone DVs

	Sampling Schedule		8-Hour Ozone (ppm)				
AQS ID # (Site Name)	**Current**	**Proposed**	**2018**	**2019**	**2020**	**DV**	**DV % NAAQS**
05-035-0005 (Marion)	Continuous	Continuous	0.070	0.064	0.069	0.067	**95.7**
05-101-0002 (Deer)	Continuous	Continuous	0.062	0.058	0.059	0.060	**85.2**
05-113-0003 (Eagle Mtn)	Continuous	Continuous	0.063	0.063	0.058	0.061	**87.6**
05-119-0007 (PARR)	Continuous	Continuous	0.064	0.057	0.060	0.060	**86.2**
05-119-1002 (NLRAP)	Continuous	Continuous	0.067	0.060	0.063	0.063	**90.5**
05-143-0005 (Springdale)	Continuous	Continuous	0.064	0.061	0.055	0.060	**85.7**
05-143-0006 (Fayetteville)	Continuous	Continuous	0.065	0.060	0.055	0.060	**85.7**

Table 5. Arkansas MSA Populations and Minimum Ozone Monitors Required in SLAMS Network

Metropolitan Statistical Area (MSA)	**2019 Population Estimates**	**Monitors Required**
Fayetteville-Springdale-Rogers, AR-MO	536,120	2
Fort Smith, AR-OK	249,152	1
Hot Springs, AR	99,386	0
Jonesboro, AR	133,860	0
Little Rock-North Little Rock-Conway, AR	744,483	2

Metropolitan Statistical Area (MSA)	2019 Population Estimates	Monitors Required
Memphis, TN-MS-AR	1,344,910	2
Pine Bluff, AR	89,437	0
Texarkana, TX-AR	149,308	0

Arkansas's network meets or exceeds the minimum SLAMS ozone requirement for each MSA. The Little Rock MSA meets the required number and the Memphis MSA exceeds the minimum number of SLAMS monitors with five. E&E operates one of the five SLAMS ozone monitors in the Memphis MSA, with the other four operated by either Shelby County Health Department (SCHD) or Mississippi Department of Environmental Quality (MDEQ). The Fayetteville MSA has two monitors, which meets the requirement for the MSA. A monitor in Roland, OK operated by the Cherokee National satisfies ozone monitoring requirements for the Fort Smith MSA. There are two additional SLAMS ozone monitors in the rural areas of Deer and Eagle Mountain, which are used to enhance EPA's AIRNOW ozone mapping program and to determine background and transport ozone.

In addition to the SLAMS network, EPA operates one ozone monitor (05-019-9991) as part of the Clean Air Status and Trends Network (CASTNET). This ozone monitor is compliant with the regulatory requirements in 40 CFR Parts 50, 53, and 58. Therefore, ozone measurements from this site are also used to determine if an area meets or exceeds the NAAQS. The 2018–2020 DV for this site is 0.056 ppm.

B. Particulate Matter Monitoring Network

1. Fine Particulate Matter ($PM_{2.5}$) Network

Table D-5 of 40 CFR Part 58 Appendix D specifies the number of SLAMS $PM_{2.5}$ monitors required based on MSA population and the previous year's DV. Table 6 lists the most recent area DV and sampling schedule for E&E operated monitors. There are no DV as a percent of any $PM_{2.5}$ NAAQS values that are greater than or equal to 85%. Table 7 lists populations the MSAs in Arkansas and the minimum number of monitors required in each MSA based on population and the most recent DV. OAQ is not proposing any changes to the $PM_{2.5}$ network in this Network Plan.

Table 6. Arkansas $PM_{2.5}$ SLAMS Monitors Schedule and 2018–2020 $PM_{2.5}$ DVs

AQS ID # (Site Name)	Sampling Schedule		24-Hour $PM_{2.5}$ ($\mu g/m^3$)					Annual $PM_{2.5}$ ($\mu g/m^3$)					Collocated with TEOM[1]
	Current	Proposed	2018	2019	2020	DV	DV % NAAQS	2018	2019	2020	DV	DV % NAAQS	
05-001-0011 (Stuttgart)	1:3	1:3	18.8	19.1	17.3	18	51.4	8.3	7.9	7.2	7.8	65	No
05-003-0005 (Crossett)	1:3	1:3	21.1	17.4	18	19	54.3	8.1	8.2	7.4	7.9	65.8	No
05-035-0005 (Marion)	1:3	1:3	19.7	18	17.2	18	51.4	8.8	8.3	7.5	8.2	68.3	Yes
05-051-0003 (Hot Springs)	1:3	1:3	21	19.9	18.7	20	57.1	8.3	8.8	8.0	8.4	69.7	No
05-067-0001 (Newport)	1:3	1:3	21	22.4	20.7	21	60	7.9	8.2	7.1	7.8	65	No
05-113-0002 (Mena)	1:3	1:3	19.7	17.2	20.8	19	54.3	8.6	8.6	7.2	8.2	68.3	No
05-119-0007 (PARR)	1:1	1:1	20.7	18.5	17.7	19	54.3	9.3	9.5	8.2	9	75	Yes
05-119-1008 (DSR)	1:3	1:3	22.6	23.5	24.1	23	65.7	9.7	10.3	9.7	9.9	82.5	Yes
05-143-0005 (Springdale)	1:3	1:3	24.5	18.9	16.2	20	57.1	8.4	8	6.9	7.8	65	Yes
40-135-9021 (Roland, OK)	1:3	1:3	18.7	16.5	19.7	18	51.4	8.2	8.1	7.2	7.8	65	No

[1] A Tapered Element Oscillating Microbalance (TEOM) sampler is an instrument for continuous measurement of particulate matter in near real time.

Table 7. Arkansas MSA Populations and Minimum $PM_{2.5}$ Monitors Required in SLAMS Network

Metropolitan Statistical Area (MSA)	2019 Estimates	Monitors Required
Fayetteville-Springdale-Rogers, AR-MO	536,120	1
Fort Smith, AR-OK	249,152	0
Hot Springs, AR	99,386	0
Jonesboro, AR	133,860	0
Little Rock-North Little Rock-Conway, AR	744,483	1
Memphis, TN-MS-AR	1,344,910	2
Pine Bluff, AR	89,437	0
Texarkana, TX-AR	149,308	0

Arkansas's network meets or exceeds the minimum SLAMS $PM_{2.5}$ requirement for each MSA. E&E operates two monitors that report NAAQS-comparable data and one quality assurance (QA) monitor in the Little Rock MSA. There are two additional monitors in the Little Rock MSA that report data that is not NAAQS-comparable. There are a total of four monitors in the Memphis MSA, exceeding the requirement for the MSA. In addition to one E&E-operated monitor, there are three additional SLAMS monitors operated by either SCHD or MDEQ in the Memphis MSA. SCHD operates a $PM_{2.5}$ monitor at site 47-157-0100 that meets the near-road monitoring requirement for the Memphis MSA (See MOA in Appendix B). The Fayetteville MSA and Fort Smith MSA each have one monitor to fulfill the MSA requirements. The Hot Springs MSA monitor, operated by E&E, and the Texarkana MSA monitor, operated by the Texas Commission on Environmental Quality (TCEQ), were put in place to fulfill previous monitoring requirements that are no longer in force.

E&E also operates five additional $PM_{2.5}$ monitoring sites located outside of MSAs. The co-located federal reference method (FRM) monitors, which are located at Hot Springs (05-051-0003) and PARR (05-119-0007), are operating on a 1:12 sampling schedule. In addition, the following sites are co-located with a TEOM continuous monitor: Marion (05-035-0005), PARR (05-119-0007), DSR (05-119-1008), and Springdale (05-143-0005). E&E previously operated a TEOM continuous $PM_{2.5}$ monitor in El Dorado (05-139-0006), which was removed from service on December 29, 2020.

Table 8 lists the monitoring sites used for daily Air Quality Index (AQI) reporting. The monitors at these locations, which include Springdale and PARR, also report hourly data to the AIRNOW web page to be used for real-time air quality particulate mapping.

Table 8. Continuous $PM_{2.5}$ AQI Monitoring Site Information

AQS ID #	Site Name	Sampling Frequency
05-143-0005	Springdale	Hourly
05-119-0007	PARR	Hourly

E&E began operation of two Teledyne T640X NAAQS-comparable continuous $PM_{2.5}$ samplers at PARR (05-119-0007) on 1/1/21. EPA was notified by letter on 9/18/20. With EPA approval, E&E ceased operation of the TEOM continuous $PM_{2.5}$ at PARR (05-119-0007) on 3/31/21 due to the addition of the Teledyne T640X samplers.

2. Coarse Particulate Matter (PM_{10}) Network

Table D-4 of 40 CFR Part 58 Appendix D specifies the number of SLAMS PM_{10} monitors required based on MSA population and the recent concentrations for the area. Table 9 lists the most recent three-year average and sampling schedule for E&E operated monitors. E&E's monitors fall within the low-concentration category (ambient concentrations less than 80% of the PM_{10} NAAQS) based on recent three-year averages as a percentage of the NAAQS. Table 10 lists populations the MSAs in Arkansas and the minimum number of monitors required in each MSA based on population in areas with low ambient concentrations of PM_{10}. OAQ is not proposing any changes to the PM_{10} network in this Network Plan. E&E replaces older equipment when software is no longer supported by the vendor.

Table 9. Arkansas PM_{10} SLAMS Monitors Schedule and 2018–2020 PM_{10} Three-Year Average

	Sampling Schedule		24-Hour PM_{10} ($\mu g/m^3$)				
AQS ID #	Current	Proposed	2018	2019	2020	3-Yr Avg.	3-Yr Avg. % NAAQS
05-119-0007 (PARR)	1:3	1:3	65	40	44	50	33
05-143-0005 (Springdale)	1:6	1:6	57	37	37	44	29

Table 10. Arkansas MSA Populations and Minimum PM_{10} Monitors Required in SLAMS Network

Metropolitan Statistical Area (MSA)	2019 Estimates	Monitors Required[2]
Fayetteville-Springdale-Rogers, AR-MO	536,120	1–2
Fort Smith, AR-OK	249,152	0
Hot Springs, AR	99,386	0
Jonesboro, AR	133,860	0
Little Rock-North Little Rock-Conway, AR	744,483	1–2
Memphis, TN-MS-AR	1,344,910	2–4
Pine Bluff, AR	89,437	0
Texarkana, TX-AR	149,308	0

Arkansas's network meets the minimum SLAMS PM_{10} requirement for each MSA. E&E operates two PM_{10} monitoring sites, one in the Little Rock MSA and one in the Fayetteville MSA. The PARR site (05-119-0007) also has a collocated PM_{10} monitor operating on a 1:12 sampling schedule. SCHD operates two PM_{10} sites in the Memphis MSA.

3. $PM_{10-2.5}$ Particle Mass

E&E performs $PM_{10-2.5}$ monitoring at PARR (05-119-0007) as part of an NCore monitoring site in accordance with 40 CFR Part 58 Appendix D § 3. The monitor is also operating on a 1:12 sampling schedule and the QC sampler runs on a 1:12 schedule, as required. OAQ is not proposing any changes for this monitor.

4. $PM_{2.5}$ Speciation

E&E performs $PM_{2.5}$ speciation sampling at PARR (05-119-0007) as part of an NCore monitoring site in accordance with 40 CFR Part 58 Appendix D § 3. OAQ is not proposing any changes for this monitor.

C. Sulfur Dioxide (SO_2) Monitoring Network

The number of SLAMS SO_2 monitors required for Arkansas CBSAs is determined using a Population Weighted Emissions Index (PWEI). PWEI values are calculated by multiplying the CBSA population by the total SO_2 emitted within the CBSA using data available from the most recent National Emissions Inventory (NEI). Table 11 lists the PWEI and number of monitors required in each Arkansas CBSA in accordance with 40 CFR Part 58 Appendix D §4.4.2. OAQ is not proposing any SO_2 network changes in this Plan.

[2] 40 CFR 58 Appendix D.4.d. provides that "a range of monitoring stations is specified in Table D-4 because sources of pollutants and local control efforts can vary from one part of the country to another and therefore, some flexibility is allowed in selecting the actual number of stations in any one locale."

Table 11. Arkansas CBSA Populations and Minimum SO_2 Monitors Required in SLAMS Network

CBSA	2019 Estimate	SO_2 Emissions (tpy)	PWEI	Monitors Required[3]
Metropolitan Statistical Areas				
Fayetteville-Springdale-Rogers, AR-MO	536,120	2,341	1,255	0
Fort Smith, AR-OK	249,152	3495	871	0
Hot Springs, AR	99,386	112	11	0
Jonesboro, AR	133,860	346	46	0
Little Rock-North Little Rock-Conway, AR	744,483	976	727	0
Memphis, TN-MS-AR	1,344,910	9,276	12,475	1
Pine Bluff, AR	89,437	23,522	2,104	0
Texarkana, TX-AR	149,308	155	23	0
Micropolitan Statistical Areas				
Arkadelphia, AR	22,386	109	2	0
Batesville, AR	54,566	22,196	1,211	0
Blytheville, AR	42,126	3,086	130	0
Camden, AR	29,022	98	3	0
El Dorado, AR	39,449	459	18	0
Forrest City, AR	25,900	57	1	0
Harrison, AR	45,143	325	15	0
Helena-West Helena, AR	18,606	45	1	0
Magnolia, AR	23,776	1,875	45	0
Malvern, AR	33,597	220	7	0
Mountain Home, AR	41,427	178	7	0
Paragould, AR	44,937	124	6	0
Russellville, AR	85,413	418	36	0
Searcy, AR	78,753	109	9	0

[3] PWEI $\geq 10^6$: Three monitors required
$10^6 >$ PWEI $\geq 10^5$: Two monitors required
10^5 PWEI $\geq$ 5000 : One monitor required

Arkansas's network meets or exceeds the minimum SLAMS SO_2 requirement for each CBSA. SCHD operates an SO_2 monitor in the Memphis CBSA. E&E operates one trace SO_2 monitor at PARR (05-119-0007) as part of an NCore monitoring site in accordance with 40 CFR Part 58 Appendix D § 3.

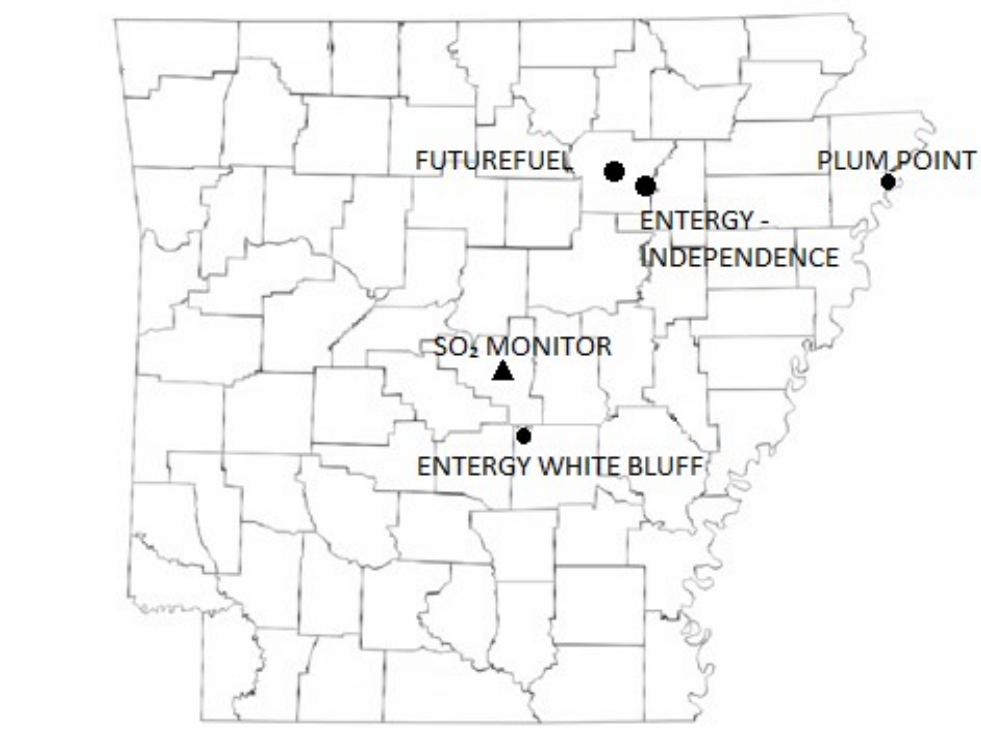
In addition to the population-based monitoring location, E&E also uses modeling data to characterize air quality in counties with facilities that emit greater than 2000 tons per year (tpy) SO_2, in accordance with the SO_2 Data Requirements Rule at 40 CFR Part 51 Subpart BB. Table 12 lists facilities emitting greater than or equal to 2000 tpy SO_2 in Arkansas. Figure 2 provides the location of these facilities relative to the trace SO2 monitor located at PARR (05-119-0007).

Table 12. Facilities Emitting Greater Than 2000 tpy SO_2[4]

FIPS Code[5]	County	Facility Name	SO_2 (tpy)	Latitude	Longitude
0506900110	Jefferson	Entergy Arkansas, Inc.– White Bluff	34,222.6	34.4236	-92.1392
0506300042	Independence	Entergy Arkansas, Inc. – Independence	30,028.9	35.6739	-91.4065
0509300461	Mississippi	Plum Point	2,549.5	35.6581	-89.9422
0506300036	Independence	Futurefuel	3,174.3	35.7181	-91.5242

[4] Emissions data obtained from 2017 NEI
[5] Facility-specific Federal Information Processing Standards (FIPS) Code

Figure 2. Relative Location of Facilities Emitting Greater than or Equal to 2000 TPY SO_2



None of the facilities listed in Table 12 are within the spatial scale covered by current SO_2 monitor. Therefore, modeling was performed for each county with a listed facility. On April 26, 2018, E&E submitted to the EPA a refined modeling simulation and an "Unclassifiable" to "Attainment/ Unclassifiable" re-designation request for Independence County. On March 13, 2019, EPA reclassified Independence County to "Attainment/Unclassifiable" for the 2015 SO_2 NAAQS. In addition, a copy of the Entergy – White Bluff Ongoing Data Requirements (40 CFR § 51.1205) Annual Emissions Update Information is attached as Appendix A.

D. Nitrogen Dioxide (NO_2) Monitoring Network

40 CFR Part 58 Appendix D § 4.3 requires SLAMS networks to meet requirements for near-road NO_2 monitoring, area-wide NO_2 monitoring, and any additional monitoring required by the EPA Regional Administrator. Each CBSA with a population of one million

or more persons must have a microscale near-road NO_2 monitoring station. Each CBSA with a population of one million or more persons must have an area-wide NO_2 monitor. In addition, Regional Administrators may require NO_2 monitors above and beyond minimum network requirements.

E&E operates NO_2 monitors at two sites in Arkansas: PARR (05-119-007) and Marion (05-035-0005). The Marion monitor (05-035-0005) serves as an area-wide NO_2 monitor for the Memphis CBSA, which is the only CBSA located partially in Arkansas with more than a million people. SCHD operates a near-road NO_2 monitor (47-157-0100) in the Memphis CBSA required under 40 CFR Part 58, Appendix D § 4.3.2. The PARR site serves as one of the minimum of forty additional NO_2 monitoring stations nationwide required by Regional Administrators for areas with susceptible and vulnerable populations under 40 CFR Part 58, Appendix D § 4.3.4.

E&E performs NO/NO_2 monitoring at PARR (05-119-0007) as part of an NCore monitoring site in accordance with 40 CFR Part 58 Appendix D § 3. These measurements produce conservative estimates for NO_2 consistent with the requirements of 40 CFR Part 58, Appendix D § 4.3.6.

OAQ is not proposing any changes for the NO_2 monitoring network.

E. Carbon Monoxide (CO) Monitoring Network

40 CFR Part 58 Appendix D § 4.2 requires a minimum of one CO monitor co-located with a near-road NO_2 monitor in CBSAs have a population of 1,000,000 or more persons. The Regional Administrator may require additional monitoring.

SCHD operates a CO monitor collocated with near-road NO_2 monitor (47-157-0100) in the Memphis CBSA, which is the only CBSA located partially in Arkansas with more than a million people. This monitor satisfies the minimum required CO monitors.

E&E operates a Trace CO monitor at PARR (05-119-0007) as part of an NCore monitoring site in accordance with 40 CFR Part 58 Appendix D § 3. OAQ is not proposing any changes for the NO_2 monitoring network.

F. Lead (Pb) Network

40 CFR Part 58 Appendix D § 4.5 requires source-oriented monitoring near Pb sources that are expected to or have been shown to contribute to a maximum lead concentration in ambient air in excess of the NAAQS. Specifically, there must be a source-oriented SLAMS site located to measure the maximum Pb concentration in ambient air resulting from each non-airport Pb source that emits 0.5

tpy or more and from each airport that emits 1.0 tpy based on the most recent NEI or other scientifically justifiable methods and data. EPA may waive source-oriented monitoring requirements if the State can demonstrate that the source will not contribute to a maximum Pb concentration in ambient air in excess of 50% of the NAAQS. These waivers must be renewed once every five years in accordance with 40 CFR Part 58.10(d).

E&E does not operate any source-oriented monitors for lead. E&E ensures that all sources emitting above the thresholds in 40 CFR Part 58 Appendix D § 4.5 are identified by requiring each facility with Pb permit limits greater than or equal to 0.5 tpy Pb to submit actual annual Pb emissions for the facility. There are two sources in Arkansas with Pb emissions that exceed the thresholds for which source-oriented monitoring or a waiver are required based on the most recent emission inventories: Entergy Arkansas, Inc. (EAI) Independence Plant and EAI White Bluff. See Sections F.1. and F.2. for additional details regarding these two facilities. There are five additional facilities for which EPA previously issued Pb waivers. These waivers have not been renewed because recent annual Pb emissions have not exceed the thresholds listed in 40 CFR Part 58 Appendix D § 4.5. Table 13 lists recent emissions and waiver status for facilities for which E&E previously requested waivers from EPA.

Table 13. Source-Oriented Pb Waiver Status by Facility

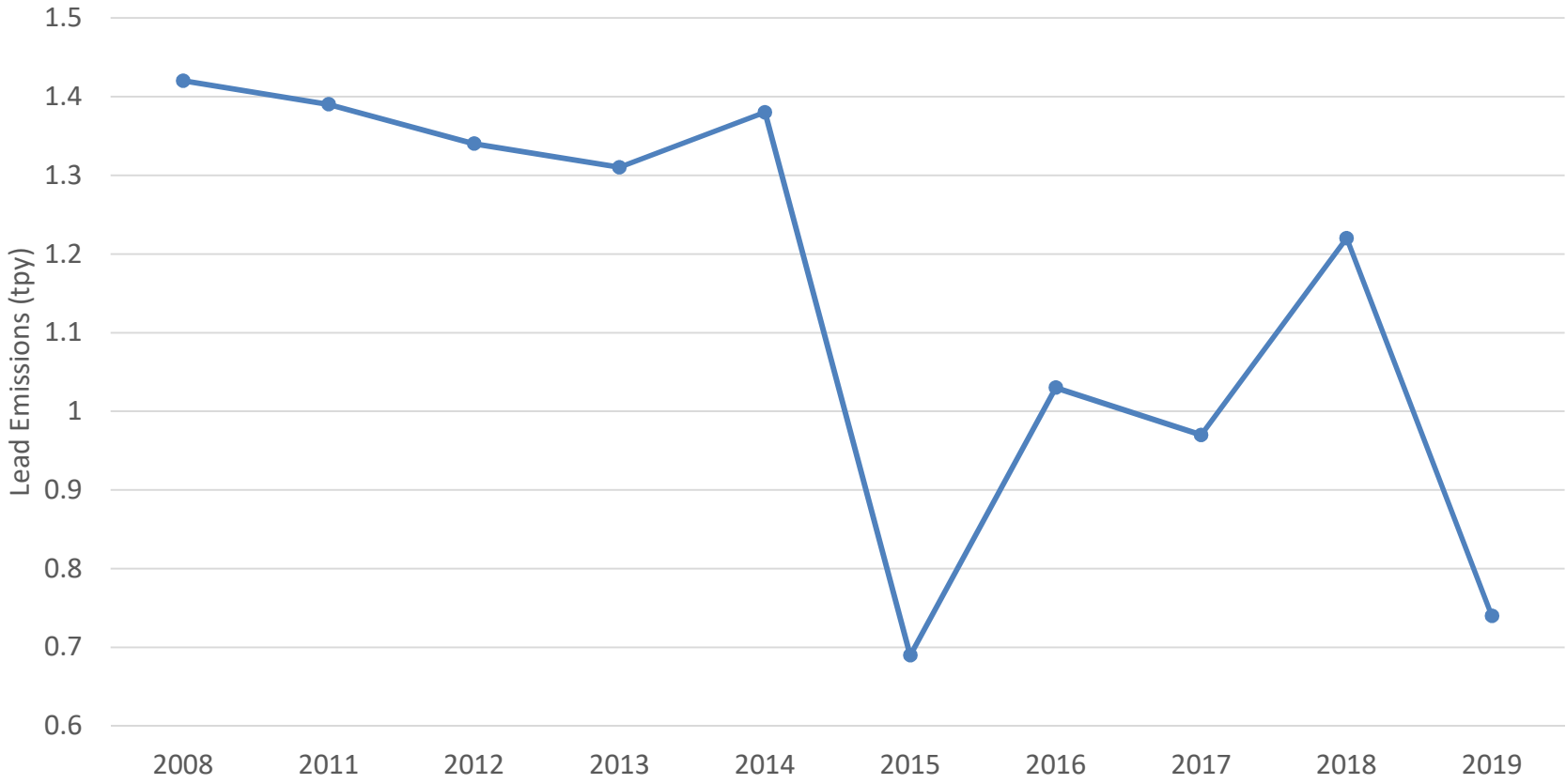
EIS #	Facility Name	Annual Emissions (tpy)				Renewal Requested
		2016 State EI	2017 NEI	2018 State EI	2019 State EI	
1083611	Arkansas Steel Associates, LLC	n/a*	0.38	n/a*	n/a*	No
1083411	EAI Independence Plant	1.01	0.97	1.22	0.74	**Yes**
893911	EAI White Bluff Plant	0.75	1.00	1.06	0.93	**Yes**
1091211	Georgia Pacific, LLC (Crossett Paper)	0.06	0.12	0.10	0.08	No
976111	Gerdau MacSteel	n/a*	0.01	n/a*	n/a*	No
1084511	Nucor Corporation (Nucor Steel, Arkansas)	<0.01	0	0.30	<0.01	No
1008911	Nucor-Yamato Steel Co.	0.35	0.28	0.21	0.19	No

E&E previously operated a Pb sampler at PARR (05-119-0007) as part of an NCore monitoring site. However, E&E discontinued Pb monitoring after meeting the three-year data collection requirements and obtaining EPA approval in 2016 consistent with revised network design criteria for non-source oriented lead monitoring (81 FR 17247).

1. EAI Independence Plant

EPA approved a lead waiver for EAI Independence on January 20, 2011. This approval was based on AERMOD modeling results that indicated that Independence's 2008 emissions of 1.42 tpy would result in a maximum three-month average concentration level of 0.03 micrograms per cubic meter ($\mu g/m^3$), which is 20% of the Pb NAAQS. Pb emissions from Independence have decreased since the 2008 emissions used in the modeling. See Figure 3. Therefore, E&E requested renewal of the waiver in 2015 and again in 2020 as part of E&E's Five Year Network Assessments submitted to EPA. EPA granted the 2015 renewal request in a letter dated November 16, 2015. As of the writing of this Network Plan, EPA has not yet acted upon E&E's 2020 request to renew the waiver for Independence.

Figure 3. 2008–2019 Pb Emissions from EAI Independence[6]



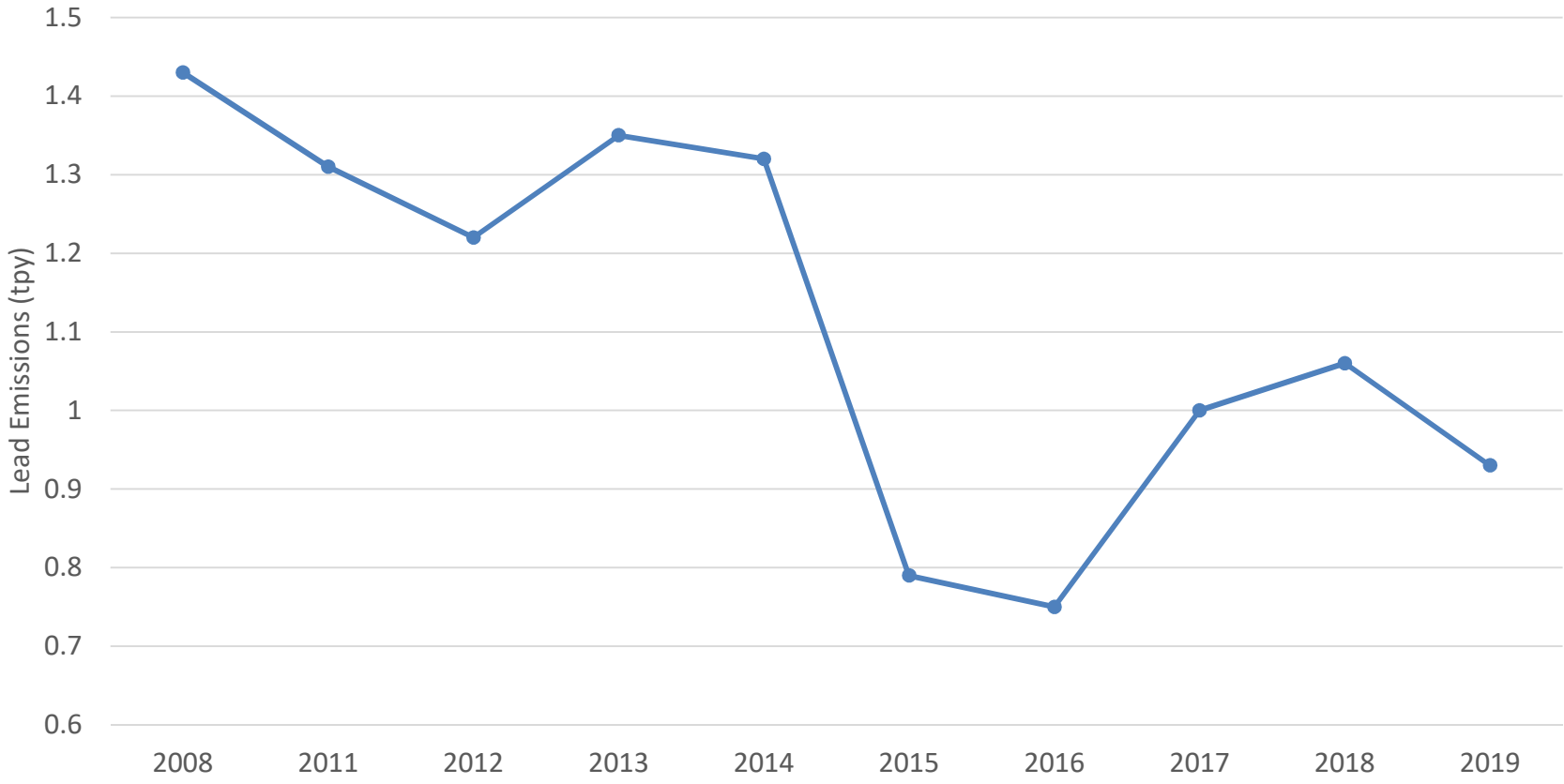
1. EAI White Bluff

EPA approved a lead waiver for EAI White Bluff on January 20, 2011. This approval was based on AERMOD modeling results that indicated that White Bluff's 2008 emissions of 1.43 tpy would result in a maximum three-month average concentration level of <0.01 µg/m^3. Pb emissions from White Bluff have decreased since the 2008 emissions used in the modeling. See Figure 4. Therefore, E&E

[6] Data Source: 2008 NEI, 2011 NEI, 2012 State EI, 2013 State EI, 2014 NEI, 2015 State EI, 2016 State EI, 2017 NEI, 2018 State EI, 2019 State EI

requested renewal of the waiver in 2015 and again in 2020 as part of Five Year Network Assessments that E&E submitted to EPA. EPA granted the 2015 renewal request in a letter dated November 16, 2015. As of the writing of this Network Plan, EPA has not yet acted upon E&E's 2020 request to renew the waiver for Independence.

Figure 4. 2008–2019 Pb Emissions from EAI White Bluff[7]



[7] Data Source: 2008 NEI, 2011 NEI, 2012 State EI, 2013 State EI, 2014 NEI, 2015 State EI, 2016 State EI, 2017 NEI, 2018 State EI, 2019 State EI

III. Contact Information

Questions concerning Pb emissions and Pb waivers and the Ongoing Data Requirement Annual Updated SO_2 Emissions Information should be sent to:

Michael Day – Office of Air Quality
Arkansas Department of Energy and Environment
Division of Environmental Quality
5301 Northshore Dr.
North Little Rock, AR 72118
501-682-0832
michael.day@adeq.state.ar.us

Any other comments or questions should be sent to:

Shaun Kitchens - Air Lab
Arkansas Department of Energy and Environment
Laboratory and Monitoring Services
5301 Northshore Dr.
North Little Rock, AR 72118
501-682-0924
kitchens@adeq.state.ar.us

Appendix A. Entergy Arkansas, Inc. White Bluff- Ongoing Data Requirement for Annual Updated SO_2 Emissions Information

ARKANSAS
ENERGY & ENVIRONMENT

June 17, 2021

Mr. David F. Garcia, P.E.
Director, Air and Radiation Division
U.S. Environmental Protection Agency, Region 6
1201 Elm Street, Suite 500
Dallas, Texas 75270-2102

Re: 2010 SO_2 NAAQS Ongoing Data Requirements Annual Updated Emissions Information and Further Modeling Recommendation - Entergy Arkansas, Inc. White Bluff Steam Electric Station

Dear Mr. Garcia:

A comparison, per 40 CFR 51.1205(b)(1), of the annual SO_2 actual emissions included in the August 2015 modeling analysis (2012-2014) for the Entergy Arkansas, Inc. White Bluff Steam Electric Station (hereafter, White Bluff Station) and the six years of data (2015-2020) since this August 2015 modeling analysis indicate that SO_2 emissions at the White Bluff Station for the years following the August 2015 modeling analysis are lower than those included in the 2015 modeling analysis. Therefore, the Arkansas Department of Energy and Environment, Division of Environmental Quality (DEQ) recommends to the U.S. Environmental Protection Agency (EPA) that no additional modeling analysis is needed at this time and that Jefferson County, AR remains "Attainment/Unclassifiable" for the 2010 SO_2 NAAQS.

As background, on June 3, 2010, the EPA revised the 2010 one-hour sulfur dioxide (SO_2) Primary National Ambient Air Quality Standard (NAAQS) by establishing a new one-hour standard at a level of 75 parts per billion (equivalent to 196.5 $\mu g/m^3$). On August 21, 2015 the EPA issued its SO_2 Data Requirements Rule (SO_2 DRR), which required characterization of air quality based on modeling or actual monitoring for categories of sources based on annual SO_2 emission rates. For areas that were characterized using air quality modeling, the *Ongoing Data Requirements* in 40 C.F.R. § 51.1205(b)(1) apply when the modeling was based on actual emissions. In such cases, the air agency will be required to submit an annual report to the EPA providing updated emissions information and recommending to the EPA whether further modeling is warranted to assess any expected changes in recent air quality.

On September 11, 2015, the ADEQ submitted to the EPA an SO_2 air dispersion modeling analysis (August 2015 modeling analysis) using actual emissions for the Entergy Arkansas, Inc. White Bluff Steam Electric Station (White Bluff Station) located in Jefferson County, AR. The

August 2015 modeling analysis reported that the maximum model-predicted impact of 162.4 $\mu g/m^3$ was below the 2010 1-hour SO_2 NAAQS of 196.5 $\mu g/m^3$. Therefore, ADEQ recommended to the EPA a designation of "Attainment/Unclassifiable" (meeting the SO_2 NAAQS requirements) for Jefferson County. On July 12, 2016 (FR Vol. 81, No. 133, 45039) EPA concurred with the ADEQ recommendation and published the Final Rule: *Air Quality Designations for the 2010 Sulfur Dioxide (SO_2) Primary National Ambient Air Quality Standard—Round 2*, that designated Jefferson County, AR as having a designation of "Attainment/Unclassifiable".

For the August 2015 White Bluff Station 1-hour SO_2 NAAQS modeling analysis, all five sources of SO_2 at the White Bluff Station were included in the modeling analysis (Table 1) and actual emission data for the years 2012-2014 were used. Because actual emissions data were used in the August 2015 modeling analysis, ADEQ is subject to the annual follow-up analysis described in 40 C.F.R. §51.1205(b)(1).

Table 1: White Bluff Station SO_2 Sources

Source Description	Source ID
Unit No. 1 Boiler	SN-01
Unit No. 2 Boiler	SN-02
Auxiliary Boiler	SN-05
Emergency Diesel Generator	SN-21
Emergency Fire Pump Engine	SN-22

The requirements of 40 C.F.R. §51.1205(b)(1) entail ADEQ submitting an annual assessment to the EPA by July 1 of each year that provides updated actual emissions information and recommends whether further modeling is warranted to assess any expected changes in recent air quality:

> ***§ 51.1205 Ongoing data requirements.***
> *(b) Modeled areas. For any area where modeling of actual SO_2 emissions serve as the basis for designating such area as attainment for the 2010 SO_2 NAAQS, the air agency shall submit an annual report to the EPA Regional Administrator by July 1 of each year, either as a stand-alone document made available for public inspection, or as an appendix to its Annual Monitoring Network Plan (also due on July 1 each year under 40 CFR 58.10), that documents the annual SO_2 emissions of each applicable source in each such area and provides an assessment of the cause of any emissions increase from the previous year. The first report for each such area is due by July 1 of the calendar year after the effective date of the area's initial designation.*
> *(1) The air agency shall include in such report a recommendation regarding whether additional modeling is needed to characterize air quality in any area to determine whether the area meets or does not meet the 2010 SO_2 NAAQS. The EPA Regional Administrator will consider the emissions report and air agency recommendation, and*

may require that the air agency conduct updated air quality modeling for the area and submit it to the EPA within 12 months.

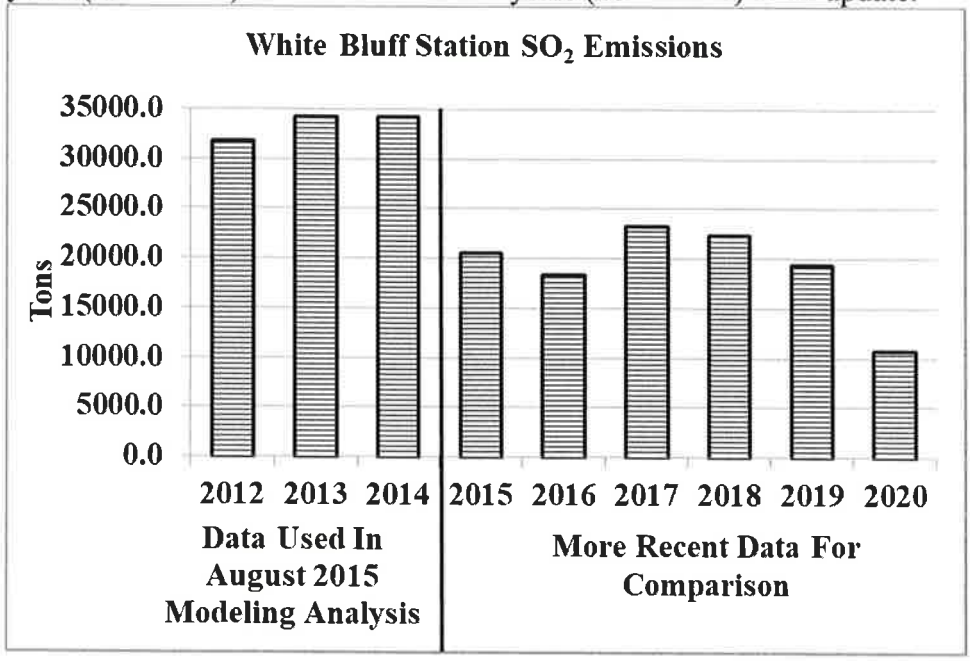
A current assessment of the annual SO_2 actual emissions for the three years (2012-2014) included in the August 2015 modeling analysis and the six years subsequent to the August 2015 modeling analysis (2015-2020) indicate that SO_2 emissions at the White Bluff Station for the years following the 2015 modeling analysis are lower than the levels included in the 2015 modeling analysis (Table 2 and Figure 1). As a result of this decrease in annual SO_2 actual emissions at the White Bluff Station, ADEQ recommends to the EPA that no additional modeling is needed at this time to evaluate the SO_2 emissions from the White Bluff Station and that Jefferson County, AR remains "Attainment/Unclassifiable" for the 2010 SO_2 NAAQS.

Table 2: White Bluff Station SO_2 Actual Emissions for the previously modeled years (2012-2014) and the more recent years (2015-2020) as an update.

Annual SO_2 Actual Emissions (Tons/Year)							
Data Period	**Year**	**Unit No. 1 Boiler[1]**	**Unit No. 2 Boiler[1]**	**Auxiliary Boiler[2]**	**Emergency Diesel Generator[3]**	**Emergency Diesel Fire Pump[3]**	**Total Emissions**
Data used in August 2015 Modeling Analysis	2012	15,231.9	16,455.3	0.030	0.0007	0.0013	31,687.2
	2013	17,227.1	16,969.2	0.001	0.0016	0.0021	34,196.3
	2014	17,503.5	16,719.1	0.003	0.0004	0.0026	34,222.6
Data included in previous Ongoing Data Requirements submittals	2015	10,149.4	10,331.1	0.001	0.0130	0.0039	20,480.5
	2016	7,984.0	10,352.0	0.068	0.0128	0.0025	18,336.1
	2017	14,356.1	8,856.0	0.007	0.0012	0.0030	23,212.1
	2018	9,273.4	12,981.5	0.019	0.0017	0.0030	22,254.9
	2019	10,326.9	8,983.7	0.016	0.0123	0.0033	19,310.7
Most Recent Data Available	**2020**	**6,255.0**	**4,456.0**	**0.085**	**0.0020**	**0.0027**	**10,711.1**

[1]Emissions from Electrical Generating Units (Unit No. 1 and Unit No. 2 Boilers) as measured by the facility Continuous Emission Monitoring System (CEMS) and reported to the EPA Clean Air Markets Division (CAMD).
[2]Emissions from Auxiliary Boiler calculated on actual annual fuel oil usage and measured fuel oil sulfur content.
[3]Emissions from Emergency Diesel Generator and Emergency Diesel Fire Pump calculated based on actual annual hours of operation and EPA AP-42 emissions factors.

Figure 1: White Bluff Station SO_2 Actual Emissions for the previously modeled years (2012-2014) and the more recent years (2015-2020) as an update.



This 2010 SO_2 NAAQS annual report fulfills the requirement of 40 CFR Part 51, Subpart BB, §51.1205(b)(1) that DEQ submit an emissions update assessment and additional modeling recommendation to the EPA Regional Administrator. If you have any questions regarding this emissions update assessment for the Entergy Arkansas, Inc. White Bluff Steam Electric Station, please contact David Clark, Policy and Planning, Technical Section Supervisor, at (501) 682-0070 or clarkd@adeq.state.ar.us of my staff or myself at (501) 682-0885 or montgomery@adeq.state.ar.us.

Sincerely,

William K. Montgomery
Associate Director
Office of Air Quality
Division of Environmental Quality
Arkansas Department of Energy and Environment

Appendix B. 2020 Update to May/June 2008 Memorandum of Agreement between SCHD, MDEQ and ADEQ concerning air quality monitoring requirements for the Memphis MSA

SHELBY COUNTY HEALTH DEPARTMENT

LEE HARRIS
MAYOR

ALISA R. HAUSHALTER, DNP, RN, PHNA-BC
DIRECTOR

BRUCE RANDOLPH, MD, MPH
HEALTH OFFICER

Public Health
Prevent. Promote. Protect.

April 15th, 2020

Ms. Michelle Walker Owenby, Air Director
Tennessee Department of Environment and Conservation
Air Pollution Control Division
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Ave., 15th Floor
Nashville, TN 37243-1531

Mr. Chad LaFontaine, Air Director
Mississippi Department of Environmental Quality
Office of Pollution Control, Air Division
P.O. Box 2261
Jackson, MS 39201

Mr. William K. Montgomery, Interim Associate Director
Arkansas Department of Environmental Quality
Office of Air Quality
5301 Northshore Dr.
North Little Rock, AR 72118-5317

Dear All,

In accordance with the provisions of the Memorandum of Agreement (MOA) signed in May and June of 2008 between the Shelby County Health Department (SCHD), Mississippi Department of Environmental Quality (MDEQ) and the Arkansas Department of Environmental Quality (ADEQ), this letter serves as a notification that no changes have been made in our current network.

If your agencies do not have current changes to the Network or may be contemplating changes in the near future, please notify the respective agencies of your intentions.

If you have any questions, please call me at (901) 222-9599.

Sincerely,

Robert Rogers

Robert Rogers, P.E. / Technical Manager
Pollution Control Section
Shelby County Health Department

MEMORANDUM OF AGREEMENT ON AIR QUALITY MONITORING FOR CRITERIA POLLUTANTS FOR THE MEMPHIS, TN- MS- AR METROPOLITAN STATISTICAL AREA (MSA)

Participating Agencies:

Shelby County Health Department (SCHD)
Air Pollution Control Program

Mississippi Department of Environmental Quality (MDEQ)
Office of Pollution Control, Air Division

Arkansas Department of Environmental Quality (ADEQ)

PURPOSE / OBJECTIVE / GOALS

The purpose of this Memorandum of Agreement (MOA) is to inform the entities of the Memphis, Tennessee-Mississippi-Arkansas Metropolitan Statistical Area of monitoring network changes. The MOA between SCHD, MDEQ, and ADEQ is to collectively meet United States Environmental Protection Agency (EPA) minimum monitoring requirements for particles of an aerodynamic diameter of 10 micrometers and less (PM_{10}), particles of an aerodynamic diameter of 2.5 micrometers and less ($PM_{2.5}$), and ozone; as well as other criteria pollutants air quality monitoring deemed necessary to meet the needs of the MSA as determined reasonable by all parties. This MOA will formalize and reaffirm the collective agreement in order to provide adequate criteria pollutant monitoring for the Memphis, TN-MS-AR MSA as required by 40 CFR 58 Appendix D, Section 2, (e).

PM 2.5 MSA monitoring network include:

County	Federal Referenced Method $PM_{2.5}$	Continuous $PM_{2.5}$	Speciation $PM_{2.5}$	Collocated $PM_{2.5}$
Shelby County, TN **SCHD**	3 (includes 1 at the Near Road Station)	1	1	1
Crittenden County , AR **ADEQ**	1	1		
DeSoto County, MS **MDEQ**	1	1		1

Criteria Air Pollutant MSA monitoring network include:

County	PM_{10}	O_3	$NO_x/NO/NO_2$	CO	SO_2
Shelby County, TN **SCHD**	2 (includes low volume PM_{10} at NCore)	3	1 (includes 1 at the Near Road Station)	2 (includes 1 trace at NCore and 1 trace at the Near Road Station)	1 (trace at NCore)
Crittenden County , AR **ADEQ**		1	1		
DeSoto County, MS **MDEQ**		1			

RESPONSIBILITIES / ACTIONS

Each of the parties to this Agreement is responsible for ensuring that its obligations under the MOA are met. As conditions warrant, the affected agencies may conduct telephone conference calls, meetings, or other communications to discuss monitoring activities for the MSA. Each affected agency shall inform the other affected agencies via telephone or email of any monitoring changes occurring within its jurisdiction of the MSA at its earliest convenience, after learning of the need for the change or making the changes. Such unforeseen changes may include evictions from monitoring sites,

destruction of monitoring sites due to natural disasters, or any occurrences that result in an extended (greater than one quarter) or permanent change in the monitoring network.

LIMITATIONS

- All commitments made in this MOA are subject to the availability of appropriated funds and each agency's budget priorities. Nothing in this MOA obligates SCHD, MDEQ, or ADEQ to expend appropriations or to enter into any contract, assistance agreement, interagency agreement or other financial obligation.

- This MOA is neither a fiscal nor a funds obligation document. Any endeavor involving reimbursement or contribution of funds between parties to this agreement will be handled in accordance with applicable laws, regulations, and procedures, and will be subject to separate agreements that will be affected in writing by representatives of the parties.

- This MOA does not create any right or benefit enforceable by law or equity against SCHD, MDEQ, or ADEQ, their officers or employees, or any other person. This MOA does not apply to any entity outside SCHD, MDEQ, or ADEQ.

- No proprietary information or intellectual property is anticipated to arise out of this MOA.

TERMINATION

This Memorandum of Agreement may be revised upon the mutual consent of SCHD, MDEQ and ADEQ. Each party reserves the right to terminate this MOA. A thirty (30) day written notice must be given prior to the date of termination.