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Department of Environmental Quality

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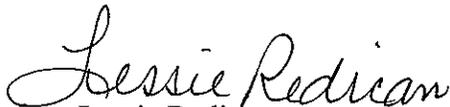
July 8, 2013

Thomas H. Diggs
USEPA Region VI
1445 Ross Avenue
Dallas, Texas 75202

Dear Mr. Diggs,

The Annual Network Review for the Ambient Air Monitoring Network for the state of Arkansas is enclosed. The network review went through the required 30 day public comment June 1 to June 30, 2013. No comments were made.

Please contact us with comments or questions.



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Enclosure

**Arkansas Department of Environmental Quality
Air Lab Technical Services Division
Air Planning Branch, Air Division
Annual Network Review 2013-2014 for Ambient Air Monitoring Network**

Under 40 CFR, Part 58, Subpart B, States are required to submit an annual monitoring network review to the Environmental Protection Agency (EPA) regional office in Dallas, Texas. This network plan is required to provide the framework for establishment and maintenance of an air quality surveillance system. The annual monitoring network plan must be made available for public inspection for at least 30 days prior to submission to EPA. The following document represents network plan proposed changes to the Arkansas air monitoring network for Fiscal Year 2013-14. This document represents the commitment of the Air Lab Technical Services Division and Air Planning Branch of the Air Division to effectively 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 as quickly and accurately as possible.

Tables 1A& 1B contain a listing of all Arkansas Department of Environmental Quality (ADEQ), ambient air monitoring sites currently operated and maintained by the Air Lab of the Technical Services Division. The reference to "AQS#/ Site ID" in column 1 represents a unique site identification name that is assigned to each and every monitoring site in the network. AQS stands for Air Quality System. It is a national air monitoring database that is maintained by EPA with data collected from monitoring sites that are entered into the AQS database and made available to the public within 90 days following the end of each calendar quarter as required.

TABLE 1A

AQS#/ Site ID	Address/ Location	Latitude	Longitude	Pollutants Measured	Station Type	Sampling Method
05-001-0011 Stuttgart	1703 N. Beurkle	34.518392	-91.558822	PM _{2.5}	SLAMS	R&P 2000 FRM
05-003-0005 Crossett	201 Unity Rd.	33.136708	-91.950233	PM _{2.5}	SLAMS	R&P 2000 FRM
05-035-0005 Marion	Polk & Colonial Dr.	35.197178	-90.193047	PM _{2.5} PM _{2.5} Ozone NO ₂	SLAMS SLAMS SLAMS SLAMS	R&P 2000 FRM R & P TEOM UV Photometric Chemiluminescence
05-051-0003 Hot Springs	300 Werner	34.469309	-93.000000	PM _{2.5} *	SLAMS	R&P 2000 FRM
05-067-0001 Newport	7648 Victory Blvd.	35.638069	-91.189381	PM _{2.5}	SLAMS	R&P 2000 FRM
05-101-0002 Deer	Hwy 16	35.832633	-93.208072	Ozone	SLAMS	UV Photometric
05-113-0002 Mena	Hornbeck Rd	34.583581	-94.226019	PM _{2.5}	SLAMS	R&P 2000 FRM
05-113-0003 Eagle Mtn	463 Polk 631	34.454428	-94.143317	Ozone	SLAMS	UV Photometric

AQS#/ Site ID	Address/ Location	Latitude	Longitude	Pollutants Measured	Station Type	Sampling Method
05-119-0007 PARR	Pike Ave at River Road	34.756072	-92.281139	PM _{2.5} * PM _{2.5} PM ₁₀ * PM ₁₀ -PM _{2.5} * Ozone NO _x SO ₂ Speciation NO _y CO Trace SO ₂ Trace CO Pb*	NCORE NCORE NCORE NCORE NCORE NCORE NCORE NCORE NCORE NCORE NCORE NCORE	R & P 2000 FRM R&P TEOM Gravimetric Gravimetric/FRM UV Photometric Chemiluminescence Pulsed Fluorescent Low Volume Chemiluminescence Nondispersive Infrared Gravimetric
05-119-1002 NLRAP	Remount Rd	34.835606	-92.260425	Ozone	SLAMS	UV Photometric
05-119-1004 Adams Field	1701 S. Bond	34.729486	-92.243431	PM _{2.5}	SLAMS	R&P 2000 FRM
05-119-1007 VA	4300 Block of West 7 th	34.744814	-92.319906	PM ₁₀	SLAMS	Gravimetric
05-119-1008 DSR	Doyle Springs Rd	34.681225	-92.328539	PM _{2.5} PM _{2.5} Ozone	SLAMS SLAMS SLAMS	R&P 2000 FRM R&P TEOM UV Photometric
40-135-9021 Roland, OK	207 Cherokee Blvd	35.40814	-94.524413	PM _{2.5}	SLAMS	R&P 2000 FRM
05-139-0006 El Dorado	Union Memorial Hospital	33.220122	-92.669453	PM _{2.5} PM _{2.5} SO ₂	SLAMS SLAMS SLAMS	R&P 2000 FRM R&P TEOM Pulsed Fluorescent
05-143-0005 Springdale	600 S. Old Missouri Rd	36.179617	-94.116611	PM _{2.5} PM _{2.5} Ozone	SLAMS SLAMS SLAMS	R&P 2000 FRM R&P TEOM UV Photometric
05-143-0006 Fayetteville	429 Ernest Lancaster Dr.	36.011703	-94.167436	Ozone	SLAMS	UV Photometric

* Collocated monitors

Table 1B

AQS#/ Site ID	Pollutants Measured	Operating Schedule	Monitoring Objective	Spatial Scale	NAAQS Comp.	MSA
05-001-0011 Stuttgart	PM _{2.5}	Daily 1 in 3	Population Exposure	Neighborhood	Yes	Not in a MSA
05-003-0005 Crossett	PM _{2.5}	Daily 1 in 3	Population Exposure	Neighborhood	Yes	Not in a MSA
05-035-0005 Marion	PM _{2.5} PM _{2.5} Ozone NO ₂	Daily 1 in 3 Continuous Continuous Continuous	Regional Transport	Neighborhood Neighborhood Neighborhood Neighborhood Area Wide	Yes No Yes Yes	Memphis

AQS#/ Site ID	Pollutants Measured	Operating Schedule	Monitoring Objective	Spatial Scale	NAAQS Comp.	MSA
05-051-0003 Hot Springs	PM _{2.5} *	Daily 1 in 3	Population Exposure	Neighborhood	Yes	Not in a MSA
05-067-0001 Newport	PM _{2.5}	Daily 1 in 3	Population Exposure	Neighborhood	Yes	Not in a MSA
05-101-0002 Deer	Ozone	Continuous	Background	Neighborhood	Yes	Not in a MSA
05-113-0002 Mena	PM _{2.5}	Daily 1 in 3	Regional Background	Neighborhood	Yes	Not in a MSA
05-113-0003 Eagle Mtn	Ozone	Continuous	Regional Transport	Neighborhood	Yes	Not in a MSA
05-119-0007 PARR (NCORE SITE)	PM _{2.5} *	Daily 1 in 3	Population Exposure	Neighborhood	Yes	Little Rock
	PM _{2.5}	Continuous	Population Exposure	Neighborhood	No	
	PM ₁₀ *	Daily 1 in 12	Population Exposure	Neighborhood	Yes	
	Ozone	Continuous	Population Exposure	Neighborhood	Yes	
	NO _x	Continuous	Susceptible and Vulnerable	Neighborhood	Yes	
	SO ₂	Continuous	Population Exposure	Neighborhood	Yes	
	Speciation	Daily 1 in 3	Population Exposure	Neighborhood	No	
	CO	Continuous	Population Exposure	Neighborhood	Yes	
	NO _y	Continuous	Population Exposure	Neighborhood	No	
	Trace SO ₂	Continuous	Population Exposure	Neighborhood	Yes	
Trace CO	Continuous	Population Exposure	Neighborhood	No		
Pb*	Daily 1 in 3	Population Exposure	Neighborhood	Yes		
05-119-1002 NLRAP	Ozone	Continuous	Population Exposure	Neighborhood	Yes	Little Rock
05-119-1004 Adams Field	PM _{2.5}	Daily 1 in 3	Population Exposure	Neighborhood	Yes	Little Rock
05-119-1007 VA	PM ₁₀	Daily 1 in 6	Population Exposure	Neighborhood	Yes	Little Rock
05-119-1008 DSR	PM _{2.5}	Daily 1 in 3	Population Exposure	Neighborhood	Yes	Little Rock
	PM _{2.5}	Continuous		Neighborhood	No	
	Ozone	Continuous		Neighborhood	Yes	
40-135-9021 Roland, OK	PM _{2.5}	Daily 1 in 3	Population Exposure	Neighborhood	Yes	Ft. Smith
05-139-0006 El Dorado	PM _{2.5}	Daily 1 in 3	Population Exposure	Neighborhood	Yes	Not in a MSA
	PM _{2.5}	Continuous	Population Exposure	Neighborhood	No	
	SO ₂	Continuous	Population Exposure	Neighborhood	Yes	
05-143-0005 Springdale	PM _{2.5}	Continuous	Population Exposure	Neighborhood	No	Fayetteville
	PM _{2.5}	Daily 1 in 3	Population Exposure	Neighborhood	Yes	
	Ozone		AQI			
05-143-0006 Fayetteville	Ozone	Continuous	Population Exposure	Neighborhood	Yes	Fayetteville

* Collocated monitors

All ADEQ sites and monitors conform to 40 CFR Part 58.

Population Statistics

Population statistics listed are the 2012 population estimates produced by the Census Bureau's Population Estimates Program. Population total for the Metropolitan Statistical Areas (MSA) follows the new delineation indicated in OMB Bulletin No. 13-01 (February 28, 2013).

1. Memphis, TN-MS-AR (Memphis MSA) – 1,341,690
2. Little Rock-North Little Rock-Conway, AR (Little Rock MSA) – 717,666
3. Fayetteville-Springdale-Rogers, AR-MO (Fayetteville MSA) – 482,200
4. Fort Smith, AR-OK (Ft. Smith MSA) – 280,521
5. Texarkana, TX-AR (Texarkana MSA) – 149,701
6. Jonesboro, AR (Jonesboro MSA) – 124,042
7. Pine Bluff, AR (Pine Bluff MSA) – 97,451
8. Hot Springs, AR (Hot Springs MSA) – 96,903

Ozone

According to Table D-2 of Appendix D to 40 CFR Part 58, the minimum number of SLAMS ozone monitors required are based on population data and previous year's ozone concentration. The minimum numbers of ozone monitors for MSAs located in Arkansas are:

Little Rock MSA – 2
Memphis MSA – 2
Fayetteville MSA – 2

Currently the state exceeds the minimum requirements with 3 ozone monitors in the Little Rock MSA, 1 in the Memphis MSA (Memphis has 2 monitors). The additional ozone monitor has been added in the Springdale-Fayetteville-Rodgers MSA. There are 2 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. The current network is more than adequate to assess population exposure, transport and background ozone levels.

The new requirements for establishing monitors to meet the urban and rural requirements are in the planning stage. The rural objectives have been met with the Deer and Eagle Mountain sites. The required monitor in the Ft. Smith MSA is covered by the ozone monitor in Roland, OK.

TABLE 2 – PM_{2.5}

PM _{2.5} FRM Sites	Current Sampling Schedule	Proposed Sampling Schedule	2010 Daily 98 th % $\mu\text{g}/\text{m}^3$	2011 Daily 98 th % $\mu\text{g}/\text{m}^3$	2012 Daily 98 th % $\mu\text{g}/\text{m}^3$	Design Value % Daily NAAQS $\mu\text{g}/\text{m}^3$	2010 Arith. Mean $\mu\text{g}/\text{m}^3$	2011 Arith. Mean $\mu\text{g}/\text{m}^3$	2012 Arith. Mean $\mu\text{g}/\text{m}^3$	Design Value %Annual NAAQS	Co-located with TEOM
Adams Field	1:3	1:3	22.8	25.8	25.8	70%	12.4	11.4	11.1	97%	NO
DSR	1:3	1:3	23.2	26.3	27.1	73%	12.6	12.6	11.6	102%	YES
Crossett	1:3	1:3	20.4	26.9	21.0	65%	11.2	11.2	9.9	94%	NO
El Dorado	1:3	1:3	20.5	23.7	24.5	65%	11.6	11.6	10.9	95%	YES
Roland, OK	1:3	1:3		22.7	22.2			11.4	10.0	90%	NO
Hot Springs	1:3	1:3	20.8	22.1	22.0	62%	11.0	11.4	10.4	93%	NO
Marion	1:3	1:3	22.7	22.1	24.7	66%	11.8	11.6	10.0	93%	YES
Mena	1:3	1:3	21.6	22.2	22.6	63%	10.9	11.5	9.9	90%	NO
Newport	1:3	1:3	22.9	23.2	18.6	62%	11.0	10.3	9.4	85%	NO
PARR	1:1	1:1	22.2	24.9	22.6	66%	12.2	12.0	11.3	98%	YES
Springdale	1:3	1:3	23.0	24.2	20.0	64%	11.4	11.6	9.5	90%	YES
Stuttgart	1:3	1:3	23.4	22.2	18.5	61%	11.4	10.9	9.9	89%	NO

PM_{2.5}

According to Table D-5 of Appendix D, Part 58, 40 CFR, the minimum number of SLAMS PM_{2.5} monitors required are:

- Memphis MSA – 3
- Little Rock MSA – 2
- Fayetteville MSA – 1
- Texarkana MSA – 1
- Hot Springs MSA – 1

ADEQ currently operates the following sites (Table 2) in the Arkansas network, which exceeds the minimum SLAMS network requirements and is comparable to the PM_{2.5} NAAQS.

The following sites are collocated with a TEOM: DSR (05-119-1008), PARR (05-119-0007), El Dorado (05-139-0006), Marion (05-035-0005), and Springdale (05-143-0005).

Annual PM_{2.5} NAAQS design values have been below 80% of the 1997 NAAQS level for the past 5 years at various sites in the state. With changes to the annual PM_{2.5} NAAQS, sites are at a higher percentage of the NAAQS. SLAMS stations are required to go to 1:1 sampling when daily 24-hour design values are within ± 5 percent of the 24-hour NAAQS according to 40 CFR 58.12. No sites are within the ± 5 percent range in Arkansas to require 1:1 sampling; however, PARR is running on a 1:1 schedule.

The following sites (Table 3) are for daily Air Quality Index (AQI) reporting. The monitors at these locations also report hourly data to the AIRNOW web page to be used for real-time air quality particulate mapping. No changes in number or location are requested for the two sites.

TABLE 3

Continuous PM _{2.5} AQI Sites	Sampling Frequency	AQS #
Springdale	Hourly	05-143-0005
PARR	Hourly	05-119-0007

PM₁₀

According to Table D-4 of Appendix D to 40 CFR Part 58, the minimum requirement for low concentrations sites and number of stations per MSA are:

Little Rock MSA – 1-2

ADEQ currently has two monitors in the Little Rock MSA listed below in Table 4.

TABLE 4 – PM₁₀

PM ₁₀ Sites	Current Sampling Schedule	2010 Annual Max. Conc. µg/m ³	2010 Annual Max. Conc. µg/m ³	2012 Annual Max. Conc. µg/m ³	3 yr avg. PM ₁₀ Conc. 2010-12 µg/m ³	Proposed Sampling Schedule
05-119-0007	1:3	40	45	40	42	1:3
05-119-1007	1:6	39	49	42	43	1:6

Sulfur Dioxide (SO₂), Nitrogen Oxides (NO₂), and Carbon Monoxide (CO)

40 CFR Part 58 Appendix D establishes minimum requirements for the number of SO₂, NO₂, or CO sites, however, discontinuation of existing sites must be approved by the EPA Regional Administrator.

SO₂ – Currently there are 2 sites in Arkansas: PARR in Little Rock (05-119-0007) and El Dorado (05-139-0006). Although El Dorado was approved to be removed in the 2010-11 network review, its continued operation allowed for the designation recommendation of *Attainment* rather than *Unclassifiable*. ADEQ may discontinue the monitor in 2014 and will notify EPA prior to discontinuation.

ADEQ has evaluated the network monitoring criteria for SO₂ in the Fayetteville-Rogers-Springdale, AR-MO CBSA in accordance with 40 CFR Part 58, Appendix D, 4.4.2(a). The latest census data places the population of the CBSA at 482,200 and the aggregated SO₂ emission within the CBSA is 9,079.8 tons per year. The Population Weighted Emission Index value calculated using the formula at Appendix D, 4.4.2(a) [PWEI = CBSA population X CBSA tons/year SO₂ / 1,000,000] is 4,378.3; below the value requiring a SO₂ monitor to be placed within the CBSA.

NO₂ – There are 2 NO₂ sites in Arkansas: PARR in Little Rock (05-119-0007) and Marion (05-035-0005).

The NO₂ monitor located at Marion (05-035-0005) was originally sited for the purpose of data gathering in support of a special air quality study for Crittenden County Arkansas in 2005. The

monitor was left in place at the conclusion of that study. Discussions will be initiated with the other State and Local entities in the Memphis MSA in order to select a more appropriate location for the area-wide monitor.

The PARR site meets the criteria for the RA40 national requirement for susceptible and vulnerable populations as listed in 40 CFR 58 Appendix D Section 4.3.4.

CO – There is one CO monitors in Arkansas and is located at the NCORE site (PARR 05-119-0007). There are no plans for any additional CO sites.

NCORE – Trace SO₂, CO and NO_x

NO_y, Trace SO₂ and Trace CO are monitored at the NCORE site (PARR 05-119-0007). No changes are planned.

PM_{2.5} Chemical Speciation

Speciation sampling is performed at the NCORE site. We currently have a sampler at PARR (05-119-0007) and no changes are planned.

Lead

Collocated lead samplers have been added to the PARR location as required by 1/1/2012. No source-oriented monitoring is necessary since lead emissions from Arkansas facilities are below a half a ton per year, facilities have been given waivers, or facilities have modeled out of the requirement.

Facilities and waiver status are listed below:

Current Permit	NEI Facility Name	Total Lead Permitted (tpy)	2008 NEI (tpy)	Waiver Granted?
0449-AOP-R7	ENTERGY ARKANSAS - INDEPENDENCE	2.1	1.42	yes
0263-AOP-R6	ENTERGY ARKANSAS - WHITE BLUFF	2.1	1.43	yes
1113-AOP-R5	PINE BLUFF ARSENAL	1.54	0.13	N/A
597-AOP-R12	GEORGIA-PACIFIC LLC CROSSETT PAPER OPERATIONS	23.7	0.22	yes
1139-AOP-R11	NUCOR STEEL - ARKANSAS	3.59	0.02	yes
0883-AOP-R9	NUCOR - YAMATO STEEL CO.	2.2	0.04	yes
0035-AOP-R8	ARKANSAS STEEL ASSOCIATES, LLC	1.52	0.91*	yes
693-AOP-R8	QUANEX CORP - MACSTEEL DIVISION	1.0	0.01	yes
0039-AOP-R10	3M INDUSTRIAL MINERAL PRODUCTS DIV.	0.09	0.04	N/A
1659-AOP-R4	JW ALUMINUM COMPANY	0.85	0.23	N/A

Contact Information

Questions concerning lead emissions and waivers should be sent to:

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