SCOTT A. THOMPSON
Executive Director

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY

KEVIN STITT
Governor

June 28, 2021

CERTIFIED MAIL-RETURN RECEIPT REQUESTED

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: 2021 Annual Network Review

Mr. Garcia:

Please find enclosed the 2021 Annual Network Plan (ANP) from the Oklahoma Department of Environmental Quality (DEQ). This document posted on our website for the required 30-day public comment period and is now ready for submittal to your office. No comments or inquiries were received from the public.

The SO_2 Annual Report requested by EPA and required under 40 CFR §51.1205 will be a separate submission from the Oklahoma DEQ 2021 ANP. Should staff find that further changes are necessary, please address those in the official response to our submittal.

We look forward to EPA's response and working with your staff to ensure that our network continues to be the best possible in order to better protect the environment and the health of Oklahoma's citizens. Should you have any questions regarding this submittal, feel free to contact Kent Stafford at 405.702.4139 or Ryan Biggerstaff at 405.702.4140.

Sincerely,

Cheryl E. Bradley

Cheryl E. Bradley
Environmental Programs Manager
Data and Planning Section

Cc: Fran Verhalen
Ellen Belk

Enclosure

Oklahoma Department of Environmental Quality
Air Quality Division
2021

Air Monitoring Network Plan

Oklahoma Department of Environmental Quality
707 N. Robinson
P.O. Box 1677
Oklahoma City, OK 73101-1677

Contents

Introduction

This report documents the annual review of the air monitoring network operated by the Oklahoma Department of Environmental Quality's (DEQ) Air Quality Division (AQD). When finalized as the Annual Monitoring Network Plan (ANP), it will be submitted by July 1, 2021 to the U.S. Environmental Protection Agency (EPA) as required by 40 CFR 58.10 and provide the framework for establishing and maintaining Oklahoma's air quality surveillance system. AQD uses data collected by this network for comparison to the National Ambient Air Quality Standards (NAAQS). AQD maintains its ambient air monitoring network in accordance with the quality assurance requirements of 40 CFR Part 58, Appendix A; performs within specifications in accordance with 40 CFR Part 58, Appendix B; follows procedures outlined within 40 CFR Part 58, Appendix C; designs its network in accordance with 40 CFR Part 58, Appendix D; and locates its sites to meet all requirements of 40 CFR Part 58, Appendix E.

Below is a summary of changes that have been approved by Region 6 EPA, and implemented since the last ANP:

- 40-143-0170: Site located in Fort Gibson discontinued on 08/20/2020
  - EPA approval received on 10/22/2020 (See appendix F).
- 40-143-0175: H_2S moved from 40-143-0175 and began collection on 12/04/2020.
- 40-143-0179: Site discontinued on 11/23/2020.
  - EPA approval received on 10/22/2020 (See appendix F).
- 40-143-0188: Site discontinued on 08/12/2020.
  - EPA approval received on 10/22/2020 (See appendix F).
- 40-019-0297: Special purpose Ozone monitor halted collection on 12/10/2020.
- 40-085-0300: Special Purpose Ozone monitor began collection on 02/25/2021.
- 40-069-0324: Special Purpose Ozone monitor halted collection on 12/09/2020.
- 40-075-0711: Site began collection on 02/22/2021.
- 40-087-1074: Site began collection on 05/05/2021.
- 40-143-1127: NATTS began collection on 07/01/2020.

Table 1 is a list of all currently existing ambient air monitoring sites that AQD operates and maintains as of 04/05/2021. Table 2 is a list of proposed changes. "Air Quality System (AQS) Site ID#" in column one is a unique identification number assigned to each monitoring site in the state network. AQS is a national air monitoring database maintained by the EPA.

AQD made the ANP available for public inspection and comment from 05/11/2021 through 06/11/2021 by posting the ANP on its website (40 CFR 58.10(a)(1)). An image of this posting will be included in Appendix F of this document.

Contact Information

AQD Monitoring Manager, Eest
Name: Ryan Biggerstaff
Phone: (405) 702-4140
Email: Ryan.Biggerstaff@deq.ok.gov

AQD Monitoring Manager, West
Name: Kent Stafford
Phone: (405) 702-4139
Email: Kent.Stafford@deq.ok.gov

Table 1. Air Monitoring Site Information:

AQS Site #	Address/ Location	Latitude	Longitude	Pollutants Measured	Sampling/Analysis Method	Station Type	Operating Schedule	Monitoring Objective	Spatial Scale	NAAQS Comparable	CSA-MSA/ CBSA[1]
40-109-0035	N.W. 5th and Shartel, OKC	35.472920	-97.527090	PM 2.5	Sequential FRM/ Micro-gravimetric filter weighing	SLAMS	(1 in 6)	Population Exposure	Neighborhood	Yes	OKC-Shawnee CSA - OKC MSA
				PM 10	Sequential FRM/ Micro-gravimetric filter weighing	SLAMS	(1 in 6)	Population Exposure	Neighborhood	Yes	
				PM 10	Sequential FRM/ Micro-gravimetric filter weighing	SLAMS	(1 in 12) Collocated	Quality Assurance	Neighborhood	Yes	
				PM 10 - PM 2.5	Paired Gravimetric	SPM	(1 in 6)	Population Exposure	Neighborhood	No	
40-027-0049	S.E. 19th St., Moore Water Tower, Moore	35.320105	-97.484099	Ozone	U.V. Absorption	SLAMS	Continuous	Population Exposure	Urban	Yes	OKC-Shawnee CSA - OKC MSA
				PM 2.5	Broadband Spectroscopy	SPM[3]	Continuous	Population Exposure	Urban	Yes	
				PM 10	Broadband Spectroscopy	SPM[3]	Continuous	Population Exposure	Urban	No	
40-109-0096	12880 A N.E. 10th, Choctaw	35.477801	-97.303044	Ozone	U.V. Absorption	SLAMS	Continuous	Population Exposure	Urban	Yes	OKC-Shawnee CSA - OKC MSA
40-109-0097	3112 N. Grand Blvd, OKC	35.503070	-97.577981	NO_2	Chemiluminescence	SLAMS	Continuous	Highest Concentration/ Near-Road	Micro	Yes	OKC-Shawnee CSA - OKC MSA
				PM 2.5	Broadband Spectroscopy	SLAMS	Continuous	Population Exposure	Micro	Yes	
				PM 10	Broadband Spectroscopy	SPM	Continuous	Population Exposure	Micro	No	
				CO	Gas Filter Correlation	SLAMS	Continuous	Population Exposure	Micro	Yes	
				Black Carbon	Optical Absorption	SLAMS	Continuous	Population Exposure	Micro	No	

AQS Site #	Address/ Location	Latitude	Longitude	Pollutants Measured	Sampling/Analysis Method	Station Type	Operating Schedule	Monitoring Objective	Spatial Scale	NAAQS Comparable	CSA-MSA/ CBSA[1]
40-017-0101	12575 NW 10th, Water Tower, Yukon	35.479215	-97.751503	Ozone	U.V. Absorption	SLAMS	Continuous	Population Exposure	Neighborhood	Yes	OKC-Shawnee CSA - OKC MSA
40-037-0144	City Water Plant, Mannford	36.105481	-96.361196	Ozone	U.V. Absorption	SLAMS	Continuous	Population Exposure	Urban	Yes	Tulsa-Muskogee-Bartlesville CSA - Tulsa MSA
40-143-0174	502 E. 144th Pl., Tulsa South, Tulsa	35.953708	-96.004975	Ozone	U.V. Absorption	SLAMS	Continuous	Upwind Background	Urban	Yes	Tulsa-Muskogee-Bartlesville CSA - Tulsa MSA
				PM 2.5	Broadband Spectroscopy	SPM[3]	Continuous	Population Exposure	Urban	Yes	
				PM 10	Broadband Spectroscopy	SPM	Continuous	Population Exposure	Urban	No	
40-143-0175	1710 W. Charles Page Blvd. Tulsa	36.149877	-96.011664	SO_2[4]	U.V. Fluorescence	SLAMS	Continuous	Source Oriented	Neighborhood	Yes	Tulsa-Muskogee-Bartlesville CSA - Tulsa MSA
				H_2S	U.V. Fluorescence	SPM[5]	Continuous	Source Oriented	Neighborhood	No	
40-143-0178	18707 E. 21st St., Tulsa East, Tulsa	36.133802	-95.764537	Ozone	U.V. Absorption	SLAMS	Continuous	Population Exposure	Urban	Yes	Tulsa-Muskogee-Bartlesville CSA - Tulsa MSA

AQS Site #	Address/ Location	Latitude	Longitude	Pollutants Measured	Sampling/Analysis Method	Station Type	Operating Schedule	Monitoring Objective	Spatial Scale	NAAQS Comparable	CSA-MSA/ CBSA[1]
40-147-0217	112 N Caney St., Copan	36.908183	-95.882623	Ozone	U.V. Absorption	SPM	Continuous	Regional Transport	Regional	No[6]	Tulsa-Muskogee-Bartlesville CSA - Bartlesville MSA
				PM 2.5	Broadband spectroscopy	SPM[3]	Continuous	Regional Transport	Regional	No[6]	
				PM 10	Broadband spectroscopy	SPM	Continuous	Regional Transport	Regional	No[6]	
40-113-0226	1521 S. Lombard, Skiatook	36.355860	-96.012430	Ozone	U.V. Absorption	SLAMS	Continuous	Population Exposure	Urban	Yes	Tulsa-Muskogee-Bartlesville CSA - Tulsa MSA
40-143-0235	2443 S. Jackson Ave., Tulsa	36.126945	-95.998941	SO_2[4]	U.V. Fluorescence	SLAMS	Continuous	Source Oriented	Middle	Yes	Tulsa-Muskogee-Bartlesville CSA - Tulsa MSA
				H_2S	U.V. Fluorescence	SPM	Continuous	Source Oriented	Middle	No	
40-019-0297	Memorial Dr., Healdton City Lake, Healdton	34.244189	-97.462931	PM 2.5	Broadband Spectroscopy	SLAMS	Continuous	Regional Transport	Regional	Yes	Not in CSA/MSA - Ardmore CBSA
				PM 10	Broadband Spectroscopy	SPM	Continuous	Regional Transport	Regional	No	
40-085-0300	Noble Foundation-Red River Research Farm, Burneyville	33.880812	-97.275896	Ozone	U.V. Absorption	SPM	Continuous	Regional Transport	Regional	No	Not in CSA/MSA - Ardmore CBSA

AQS Site #	Address/ Location	Latitude	Longitude	Pollutants Measured	Sampling/Analysis Method	Station Type	Operating Schedule	Monitoring Objective	Spatial Scale	NAAQS Comparable	CSA-MSA/ CBSA[1]
40-121-0415	104 Airport Rd., McAlester Municipal Airport, McAlester	34.885608	-95.784410	Ozone	U.V. Absorption	SLAMS	Continuous	Regional Transport	Regional	Yes	Not in CSA/MSA - McAlester CBSA
				PM 2.5	Broadband Spectroscopy	SLAMS	Continuous Primary	Population Exposure	Regional	Yes	
				PM 10	Broadband Spectroscopy	SPM	Continuous	Population Exposure	Regional	No	
				PM 2.5	Sequential FRM/ Micro-gravimetric Filter Weighing	SLAMS	(1 in 6) Collocated	Quality Assurance	Regional	Yes	
40-121-0416	108 N Main St., Savanna	34.829396	-95.843642	Lead	Hi-Volume	SLAMS	(1 in 6)	Source Oriented	Neighborhood	Yes	Not in CSA/MSA - McAlester CBSA
				Lead	Hi-Volume	SLAMS	(1 in 12) Collocated	Quality Assurance	Neighborhood	Yes	
40-047-0555	11826 N 30th St, Kremlin	36.512363	-97.845959	SO_2[4]	U.V. Fluorescence	SLAMS	Continuous	Source Oriented	Neighborhood	Yes	Not in CSA/MSA - Enid MSA
40-071-0604	306 E Otoe, Ponca City	36.697186	-97.081350	SO_2[4]	U.V. Fluorescence	SLAMS	Continuous	Population Exposure/ Source Oriented	Neighborhood	Yes	Not in CSA/MSA - Ponca City CBSA
				PM 2.5	Broadband Spectroscopy	SLAMS	Continuous	Population Exposure	Neighborhood	Yes	
				PM 10	Broadband Spectroscopy	SPM	Continuous	Population Exposure	Neighborhood	No	
40-031-0651	2211 NW 25th, Lawton	34.632980	-98.428790	Ozone	U.V. Absorption	SLAMS	Continuous	Population Exposure	Urban	Yes	Not in CSA/MSA - Lawton MSA
				PM 2.5	Broadband Spectroscopy	SPM[3]	Continuous	Population Exposure	Urban	Yes	
				PM 10	Broadband Spectroscopy	SPM	Continuous	Population Exposure	Urban	No	

AQS Site #	Address/ Location	Latitude	Longitude	Pollutants Measured	Sampling/Analysis Method	Station Type	Operating Schedule	Monitoring Objective	Spatial Scale	NAAQS Comparable	CSA-MSA/ CBSA[1]
40-075-0711	Great Plains State Park, 22487 E 1566 R, Mountain Park	34.745832	-98.967698	Ozone	U.V. Absorption	SPM	Continuous	Background/ Transport	Regional	No	Not in CSA/ MSA/ CBSA
40-043-0860	Seiling Municipal Airport, Seiling	36.158414	-98.931973	Ozone	U.V. Absorption	SLAMS	Continuous	General Background	Regional	Yes	Not in CSA/ MSA/ CBSA
				PM 2.5	Broadband Spectroscopy	SLAMS	Continuous	General Background	Regional	Yes	
				PM 10	Broadband Spectroscopy	SPM	Continuous	General Background	Regional	No	
40-109-1037	2501 E. Memorial Rd., Oklahoma Christian University, OKC	35.614131	-97.475083	SO_2[4]	U.V. Fluorescence	SLAMS	Continuous	Population Exposure	Urban	Yes	OKC-Shawnee CSA - OKC MSA
				Ozone	U.V. Absorption	SLAMS	Continuous	Highest Concentration	Urban	Yes	
				CO	Gas Filter Correlation	SLAMS	Continuous	General Background	Urban	Yes	
				NO_2	Chemiluminescence	SLAMS	Continuous	Max Precursor Emissions Impact/ Area-wide NO_2 and RA40 NO_2 for OKC CBSA	Urban	Yes	
				Chemical Speciation	Low Volume Gravimetric/Micro-gravimetric filter weighing	SLAMS	(1 in 6)	Population Exposure	Urban	No	
				PM 2.5	Sequential FRM/ Micro-gravimetric filter weighing	SLAMS	(1 in 3) Collocated	Population Exposure	Urban	Yes	
				PM 2.5	Broadband Spectroscopy	SLAMS	Continuous Primary	Population Exposure	Urban	Yes	
				PM 10	Broadband Spectroscopy	SLAMS	Continuous	Population Exposure	Urban	Yes	
40-087-1074	Kessler, McClain County	34.984686	-97.522753	Ozone	U.V. Absorption	SLAMS	Continuous	Background	Regional	Yes	OKC-Shawnee CSA - OKC MSA

AQS Site #	Address/ Location	Latitude	Longitude	Pollutants Measured	Sampling/Analysis Method	Station Type	Operating Schedule	Monitoring Objective	Spatial Scale	NAAQS Comparable	CSA-MSA/ CBSA[1]
40-143-1127	3520 1/2 N. Peoria, North Tulsa-Fire Station #24, Tulsa	36.204902	-95.976537	Ozone	U.V. Absorption	NCore/ SLAMS	Continuous	Maximum Precursor Emissions Impact	Urban	Yes	Tulsa-Muskogee-Bartlesville CSA - Tulsa MSA
				Trace Level NO_2	Chemiluminescence	NCore/ SLAMS	Continuous	Maximum Precursor Emissions Impact/ Area-wide NO_2 and RA40 NO_2 for Tulsa CBSA	Urban	Yes	
				Trace level NOy	Chemiluminescence	NCore/ SLAMS	Continuous	Maximum Precursor Emissions Impact	Urban	No	
				Trace level CO	Gas Filter Correlation	NCore/ SLAMS	Continuous	Population Exposure	Urban	Yes	
				Trace level SO_2[4]	U.V. Fluorescence	NCore/ SLAMS	Continuous	Population Exposure	Urban	Yes	
				PM 2.5	Sequential FRM/ Micro-gravimetric filter weighing	NCore/ SLAMS	(1 in 3) Primary	Population Exposure	Urban	Yes	
				PM 2.5	Sequential FRM/ Micro-gravimetric filter weighing	NCore/ SLAMS	(1 in 6) Collocated	Quality Assurance	Urban	Yes	
				PM 2.5	Broadband Spectroscopy	NCore/ SPM[3]	Continuous	Population Exposure	Urban	Yes	
				PM 10	Broadband Spectroscopy	NCore/ SPM[3]	Continuous	Population Exposure	Urban	Yes	
				PM 10	Sequential FRM/ Micro-gravimetric filter weighing	NCore/ SLAMS	(1 in 3)	Population Exposure	Urban	Yes	
				PM 10 - PM 2.5	Paired Gravimetric – “calculated”	NCore/ SPM	(1 in 3)	Population Exposure	Urban	No	
				Chemical Speciation	Low Volume Gravimetric/Micro-gravimetric filter weighing	NCore/ SLAMS	(1 in 3)	Population Exposure	Urban	No	

[1] *Combined Statistical Area, Metropolitan Statistical Area* and *Core-Based Statistical Area* abbreviated to *CSA*, *MSA* and *CBSA*, respectively, for all tables.
[2] Oklahoma City has been abbreviated to OKC for all tables.
[3] PM 2.5 SPM monitors are used to support the state's Health Advisory Program and will remain SPMs.
[4] AQS shows two SO_2 monitors due to reports being entered for both hourly and 5-minute data.
[5] H_2S SPMs are used to monitor major sources in the Tulsa area in response to the state-implemented H_2S ambient standard and will remain SPMs. All AQD sites and monitors conform to 40 CFR, Subchapter C, Part 58 Appendix A, Appendix C (see methods in column 6 of table 2), and Appendices D & E.
[6] 40-105-0217, 40-085-0300, and 40-075-0711 are intentionally designed as SPMs to capture less than 3 years of data and therefore will not be compared to NAAQS values for the purpose of attainment/non-attainment.
Note – The PM 2.5/10 (2 parameters/1 monitor) listed as "broadband spectroscopy" at 40-109-1037 and 40-143-1127 are API Model T640x instruments designated NAAQS comparable for PM 2.5 and PM 10. All others are API Model T640 instruments designated NAAQS comparable for PM 2.5 and Non-NAAQS comparable for PM 10.

Table 2. AQD Network Proposed Changes

Monitoring Sites to be Relocated:

AQS Site #	Address/ Location	Latitude	Longitude	Pollutants Measured	Sampling/ Analysis Method	Station Type	Operating Schedule	Monitoring Objective	Spatial Scale	NAAQS Comparable	CSA-MSA/ CBSA
40-143-0174	502 E. 144th Pl., Tulsa South, Tulsa	35.953708	-96.004975	Ozone	U.V. Absorption	SLAMS	Continuous	Upwind Background	Urban	Yes	Tulsa-Muskogee-Bartlesville CSA - Tulsa MSA
				PM 2.5	Broadband Spectroscopy	SPM	Continuous	Population Exposure	Urban	Yes	
				PM 10	Broadband Spectroscopy	SPM	Continuous	Population Exposure	Urban	No	

- 40-143-0174: ODEQ is currently discussing the relocation of Site 40-143-0174 with the City of Glenpool. The site is on the verge of not meeting siting criteria as specified by 40 CFR Part 58 Appendix E §5.a. EPA will be provided with specifics of the location including latitude, longitude, and pictures of the proposed site upon completion of a contract with the city.

Monitoring Sites in Process of Being Added:

AQS Site #	Address/ Location	Latitude	Longitude	Pollutants Measured	Sampling/ Analysis Method	Station Type	Operating Schedule	Monitoring Objective	Spatial Scale	NAAQS Comparable	CSA-MSA/ CBSA
40-095-0313	OU Biological Station, Marshall County	TBD*	TBD*	Ozone	U.V. Absorption	SLAMS	Continuous	Background	Regional	Yes	OKC-Shawnee CSA - OKC MSA

- OU Biological Station: ODEQ is currently in the process of finalizing the site agreement and will update EPA as information becomes available. Please see Appendix E for further prospective site information.

* Location data is currently unavailable due to the COVID-19 Pandemic logistics. ODEQ will update this section as soon as the information becomes available.

Appendix A: Network Requirements

Parameter	Number of Monitors Required in Part 58 App D	Reason(s) for Requirement Part 58 App D	Number of Other Non-Required SLAMS/SPM Monitors Currently in Operation	Reason(s) for Optional Monitors	Total Monitors Operated
Ozone	2	OKC MSA/Population			2
	2	Tulsa MSA/Population			2
	1	Lawton MSA/Population			1
	1	NCore			1
			5	SPM and/or Transport	5
			6	AQI/Advisories	6
Total	6		11		17
Carbon Monoxide	1	Near-Road			1
	1	NCore			1
			1	Background	1
Total	2		1		3
Nitrogen Dioxide	1	Near-Road			1
	1	NCore ; Area-wide NO_2 and RA40 NO_2 for Tulsa MSA			1
	1	Area-wide NO_2 and RA40 NO_2 for OKC MSA			1
Total	3				3
NOy	1	NCore			1
Total	1				1
Sulfur Dioxide	1	NCore			1
	1	SO_2 DRR[2]			3
	1	Tulsa CBSA PWEI			1
			2	Major Source	2
			1	OKC MSA/Population	1
Total	5		3		8
Hydrogen Sulfide			2	Population/State Standard	2
Total			2		2

Parameter	Number of Monitors Required in Part 58 App D	Reason(s) for Requirement Part 58 App D	Number of Other Non-Required SLAMS/SPM Monitors Currently in Operation	Reason(s) for Optional Monitors	Total Monitors Operated
Lead	1	Sources > 0.5 tons/year			1
	1	QA Collocation			1
Total	2				2
PM2.5[3]	2	OKC MSA/Population			2
	1	Tulsa MSA - Population/NCore			1
	2	Method Collocation			1
	1	QA Collocation			2
	1	Background			1
	1	Transport			
	1	Near-Road			1
			6	AQI/Advisories	6
			1	SPM/Transport	1
Total	9		7		16
PM10[1,4]	2	OKC MSA/Population			2
	1	Tulsa MSA/NCore			1
	1	QA Collocation			1
			1	AQI/Advisories (NAAQS Comparable)	1
			1	Background (Non-NAAQS Comparable)	1
			6	AQI/Advisories (Non-NAAQS Comparable)	6
			2	SPM/Transport (Non-NAAQS Comparable)	2
Total	5		9		14
PM10 - 2.5 (Coarse)	1	NCore			1
			1	Supplemental	1
Total	1		1		2

[1]There are 9 sites utilizing the API T640 technology, currently collecting non-NAAQS PM10 data.
[2] Though listed as being required under 40 CFR Part 58 Appendix D, the DRR monitors are required under 40 CFR Part 51.
[3] Per 40 CFR Part 58 Table D-5 of Appendix D, while the Enid MSA has a population of >50,000, Oklahoma DEQ has met the minimum monitoring requirements due to the statewide PM 2.5 being <85% of PM 2.5 NAAQS.
[4]Per 40 CFR Part 58 Table D-4 of Appendix D, while the Lawton MSA has a population of >100,000, Oklahoma DEQ has met the minimum monitoring requirements due to statewide PM 10 being <80% of PM 10 NAAQS.
Note – This chart reflects existing network conditions.

Appendix B: PWEI[1] Numbers for Determination of Minimum SO_2 Sites

MSA/CBSA	Counties	2019 SO_2 Emissions[2] (tons)	Total Emissions[2] (tons)	Population[3] (people)	PWEI[2] (tons/million people)
Oklahoma City	Oklahoma County	135	403	1,408,950	568
	Cleveland County	4			
	Canadian County	203			
	Grady County	40			
	Logan County	1			
	McClain County	17			
	Lincoln County	1			
Tulsa	Tulsa County	322	4,994	998,626	4,987
	Rogers County	4,269			
	Wagoner County	12			
	Creek County	243			
	Osage County	6			
	Okmulgee County	141			
	Pawnee County	0			
Lawton	Comanche County	13	13	126,415	2
	Cotton County	0			
Stillwater	Payne County	7	7	81,784	1
Shawnee	Pottawatomie County	3	3	72,592	0
Muskogee	Muskogee County	2,482	11,898	67,997	169
Enid	Garfield County	12,723	12,723	61,056	777
Bartlesville	Washington County	1	1	51,527	0
Tahlequah	Cherokee County	3	3	48,657	0
Ardmore	Carter County	260	260	58,364	15
	Love County	0			
Ponca City	Kay County	3,049	3,049	43,538	133
McAlester	Pittsburg County	26	26	43,654	1
Duncan	Stephens County	65	65	43,143	3
Durant	Bryan County	213	213	47,995	10
Ada	Pontotoc County	146	146	38,284	6
Miami	Ottawa County	2	2	31,127	0
Weatherford	Custer County	11	11	29,003	0
Altus	Jackson County	1	1	24,530	0
Elk City	Beckham County	13	13	21,859	0
Guymon	Texas County	68	68	19,983	1
Woodward	Woodward County	39	39	24,070	1

[1]40 CFR Appendix D to Part 58 §4.4.2 *Requirement for Monitoring by the Population Weighted Emissions Index.* (a) The population weighted emissions index (PWEI) shall be calculated by States for each core based statistical area (CBSA) they contain or share with another State or States for use in the implementation of or adjustment to the SO_2 monitoring network. The PWEI shall be calculated by multiplying the population of each CBSA, using the most current census data or estimates, and the total amount of SO_2 in tons per year emitted within the CBSA area, using an aggregate of the most recent county level emissions data available in the National Emissions Inventory for each county in each CBSA. The resulting product shall be divided by one million, providing a PWEI value, the units of which are million persons-tons per year. For any CBSA with a calculated PWEI value equal to or greater than 1,000,000, a minimum of three SO_2 monitors are required within that CBSA. For any CBSA with a calculated PWEI value equal to or greater than 100,000, but less than 1,000,000, a minimum of two SO_2 monitors are required within that CBSA. 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_2 monitor is required within that CBSA.

[2]Values truncated to whole tons or whole tons/million people.

[3]All population estimates based on the 2019 Census estimations found at https://www.census.gov/data/tables/time-series/demo/popest/2010s-total-metro-and-micro-statistical-areas.html.

Appendix C: Further Comments

Monitoring of NAAQS Parameters:

Oklahoma DEQ is monitoring for all NAAQS parameters in the state of Oklahoma as well as additional parameters such as H_2S.

Near-Road Addition to Tulsa:

EPA's current regulatory requirements from 40 CFR Appendix D to Part 58 § 4.3.2(a) states as follows:

Within the NO_2 network, there must be one microscale near-road NO_2 monitoring station in each CBSA with a population of 1,000,000 or more persons to monitor a location of expected maximum hourly concentrations sited near a major road with high AADT counts as specified in paragraph 4.3.2(a)(1) of this appendix. An additional near-road NO_2 monitoring station is required for any CBSA with a population of 2,500,000 persons or more, or in any CBSA with a population of 1,000,000 or more persons that has one or more roadway segments with 250,000 or greater AADT counts to monitor a second location of expected maximum hourly concentrations. CBSA populations shall be based on the latest available census figures.

The Tulsa MSA has the second largest population in Oklahoma behind the Oklahoma City MSA, with an estimated population of 998,626 based on the 2019 Census Data Estimates found on the US Census Bureau website (https://www.census.gov/data/tables/time-series/demo/popest/2010s-total-metro-and-micro-statistical-areas.html).

As per 40 CFR Appendix D to Part 58 § 4.3.2(a), the Tulsa MSA will not require a near-road NO_2 monitoring site at this time due to the population remaining under 1,000,000 persons.

Photochemical Assessment Monitoring Station (PAMS) Addition to Tulsa:

EPA's current regulatory requirements from 40 CFR Appendix D to Part 58 § 5(a) states as follows:

State and local monitoring agencies are required to collect and report PAMS measurements at each NCore site required under paragraph 3(a) of this appendix located in a CBSA with a population of 1,000,000 or more, based on the latest available census figures.

The Tulsa MSA has the second largest population in Oklahoma behind the Oklahoma City MSA, with an estimated population of 998,626 based on the 2019 Census Data Estimates found on the US Census Bureau website (https://www.census.gov/data/tables/time-series/demo/popest/2010s-total-metro-and-micro-statistical-areas.html).

As per 40 CFR Appendix D to Part 58 § 5(a), the Tulsa MSA will not require a PAMS monitoring site at this time due to the population remaining under 1,000,000 persons.

Prevention of Significant Deterioration Air Monitoring:

The Oklahoma DEQ monitoring network meets all requirements found in 40 CFR Part 58, Appendix B. PSD monitoring is currently not necessary for the Oklahoma DEQ.

Maintenance Plans for Discontinuation of SLAMS Monitors:

Oklahoma currently is in attainment with all NAAQS and is not under a SIP Maintenance Plan.

Division of MSA/CBSA Monitoring Responsibilities with other Agencies:

Oklahoma DEQ understands some of its monitoring area is shared with Tribal Nations and Arkansas DEQ. Oklahoma DEQ has no standing agreements with Tribal Nations or Arkansas DEQ for the division of monitoring responsibilities to fulfill monitoring requirements at this time. Oklahoma DEQ will continue to monitor the situation and maintain its current connections with these two entities and address any deficiencies should they arise.

National Air Toxics Trends Stations

Oklahoma DEQ began NATTS monitoring for Hazardous Air Pollutants (HAPs) at the NCore station (40-143-1127) in Tulsa, Oklahoma on July 1, 2020, utilizing a Tisch TE-1000 Hi-Vol PUF sampler for Polycyclic Aromatic Hydrocarbons (PAHs), ATEC 2200 sampler for Volatile Organic Compounds (VOCs) and Carbonyls, and Thermo 2025i sampler for PM10 metals. Samples are being analyzed by EPA's national contract lab, Eastern Research Group, in accordance with EPA requests. Observation sample size is currently too limited to provide an accurate estimation of the location contaminants.

Review of Site Conditions

In light of the recent pandemic, sites are now cleaned and disinfected by operators upon leaving the site.

Other Comments

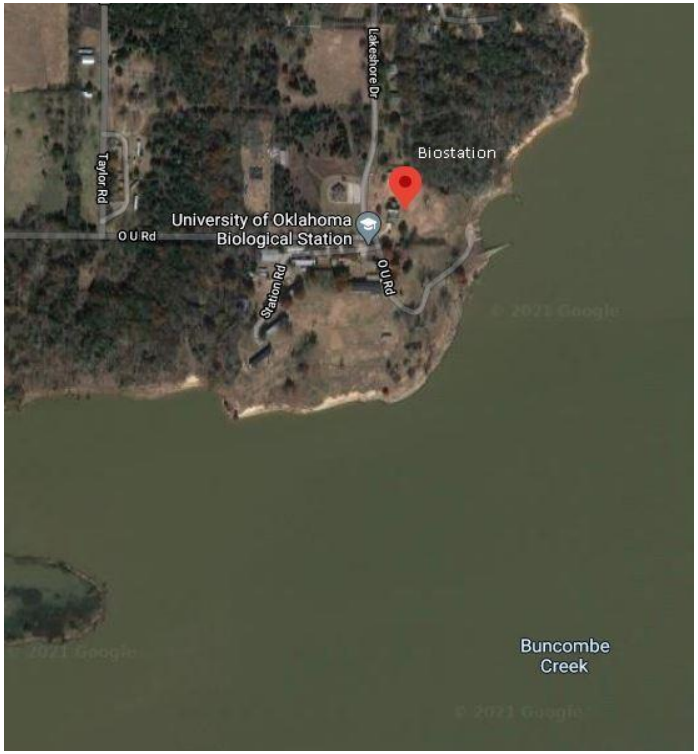
40-043-0235 will be temporarily shut down beginning in June 2021 for a 240-day project to replace the parking lot for the Tulsa Water Department at 2443 South Jackson Avenue. SO_2, H_2S, Metals, Volatile Organic Compounds (VOCs), and Carbonyls sampling will be suspended temporarily until completion of the project.

Appendix D: Prospective Site 40-095-0313

AQS Site #	Address/ Location	Latitude	Longitude	Pollutants Measured	Sampling/ Analysis Method	Station Type	Operating Schedule	Monitoring Objective	Spatial Scale	NAAQS Comparable	CSA-MSA/ CBSA
40-095-0313	OU Biological Station, Marshall	TBD*	TBD*	Ozone	U.V. Absorption	SLAMS	Continuous	Background	Regional	Yes	OKC-Shawnee CSA - OKC MSA

* Location data is currently unavailable due to the COVID-19 Pandemic logistics. ODEQ will update this section as soon as the information becomes available

Overhead View



The OU Biological Station AQS Site will be the replacement ozone site for AQS Site # 40-013-0380 (Durant). The site is being moved further west to be better located in the path of possible transport pollution from the Fort Worth/Dallas Metro. The site will be housed near the University of Oklahoma Biological Station located approximately 35 meters from the nearest road and approximately 3200 meters to the closest highway with an Annual Average Daily Traffic count of 2900 per the 2018 Oklahoma Highway Systems count.

At this time, ODEQ does not have any available pictures from the site. Due to legal circumstances, the OU Biological Station site may not begin data collection for another year. ODEQ will continue to keep Region 6 notified of any changes that may occur.

Appendix E: EPA Response to 2020 Annual Network Plan

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1201 ELM STREET, SUITE 500
DALLAS, TEXAS 75270 – 2102

October 22, 2020

Ms. Cheryl E. Bradley
Environmental Programs Manager
Data and Planning Section
Oklahoma Department of Environmental Quality
P.O. Box 1677
Oklahoma City, Oklahoma 73101-1677

Dear Ms. Bradley:

Thank you for your correspondence from the Oklahoma Department of Environmental Quality (ODEQ) submitting the Oklahoma 2020 Annual Monitoring Network Plan (2020 Plan) for ambient air. The U.S. Environmental Protection Agency (EPA) has completed its review of the 2020 Plan to ensure it meets the requirements of 40 Code of Federal Regulations (CFR) Part 58 and its appendices.

We appreciate your efforts in submitting a timely 2020 Plan, which we received on June 29, 2020. We applaud the efforts of the ODEQ to manage and maintain the ambient air monitoring network in Oklahoma in compliance with the Clean Air Act.

The network review process presents an opportunity for the EPA and the ODEQ to collaborate on the air monitoring network design. *See* 40 CFR Part 58 Appendix D, Section 1.1.2. The EPA has conducted its review of the 2020 Plan and proposed network modifications to ensure the air quality surveillance system continues to meet applicable requirements. I am pleased to inform you that your 2020 plan is approved in accordance with 40 CFR Part 58 and Appendices, including Section 58.10 and Section 58.14. Details of our review are enclosed. We are available to discuss our review with you if you have any questions.

Also, we acknowledge receipt from the ODEQ on June 29, 2020, of the Oklahoma 5-Year Network Assessment pursuant to 40 CFR Part 58.10(d). We appreciate the effort to conduct and develop this assessment.

In addition, we acknowledge receipt of the SO_2 annual report received on July 14, 2020, as a stand-alone document via email. The annual report is required under 40 CFR 51.1205(b) from the State for four SO_2 sources whose air quality was characterized by modeling instead of monitoring. I am pleased to inform you that we agree with the State's recommendation that no additional modeling is needed for these sources at this time and that Choctaw, Kay, Le Flore, and Noble Counties remain "Attainment/Unclassifiable" for the 2010 one-hour SO_2 National Ambient Air Quality Standards (NAAQS). Details of our review of the State's assessment and recommendations for these modeled sources are enclosed.

We look forward to our continued partnership with the ODEQ on our common goal to establish and maintain a successful monitoring network as well as maintenance of the 2010 one-hour SO_2 primary NAAQS for area designations based on modeling in the State of Oklahoma. If you have any questions, please contact me at (214) 665-7593, or your staff may contact Ms. Frances Verhalen, Air Monitoring and Grants Section Chief, at (214) 665-2172. For questions specific to the SO_2 annual report, please call Michael Feldman, Regional Haze and SO_2 Section Chief, at (214) 665-9793.

Sincerely,

10/22/2020

X

David F. Garcia

Signed by: DAVID GARCIA

Director
Air and Radiation Division

Enclosure

Oklahoma Department of Environmental Quality
2020 Annual Ambient Air Monitoring Network Plan
Technical Comments

The Oklahoma 2020 Annual Monitoring Network Plan (ANP) was received on June 29, 2020 (2020 Plan). In accordance with the requirements of 40 Code of Federal Regulations (CFR) Part 58 and its appendices, the U.S. Environmental Protection Agency (EPA) has reviewed the 2020 Plan and our comments are provided below. These comments reflect the EPA's efforts in collaboration with the Oklahoma Department of Environmental Quality (ODEQ) to maintain an accurate and efficient ambient air monitoring network.

General Comments

We appreciate the ODEQ's submittal of the 2020 Plan in accordance with 40 CFR §58.10.

Operation of monitoring network in accordance with 40 CFR Part 58 and Appendices A, B, C, D, and E. We appreciate the ODEQ's operation of the ambient air monitoring network in accordance with federal requirements defined in 40 CFR Part 58 and Appendices A through E. For future plans, for any National Ambient Air Quality Standard (NAAQS) pollutant that does not require ambient air monitoring, please provide an explanatory statement. For example, for Pb, if it is determined that there are no sources with emissions greater than 0.5 tpy, and therefore no monitors are required, please include that information.

Air Quality System (AQS). Thank you for your efforts to ensure that the information in the ANP and the AQS is complete and consistent. Please continue to update the AQS, and to correlate the ANP with the AQS.

Ozone (O_3) Monitoring (40 CFR Part 58, Appendix D Section 4.1)

The ODEQ is meeting the minimum requirements for its Ozone monitoring network design. See 40 CFR 58 Appendix D Section 4.1.

The EPA approves the Kessler ozone monitoring site location (AQS ID 40-087-1074) as a replacement for the old Goldsby ozone monitoring site upwind of central Oklahoma City. The EPA looks forward to receiving the site photos for Kessler in the future. The EPA also approves the new ozone monitoring site location at Great Plains State Park (AQS ID 40-075-0711) in order to gain new ozone monitoring data further west of the current ODEQ ozone monitoring network.

The EPA also looks forward to receiving information in the future from the ODEQ regarding a proposed short relocation of the existing Glenpool ozone monitoring site in Tulsa (AQS ID 40-143-0174).

Finally, the EPA acknowledges the relocation of the Union special purpose monitor (SPM) ozone site (AQS ID 40-105-0207) to Copan (AQS ID 40-147-0217) on January 21, 2020. We note that both of these SPM site locations were previously approved, that SPM sites have the flexibility to start up and shut down within a two-year time period, and that we are appreciative of ODEQ notifying us of this change.

Carbon Monoxide (CO) Monitoring (40 CFR Part 58, Appendix D Section 4.2)

The ODEQ is meeting the minimum requirements for its CO monitoring network design. See 40 CFR 58 Appendix D Section 4.2. The EPA acknowledges that no changes were made to the Oklahoma CO network in the 2020 Plan.

Nitrogen Dioxide (NO_2) Monitoring (40 CFR Part 58, Appendix D Section 4.3)

The ODEQ is meeting the minimum requirements for its NO_2 monitoring network design. See 40 CFR 58 Appendix D Section 4.3. The EPA acknowledges that no changes were made to the Oklahoma NO_2 network in the 2020 Plan.

Near-Road (NO_2) Monitoring Site

The EPA agrees that the Tulsa MSA does not require a near-road NO_2 monitoring site at this time due to the current population estimate for the area remaining under 1,000,000 persons.

Sulfur Dioxide (SO_2) Monitoring (40 CFR Part 58, Appendix D Section 4.4)

The ODEQ is meeting the minimum requirements for its SO_2 monitoring network design. See 40 CFR Part 58, Appendix D Section 4.4.

The EPA approves the discontinuation of the Fort Gibson (AQS ID 40-101-0170) and Pryor (AQS ID 40-097-0188) DRR monitors. This approval is based on each monitor satisfying specific requirements in 40 CFR 51.1203(c)(3), including: the first three-year period of operation produced a design values of less than 50% of the NAAQS, not being located in an area designated as nonattainment of the 2010 SO_2 NAAQS, not being used to satisfy other ambient SO_2 minimum requirements listed in 40 CFR Part 58, Appendix D, section 4.4, and not otherwise required as part of a SIP, permit, attainment plan or maintenance plan. The ODEQ shall notify the EPA upon actual monitor shut-down and the specifics of that shut-down shall be reflected in the state's next Annual Monitoring Network Plan, which shall include the date of shut-down, and specific data and references to the satisfaction of the criteria listed above.

The EPA also approves the discontinuation of the Riverside monitor (AQS ID 40-143-0179), as it is not required to meet minimum SO_2 monitoring requirements for the Tulsa MSA.

Lead (Pb) Monitoring (40 CFR Part 58, Appendix D Section 4.5)

The ODEQ is meeting the network design requirements for ambient air quality monitoring for Pb. See 40 CFR Part 58, Appendix D Section 4.5. The EPA acknowledges the shutdown of the Sapulpa site (AQS ID 40-037-0146) on 12/31/2019 which was previously approved.

Particulate Matter (PM) Monitoring

The ODEQ is meeting the network design requirements for ambient air quality monitoring for PM. See 40 CFR Part 58, Appendix D, Sections 4.6 and 4.7.

Particulate Matter of 2.5 Microns or Less ($PM_{2.5}$) (40 CFR Part 58, Appendix D Section 4.7)

The plan to relocate the $PM_{2.5}$ monitor at the Tulsa Glenpool site (AQS ID 40-143-0174) will be reviewed when specifics of the new location are provided.

The EPA appreciates the update about the discontinuation of the Union Special Studies Site $PM_{2.5}$ (AQS ID 40-105-0207). The EPA appreciates the update on the Special Studies Site (AQS ID 40-147-0217) $PM_{2.5}$ monitor relocation to Copan. The EPA appreciates the update about the discontinuation of the $PM_{2.5}$ monitor at the Bokoshe site (AQS ID 40-079-0467).

$PM_{2.5}$ Quality Assurance Collocation

For the $PM_{2.5}$ monitors which the ODEQ operates using Federal Reference Method (FRM) number 145, collocation is met at the North Tulsa site (AQS ID 40-143-1127).

For the $PM_{2.5}$ monitors which the ODEQ operates using Federal Equivalent Method (FEM) number 236, collocation is met at the McAlester site (AQS ID 40-121-0415).

For the $PM_{2.5}$ monitors which the ODEQ operates using FEM number 238, collocation is met at the Oklahoma City North site (AQS ID 40-109-1037).

Multiple PM Measurements from an individual monitor

The EPA appreciates the replacement of the T640 $PM_{2.5}$ monitors at the Oklahoma City North site (AQS ID 40-109-1037) and the North Tulsa site (AQS ID 40-143-1127) with T640X monitors. The EPA appreciates learning PM_{10} NAAQS comparable measurements will continue to be reported from the Oklahoma City North site (see PM_{10} monitor discontinuation below) and is being reported from the North Tulsa site because of the monitor replacements.

The EPA appreciates the replacement of the Sharp $PM_{2.5}$ monitors at the McAlester site (AQS ID 40-121-0415) and the Union site (AQS ID 40-105-0207) with T640 monitors. The EPA appreciates learning PM_{10} non-NAAQS comparable measurements are being reported from these sites because of the monitor replacements.

The EPA appreciates the update about the reporting of PM_{10} non-NAAQS comparable measurements from the Healdton Lake site (AQS ID 40-019-0297), Ponca City site (AQS ID 40-071-0604), and Lawton site (AQS ID 40-031-0651). These new measurements are from the T640 monitors previously installed at the sites.

Particulate Matter of 10 Microns or Less (PM_{10}) (40 CFR Part 58, Appendix D Section 4.6)

The EPA appreciates the update that the PM_{10} TEOM monitor at the Oklahoma City North site (AQS ID 40-109-1037) has been replaced with a T640X on 01/01/2020.

As stated in the EPA May 15, 2019, letter, the plan to discontinue the PM_{10} monitor at the Muskogee site (AQS ID 40-101-0167) is approved. The monitor was discontinued on 05/15/2019. The EPA appreciates the update about the discontinuation of the PM_{10} monitor in Weatherford (AQS ID 40-039-0856) on 08/24/2019.

The plan to relocate the PM_{10} monitor at the Tulsa Glenpool site (AQS ID 40-143-0174) will be reviewed when specifics of the new location are provided.

PM_{10} Quality Assurance Collocation

For the PM_{10} Manual monitors which the ODEQ operates using Federal Reference Method (FRM) number 127, collocation is met at the Central Fire Station site (AQS ID 40-109-0035).

Data Requirements Rule Provisions
2020 SO_2 Annual Report
Technical Comments

As required under 40 CFR 51.1205(b), the SO_2 annual report provides the ODEQ's annual assessment of SO_2 emissions changes for areas designated attainment/unclassifiable for the 2010 SO_2 NAAQS where the designations were based on modeling actual SO_2 emissions. The ODEQ submitted its SO_2 annual report for four SO_2 sources where the air quality was characterized by modeling instead of monitoring. Four Oklahoma Counties were designated based on the modeled actual SO_2 emissions from these sources: Choctaw, Kay, Le Flore, and Noble Counties. Rogers County was included in the original modeled designations, but EPA stated via letter on October 15, 2018, that ODEQ is not required to submit an annual report for the source impacting this area per 40 CFR 51.1205(c).

The State notes in its report that annual SO_2 emissions for Choctaw, Le Flore, and Noble Counties decreased from 2018 to 2019 and were below modeled levels. The relevant source in Kay County at the Continental Carbon-Ponca City Plant had an emissions increase from 2018 to 2019 due to fluctuations from higher demand. The State noted that even with the increase, 2019 SO_2 emissions from Continental Carbon were still 1,186 tons per year (tpy) lower than those used for the designations modeling. Therefore, a comparison to the original designation modeling provides reasonable assurance that all four areas continue to meet the 2010 one-hour SO_2 primary NAAQS.

We agree with the ODEQ's recommendation that no additional modeling is needed for these sources at this time and Choctaw, Kay, Le Flore, and Noble Counties remain "Attainment/Unclassifiable" for the 2010 SO_2 one-hour NAAQS.

Appendix F: 2021 Annual Network Plan Posted for Public Comment from 5/11/2021 to 6/11/2021