

July 1, 2022

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: 2022 Annual Network Review

Please find enclosed the 2022 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<sub>2</sub> Annual Report requested by EPA and required under 40 CFR §51.1205 will be a separate submission from the Oklahoma DEQ 2022 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 Ryan Biggerstaff at 405.702.4140.

Sincerely,



Cheryl E. Bradley  
Environmental Programs Manager  
Data and Planning Section

**Oklahoma Department of Environmental Quality  
Air Quality Division  
2022**

**Air Monitoring Network Plan**



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

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## **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, 2022 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:

- 40-147-0217: Special Purpose Ozone monitor collection halted on 12/7/2021. Particulate Matter monitor halted collection on 12/14/2021
- 40-147-0207: Special purpose Ozone and Particulate Matter monitors began collection on 03/01/2022.
- 40-143-0235: Site shut down for construction on 8/4/2021. Began collection on [3/2022] after end of construction.
  - 40-142-0175: H2S temporarily moved to 0175 from 0235 during construction
  - At EPA request, site was left active in AQS with flagged data being submitted.
- All Non-Essential Ozone Sites: Temporary shut down for maintenance during Ozone season hiatus.

Table 1 is a list of all currently existing ambient air monitoring sites that AQD operates and maintains as of 04/12/2021. 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 5/1/2022 through 5/31/2022 by posting the ANP on its website (40 CFR 58.10(a)(1)). An image of this posting will be included in Appendix E of this document.

## **Contact Information**

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### **AQD Monitoring Manager, West**

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**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 - CBSA <sup>1</sup>
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 CBSA
				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 Collocation	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 CBSA
				PM 2.5	Broadband Spectroscopy	SPM <sup>3</sup>	Continuous	Population Exposure	Urban	Yes	
				PM 10	Broadband Spectroscopy	SPM <sup>3</sup>	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 CBSA
40-109-0097	3112 N. Grand Blvd, OKC	35.503070	-97.577981	NO <sub>2</sub>	Chemiluminescence	SLAMS	Continuous	Highest Concentration/ Near-Road	Micro	Yes	OKC-Shawnee CSA - OKC CBSA
				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 - CBSA <sup>1</sup>
40-017-0101	12575 NW 10 <sup>th</sup> , Water Tower, Yukon	35.479215	-97.751503	Ozone	U.V. Absorption	SLAMS	Continuous	Population Exposure	Neighborhood	Yes	OKC-Shawnee CSA - OKC CBSA
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 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 CBSA
				PM 2.5	Broadband Spectroscopy	SPM <sup>3</sup>	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 <sub>2</sub> <sup>4</sup>	U.V. Fluorescence	SLAMS	Continuous	Source Oriented	Neighborhood	Yes	Tulsa-Muskogee-Bartlesville CSA - Tulsa CBSA
				H <sub>2</sub> S	U.V. Fluorescence	SPM <sup>5</sup>	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 CBSA

AQS Site #	Address/ Location	Latitude	Longitude	Pollutants Measured	Sampling/Analysis Method	Station Type	Operating Schedule	Monitoring Objective	Spatial Scale	NAAQS Comparable	CSA - CBSA <sup>1</sup>
40-147-0207	OK-10, Oklahoma Union School, Lenapah	36.918242	-95.632127	Ozone	U.V. Absorption	SPM	Continuous	Regional Transport	Regional	No <sup>6</sup>	Tulsa-Muskogee-Bartlesville CSA - Bartlesville CBSA
				PM 2.5	Broadband spectroscopy	SPM <sup>3</sup>	Continuous	Regional Transport	Regional	No <sup>6</sup>	
				PM 10	Broadband spectroscopy	SPM	Continuous	Regional Transport	Regional	No <sup>6</sup>	
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 CBSA
40-143-0235	2443 S. Jackson Ave., Tulsa	36.126945	-95.998941	SO <sub>2</sub> <sup>4</sup>	U.V. Fluorescence	SLAMS	Continuous	Source Oriented	Middle	Yes	Tulsa-Muskogee-Bartlesville CSA - Tulsa CBSA
				H <sub>2</sub> S	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 - 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
40-095-0313	OU Biological Station, Marshall County	33.882991,	-96.800141	Ozone	U.V. Absorption	SPM	Continuous	Regional Transport	Regional	No	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 - CBSA <sup>1</sup>
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 - 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/ Method Collocation	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 - 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 <sub>2</sub> <sup>4</sup>	U.V. Fluorescence	SLAMS	Continuous	Source Oriented	Neighborhood	Yes	Not in CSA - Enid CBSA
40-071-0604	306 E Otoe, Ponca City	36.697186	-97.081350	SO <sub>2</sub> <sup>4</sup>	U.V. Fluorescence	SLAMS	Continuous	Population Exposure/ Source Oriented	Neighborhood	Yes	Not in CSA - 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 25 <sup>th</sup> , Lawton	34.632980	-98.428790	Ozone	U.V. Absorption	SLAMS	Continuous	Population Exposure	Urban	Yes	Not in CSA - Lawton CBSA
				PM 2.5	Broadband Spectroscopy	SPM <sup>3</sup>	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 - CBSA <sup>1</sup>
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/ 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/ 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 <sub>2</sub> <sup>4</sup>	U.V. Fluorescence	SLAMS	Continuous	Population Exposure	Urban	Yes	OKC-Shawnee CSA - OKC CBSA
				Ozone	U.V. Absorption	SLAMS	Continuous	Highest Concentration	Urban	Yes	
				CO	Gas Filter Correlation	SLAMS	Continuous	General Background	Urban	Yes	
				NO <sub>2</sub>	Chemiluminescence	SLAMS	Continuous	Max Precursor Emissions Impact/ Area-wide NO <sub>2</sub> and RA40 NO <sub>2</sub> 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/ Method Collocation	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 CBSA

AQS Site #	Address/ Location	Latitude	Longitude	Pollutants Measured	Sampling/Analysis Method	Station Type	Operating Schedule	Monitoring Objective	Spatial Scale	NAAQS Comparable	CSA - CBSA <sup>1</sup>
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 CBSA
				Trace Level NO <sub>2</sub>	Chemiluminescence	NCore/SLAMS	Continuous	Maximum Precursor Emissions Impact/ Area-wide NO <sub>2</sub> and RA40 NO <sub>2</sub> for Tulsa CBSA	Urban	Yes	
				Trace level NO <sub>y</sub>	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 <sub>2</sub> <sup>4</sup>	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 Collocation	Urban	Yes	
				PM 2.5	Broadband Spectroscopy	NCore/SPM <sup>3</sup>	Continuous	Population Exposure	Urban	Yes	
				PM 10	Broadband Spectroscopy	NCore/SPM <sup>3</sup>	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	

<sup>1</sup> *Combined Statistical Area and Core-Based Statistical Area* abbreviated to *CSA* and *CBSA*, respectively, for all tables.

<sup>2</sup> Oklahoma City has been abbreviated to OKC for all tables.

<sup>3</sup> PM 2.5 SPM monitors are used to support the state's Health Advisory Program and will remain SPMs.

<sup>4</sup> AQS shows two SO<sub>2</sub> monitors due to reports being entered for both hourly and 5-minute data.

<sup>5</sup> H<sub>2</sub>S SPMs are used to monitor major sources in the Tulsa area in response to the state-implemented H<sub>2</sub>S 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.

<sup>6</sup> 40-105-0207, 40-085-0300, 40-075-0711, and 40-095-0313 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.

## 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 <sub>2</sub> and RA40 NO <sub>2</sub> for Tulsa MSA			1
	1	Area-wide NO <sub>2</sub> and RA40 NO <sub>2</sub> for OKC MSA			1
Total	3				3
NOy	1	NCore			1
Total	1				1
Sulfur Dioxide	1	NCore			1
	1	SO <sub>2</sub> DRR <sup>2</sup>			3
	1	Tulsa CBSA PWEI			1
			2	Major Source	2
			1	OKC MSA/Population	1
Total	3		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 <sup>3</sup>	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		15
PM10 <sup>1,4</sup>	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	4		10		14
PM10 - 2.5 (Coarse)	1	NCore			1
			1	Supplemental	1
Total	1		1		2

<sup>1</sup>There are 9 sites utilizing the API T640 technology, currently collecting non-NAAQS PM10 data.

<sup>2</sup>Though listed as being required under 40 CFR Part 58 Appendix D, the DRR monitors are required under 40 CFR Part 51.

<sup>3</sup>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.

<sup>4</sup>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<sup>1</sup> Numbers for Determination of Minimum SO<sub>2</sub> Sites

MSA/CBSA	Counties	2020 SO <sub>2</sub> Emissions <sup>2</sup> (tons)	Total Emissions <sup>2</sup> (tons)	2020 Population <sup>3</sup> (people)	PWEI <sup>2</sup> (tons/million people)
Oklahoma City	Oklahoma County	160	404	1,425,375	575
	Cleveland County	4			
	Canadian County	167			
	Grady County	50			
	Logan County	1			
	McClain County	18			
	Lincoln County	4			
Tulsa	Tulsa County	269	2,992	1,006,411	3,011
	Rogers County	2367			
	Wagoner County	15			
	Creek County	186			
	Osage County	4			
	Okmulgee County	151			
	Pawnee County	0			
Lawton	Comanche County	6	6	126,775	0
	Cotton County	0			
Stillwater	Payne County	4	4	81,755	0
Shawnee	Pottawatomie County	2	2	72,998	0
Muskogee	Muskogee County	4,114	4,114	67,610	278
Enid	Garfield County	13,664	13,664	60,869	831
Bartlesville	Washington County	1	1	52,222	0
Tahlequah	Cherokee County	4	4	49,019	0
Ardmore	Carter County	243	243	58,583	14
	Love County	0			
Ponca City	Kay County	1,879	1,879	43,274	81
McAlester	Pittsburg County	28	28	43,679	1
Duncan	Stephens County	63	63	43,100	2
Durant	Bryan County	217	217	48,998	10
Ada	Pontotoc County	130	130	38,397	4
Miami	Ottawa County	2	2	30,879	0
Weatherford	Custer County	8	8	28,648	0
Altus	Jackson County	267	267	24,305	6
Elk City	Beckham County	14	14	21,468	0
Guymon	Texas County	10	10	19,997	0
Woodward	Woodward County	15	15	2,3642	0

<sup>1</sup>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<sub>2</sub> 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<sub>2</sub> 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<sub>2</sub> 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<sub>2</sub> 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<sub>2</sub> monitor is required within that CBSA.

<sup>2</sup>Values truncated to whole tons or whole tons/million people.

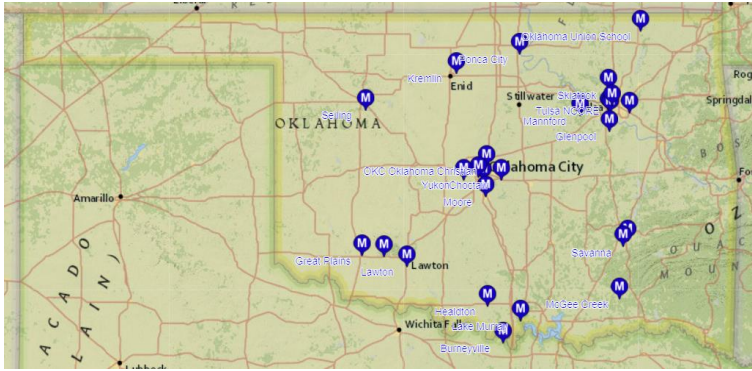
<sup>3</sup>All population estimates based on the 2019 Census estimations found at <https://www.census.gov/data/tables/time-series/demo/popest/2010s-total-metro-and-micro-statistical-areas.html>.

## **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<sub>2</sub>S.

### **Areas of Environmental Concerns:**

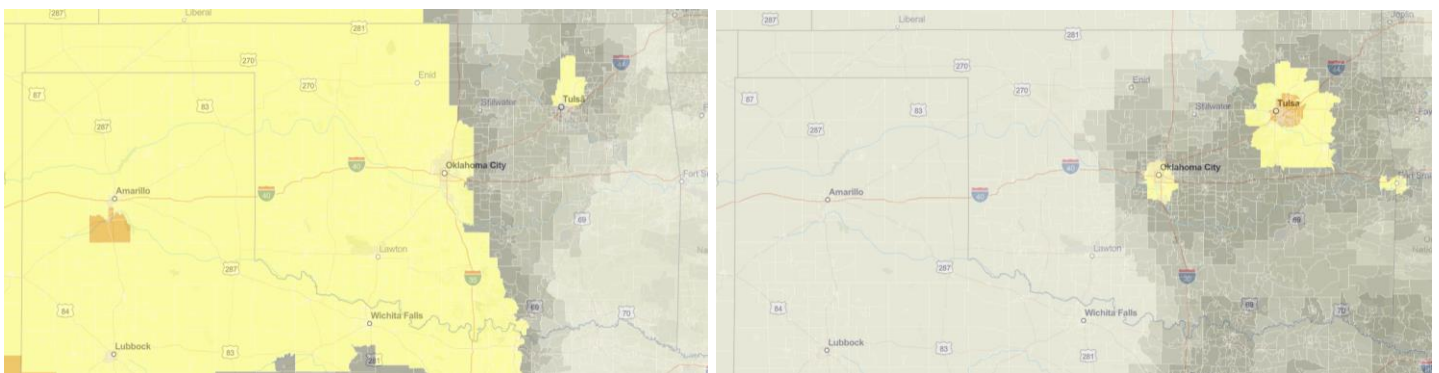


**Figure 1: Oklahoma Department of Environmental Quality's Air Monitoring Network.**

Oklahoma's primary areas of concern are its Metropolitan centers where most of its population is located. As seen in Figure 1, Oklahoma DEQ maintains extensive coverage of both Tulsa and Oklahoma City, Oklahoma's most populated cities, within the city proper and sites placed on the outskirts of the cities in each of the cardinal directions. Oklahoma DEQ also has a wide spread of sites in less populated areas to monitor possible sources, including SO<sub>2</sub> and lead sources, as well as transport from surrounding areas, typically Ozone and Particulate Matter.

Transport monitoring sites are located around the state borders to monitor for both Ozone and Particulate Matter from surrounding metropolitan areas or local burning for field management into or out of the state. These sites are typically not considered NAAQS comparable as they often transition between different locations to allow for a wider view of Oklahoma's air quality over time, so the data is primarily used for our real-time Health Advisory network which provides Oklahoma citizens with consistent updates of their Air Quality.

Tulsa, being a primary Environmental Justice concern, also contains our National Core (NCore) Multi-pollutant site and National Air Toxics Trend Station (NATTS) to provide an extensive array of data for the Tulsa community.



**Figure 2: The Ozone level in the air based on national percentiles from EPA's Environmental Justice Screen Tool (Bottom Left). The PM level in the air based on national percentiles from EPA's Environmental Justice Screen Tool (Bottom Right).**

## **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<sub>2</sub> network, there must be one microscale near-road NO<sub>2</sub> 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<sub>2</sub> 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 1,006,411 based on the 2020 Census Data Estimates found on the US Census Bureau website, (<https://www.census.gov/programs-surveys/popest/technical-documentation/research/evaluation-estimates/2020-evaluation-estimates/2010s-totals-metro-and-micro-statistical-areas.html>).

As per 40 CFR Appendix D to Part 58 § 4.3.2(a), the Tulsa MSA will soon require a near-road NO<sub>2</sub> monitoring site, as the population is expected to exceed 1,000,000 persons. DEQ is currently reviewing guidance and awaiting updated official population counts prior to implementing these changes.

## **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 1,006,411 based on the 2020 Census Data Estimates found on the US Census Bureau website, (<https://www.census.gov/programs-surveys/popest/technical-documentation/research/evaluation-estimates/2020-evaluation-estimates/2010s-totals-metro-and-micro-statistical-areas.html>).

As per 40 CFR Appendix D to Part 58 § 4.3.2(a), the Tulsa MSA will soon require a PAMS monitoring site, as the population is expected to exceed 1,000,000 persons. DEQ is currently reviewing guidance and awaiting updated official population counts prior to implementing these changes.

## **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

## Annual Summary

Analyte	Avg. Result TMOK	Count of Result TMOK	Max. Result TMOK	Std. dev. of Result TMOK	UCL TMOK	Avg. Maac TMOK	Percent Difference TMOK
1,1,2,2-Tetrachloroethane	0.0120	2	0.013042324	0.001456155	0.014030795	0	5
1,2-Dichloroethane	0.0853	59	0.206804211	0.028724001	0.093272311	1	9
1,3-Butadiene	0.0503	59	0.210593866	0.040139174	0.060773219	1	6
Acetaldehyde	1.5498	62	3.34	0.630002832	1.716307598	28	6
Arsenic	0.7741	56	4.71	0.767137333	0.984687455	20	5
Benzene	0.6817	60	1.785738642	0.327143724	0.769808441	10	8
Beryllium	0.0129	53	0.13	0.019172914	0.018121119	8	0
Cadmium	0.1231	56	0.996	0.133155300	0.159338451	60	0
Carbon Tetrachloride	0.5916	60	0.761179695	0.082734040	0.614121101	1	61
Chloroform	0.1026	58	0.165502356	0.023262224	0.109379251	1	14
Chromium	5.1470	56	10.9	3.776018201	6.154147944	8	77
Dichloromethane	0.4599	60	1.920795458	0.332300182	0.543962966	58	1
Ethylbenzene	0.2333	60	1.133210526	0.187901322	0.281282548	10,000	0
Formaldehyde	2.5491	62	7.31	1.447823168	2.924963746	7	42
Lead	2.0289	56	5.91	1.028749787	2.314101321	150	2
Manganese	11.8718	56	92.9	12.497959267	15.205269111	50,000	0
Mercury	0.0082	56	0.0233	0.004253045	0.009315965	300	0
Nickel	0.9155	56	2.97	0.491406664	1.047799797	150	1
Toluene	1.7690	60	6.443558979	1.283762009	2.105264824	10,000	0

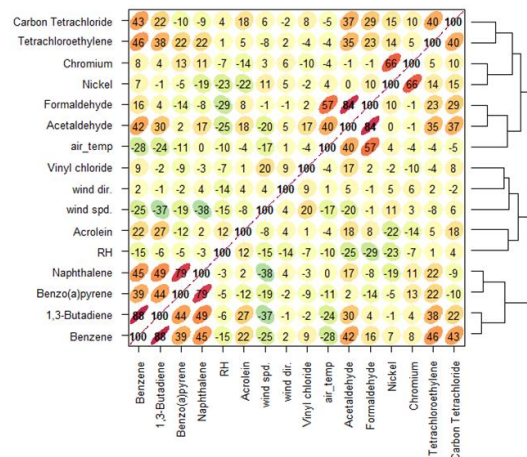


Figure 3: (Left) Annual summary of TAC at TMOK. (Right) Correlation of TAC occurring alongside other TAC.

Oklahoma DEQ maintains a list of Toxic Air Contaminants (TAC) of concern. When these toxins routinely violate the Maximum Acceptable Ambient Concentration (MAAC) an Area of Concern (AOC) is designated. Oklahoma DEQ operates three air toxics sites, two of which are located in Tulsa. One of the locations in Tulsa (TMOK) is designated a National Air Toxics Trends Station (NATTS).

The NATTS specific data, only in the second year of collection, is lacking enough data points for a proper analysis; however, given previous data prior to NATTS designation, Oklahoma DEQ can offer a limited analysis of some TAC. TMOK is comparable to OCOK, our suburban Oklahoma City toxics site. TOOK is an outlier being more of an industrial station. Primarily, we see many of Oklahoma's concentrations affected by temperatures, often increasing in the summer and decreasing in the cooler winter months.

## BoxQuarter

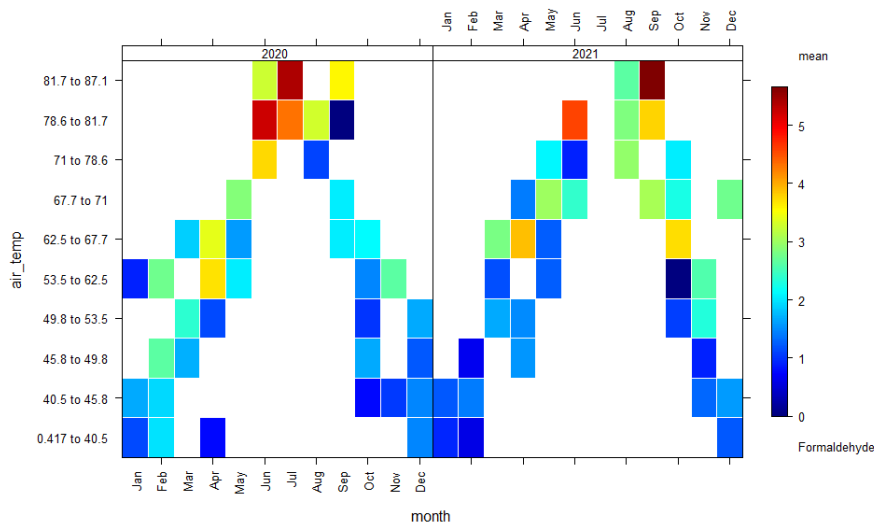
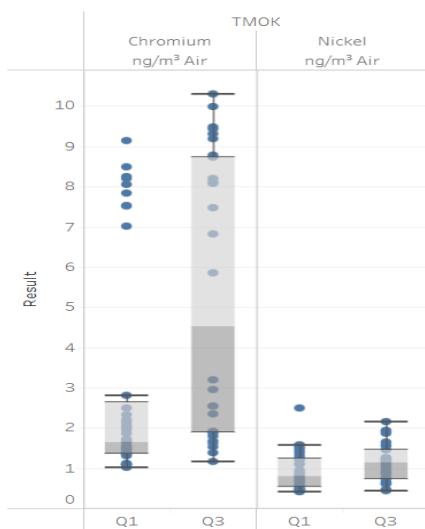


Figure 4: (Left) Box plot demonstrating differences of specific TAC—Chromium and Nickel-- affected by seasonal swings. (Right) Occurrence of formaldehyde by month.

## **Review of Site Conditions**

Oklahoma's sites have all been upgraded to the new shipping container style buildings that will maintain a clean environment with better climate control. We are continuing to update several of the sites with new HVAC systems, mini-splits, for further insurance on temperature and humidity control.

Oklahoma DEQ is also in the process of reviewing and confirming all site legal agreements.

## **Additional Comments**

Technical Systems Audit: Oklahoma DEQ underwent a technical systems audit in 2021. No network changes have been or will be made based upon the findings of this audit.



## **Appendix D: EPA Response to 2021 Annual Network Plan**



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

December 13, 2021

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 2021 Annual Monitoring Network Plan (2021 Plan) for ambient air. The U.S. Environmental Protection Agency (EPA) has completed its review of the 2021 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 2021 Plan; we received a complete plan by July 2, 2021. 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 2021 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 2021 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.

In addition, we acknowledge receipt of the 2021 SO<sub>2</sub> annual report received on June 29, 2021, as a stand-alone document via email. The annual report is required under 40 CFR 51.1205(b) from the State for four SO<sub>2</sub> 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 Choctaw, Kay, Le Flore, and Noble Counties remain designated as "Attainment/Unclassifiable" for the 2010 one-hour SO<sub>2</sub> National Ambient Air Quality Standards (NAAQS). Details of our review of the State's assessment and recommendations for these modeled sources are enclosed.

For the 2021 Plan, this approval action is consistent with EPA's determination that the 2021 Plan meets federal requirements for Oklahoma's ambient air monitoring network. For the SO<sub>2</sub> Annual Report, this acknowledgement action is consistent with EPA's determination that the SO<sub>2</sub> Annual Report meets federal requirements under the Data Requirements Rule.

As described in EPA's enclosed Technical Comments, EPA is also approving the 2021 Plan and acknowledging the receipt of the SO<sub>2</sub> Annual Report consistent with EPA's October 1, 2020, approval of Oklahoma's request under section 10211(a) of SAFETEA to administer these programs in certain areas of Indian country. We note, however, that EPA is currently reviewing our October 1, 2020 SAFETEA approval and is engaging in further consultation with tribal governments and discussions with the State of Oklahoma as part of this review. EPA also notes that the October 1, 2020 approval is the subject of a pending challenge in federal court. (*Pawnee v. Regan*, No. 20-9635 (10th Cir.)). Pending completion of EPA's review, EPA is proceeding with this action in accordance with the October 1, 2020 approval. EPA may make any appropriate adjustments to the approval of Oklahoma's 2021 Plan and SO<sub>2</sub> Annual Report to reflect the outcome of the SAFETEA review. Additional details about EPA's SAFETEA approval 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<sub>2</sub> 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<sub>2</sub> annual report, please call Michael Feldman, Regional Haze and SO<sub>2</sub> Section Chief, at (214) 665-9793.

Sincerely,



David F. Garcia, P.E.  
Director  
Air and Radiation Division

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DAVID GARCIA  
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Enclosure: Technical Comments



# Technical Comments

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## 2021 Annual Monitoring Network Plan Technical Comments

The Oklahoma 2021 Plan was received on June 28, 2021, and the cover letter was received July 2, 2021. 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 2021 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 – Indian country**

Following the U.S. Supreme Court decision in *McGirt v Oklahoma*, 140 S.Ct. 2452 (2020), the Governor of the State of Oklahoma requested approval under Section 10211(a) of the Safe, Accountable, Flexible, Efficient Transportation Equity Act of 2005: A Legacy for Users, Pub. Law 109-59, 119 Stat. 1144, 1937 (August 10, 2005) ("SAFETEA"), to administer in certain areas of Indian country (as defined at 18 U.S.C. § 1151) the State's environmental regulatory programs that were previously approved by the EPA outside of Indian country.

On October 1, 2020, the EPA approved Oklahoma's SAFETEA request to administer all of the State's EPA-approved environmental regulatory programs, including the Ambient Air Quality Surveillance requirements in 40 CFR Part 58 [specifically, the 2021 Annual Monitoring Network Plan (2021 Plan)<sup>1</sup>] and the Ambient Air Monitoring Reference and Equivalent Methods in 40 CFR Part 53 (specifically, the SO<sub>2</sub> Annual Report<sup>2</sup>), in the requested areas of Indian country. As requested by Oklahoma, the EPA's approval under SAFETEA does not include Indian country lands, including rights-of-way running through the same, that: (1) qualify as Indian allotments, the Indian titles to which have not been extinguished, under 18 U.S.C. § 1151(c); (2) are held in trust by the United States on behalf of an individual Indian or Tribe; or (3) are owned in fee by a Tribe, if the Tribe (a) acquired that fee title to such land, or an area that included such land, in accordance with a treaty with the United States to which such Tribe was a party, and (b) never allotted the land to a member or citizen of the Tribe (collectively "excluded Indian country lands").

EPA's approval under SAFETEA expressly provided that to the extent EPA's prior approvals of Oklahoma's environmental programs excluded Indian country, any such exclusions are superseded for the geographic areas of Indian country covered by the EPA's approval of Oklahoma's SAFETEA request.<sup>3</sup> The approval also provided that future revisions or amendments to Oklahoma's approved environmental regulatory programs would extend to the covered areas of Indian country (without any further need for additional requests under SAFETEA).

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<sup>1</sup> 40 CFR Part 58.10.

<sup>2</sup> 40 CFR 51.1205(b).

<sup>3</sup> EPA's prior approvals relating to Oklahoma's ambient air quality, including the 2020 Annual Monitoring Network Plan approved on October 22, 2020 were not approved to apply in areas of Indian country located in the state. Such prior limitations are superseded by the EPA's approval of Oklahoma's SAFETEA request.

As explained above, the EPA is approving Oklahoma's 2021 Annual Monitoring Network Plan and acknowledging its SO<sub>2</sub> Annual Report. Consistent with EPA's October 1, 2020, SAFETEA approval, this 2021 Plan and SO<sub>2</sub> Annual Report will apply to all Indian country within the State of Oklahoma, other than the excluded Indian country lands.<sup>4</sup>

## **General Comments - CAA**

We appreciate the ODEQ's submittal of the 2021 Plan in accordance with 40 CFR §58.10.

### *Areas with Environmental Justice Concerns*

EPA recognizes that the 2021 Plan meets the federal regulatory requirements outlined at 40 CFR 58.10 and Appendices A through E, including consideration of areas with susceptible and vulnerable populations. For future plans, including next year's plan, we encourage ODEQ to continue to evaluate areas with environmental justice concerns<sup>5</sup> related to ambient air monitoring.

- Where possible, please add detail to the plan discussing the environmental justice considerations taken into account related to the ambient air quality network.

### *NAAQS Monitoring, If Not Needed (e.g., Lead (Pb))*

For future plans, including next year's plan, 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.

*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.

*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 details of each monitoring location in the ANP with the AQS.

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<sup>4</sup> In accordance with Executive Order 13990, EPA is currently reviewing our October 1, 2020 SAFETEA approval and is engaging in further consultation with tribal governments and discussions with the state of Oklahoma as part of this review. EPA also notes that the October 1, 2020 approval is the subject of a pending challenge in federal court. (*Pawnee v. Regan*, No. 20-9635 (10th Cir.)). Pending completion of EPA's review, EPA is proceeding with this action in accordance with the October 1, 2020 approval. EPA may make any appropriate adjustments to the approval of Oklahoma's 2021 Plan and SO<sub>2</sub> Annual Report to reflect the outcome of the SAFETEA review.

<sup>5</sup> Executive Order 14008, January 27, 2021. *Federal Register* / vol. 86, No. 19, February 1, 2021, p. 7619. Securing Environmental Justice and Spurring Economic Opportunity. Section 219. *Policy*.

"To secure an equitable economic future, the United States must ensure that environmental and economic justice are key considerations in how we govern. That means . . . turning disadvantaged communities – historically marginalized and overburdened – into healthy, thriving communities . . .".

### **Ozone (O<sub>3</sub>) 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 previously approved 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 in last year's ANP approval letter dated October 22, 2020. The EPA also previously approved 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 in last year's ANP approval letter dated October 22, 2020.

The EPA 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 looks forward to receiving additional information in the future from the ODEQ regarding the proposed new OU Biological Station Ozone site (AQS #40-095-0313).

### **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 2021 Plan.

### **Nitrogen Dioxide (NO<sub>2</sub>) Monitoring** (40 CFR Part 58, Appendix D Section 4.3)

The ODEQ is meeting the minimum requirements for its NO<sub>2</sub> monitoring network design. See 40 CFR 58 Appendix D Section 4.3. The EPA acknowledges that no changes were made to the Oklahoma NO<sub>2</sub> network in the 2021 Plan.

## **Near-Road (NO<sub>2</sub>) Monitoring Site**

The EPA agrees that the Tulsa MSA does not require a near-road NO<sub>2</sub> monitoring site at this time due to the current population estimate for the area remaining under 1,000,000 persons.

## **Photochemical Assessment Monitoring Stations (PAMS) parameters addition to the Tulsa NCore site (40 CFR Part 58, Appendix D Section 5)**

The EPA agrees that the Tulsa MSA does not require the PAMS monitoring parameters be added to the Tulsa NCore site at this time due to the current population estimate for the area remaining under 1,000,000 persons.

### **Sulfur Dioxide (SO<sub>2</sub>) Monitoring** (40 CFR Part 58, Appendix D Section 4.4)

The ODEQ is meeting the minimum requirements for its SO<sub>2</sub> monitoring network design. See 40 CFR Part 58, Appendix D Section 4.4. The EPA acknowledges that no changes were made to the Oklahoma SO<sub>2</sub> network in the 2021 Plan.

The EPA appreciates the update on the discontinuation of the Fort Gibson (AQS ID 40-101-0170) and Pryor (AQS ID 40-097-0188) DRR monitors. Both monitors were discontinued on August 8, 2020. We also appreciate the ODEQ's update regarding the discontinuation of the Riverside monitor (AQS ID 40-143-0179) as proposed in the 2020 ANP, as it was not required to meet minimum SO<sub>2</sub> monitoring requirements for the Tulsa MSA. This monitor was discontinued on November 23, 2020.

### **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 that no changes were made to Oklahoma's monitoring network for Pb in the 2021 Plan.

## **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<sub>2.5</sub>)** (40 CFR Part 58, Appendix D Section 4.7)

The plan to relocate the PM<sub>2.5</sub> 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<sub>2.5</sub> (AQS ID 40-105-0207). The EPA appreciates the update on the Special Studies Site (AQS ID 40-147-0217) PM<sub>2.5</sub> monitor relocation to Copan. The EPA appreciates the update about the discontinuation of the PM<sub>2.5</sub> monitor at the Bokoshe site (AQS ID 40-079-0467).

## **PM<sub>2.5</sub> Quality Assurance Collocation**

For the PM<sub>2.5</sub> 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<sub>2.5</sub> 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<sub>2.5</sub> 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<sub>2.5</sub> 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<sub>10</sub> NAAQS comparable measurements will continue to be reported from the Oklahoma City North site (see PM<sub>10</sub> 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<sub>2.5</sub> monitors at the McAlester site (AQS ID 40-121-0415) and the Union site (AQS ID 40-105-0207) with T640 monitors. The EPA appreciate learning PM<sub>10</sub> 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<sub>10</sub> 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<sub>10</sub>) (40 CFR Part 58, Appendix D Section 4.6)**

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

The plan to relocate the PM<sub>10</sub> monitor at the Tulsa Glenpool site (AQS ID 40-143-0174) will be reviewed when specifics of the new location are provided.

## **PM<sub>10</sub> Quality Assurance Collocation**

For the PM<sub>10</sub> 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: 2021 SO<sub>2</sub> Annual Report Technical Comments**

As required under 40 CFR 51.1205(b), the SO<sub>2</sub> annual report provides the ODEQ's annual assessment of SO<sub>2</sub> emission changes for areas designated attainment/unclassifiable for the 2010 SO<sub>2</sub> NAAQS where the designations were based on modeling actual SO<sub>2</sub> emissions. The ODEQ submitted its SO<sub>2</sub> annual report for four SO<sub>2</sub> sources where the air quality was characterized by modeling instead of monitoring.

Four Oklahoma Counties were designated based on the modeled actual SO<sub>2</sub> 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 that area per 40 CFR 51.1205(c).

The State notes in its annual report that SO<sub>2</sub> emissions for all four Counties decreased from 2019 to 2020 and were below the 2012 to 2014 average emissions used in the modeling to demonstrate attainment. These emission trends provide reasonable assurance that all four areas continue to meet the 2010 one-hour SO<sub>2</sub> primary NAAQS. We, therefore, agree with the ODEQ'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<sub>2</sub> NA